

14. Do you think this one shot of training is enough to support more frequent and effective use of ICT? Explain your answer.
15. What do you think were the main challenges of this training program you received?
16. What steps should be taken to rectify these challenges?
17. Would you be willing to attend more professional development programs to learn more about ICT and e-learning?
18. What types and characteristics of successful professional development do faculty members need to support their Moodle implementation?
19. Once the faculty has been brought into e-learning environment, what actions need to be taken in order to increase the effective implementation of e-learning into your program? And what kinds of policies and resources are needed to make The Moodle an effective tool?

Appendix A: Interview Schedule:

The questions of the interviews:

1. How old are you?
2. What is your specialization?
3. How many years of teaching experience in higher education have you completed?
4. What is your actual expertise of using ICT?
5. Are you interested in using Moodle CMS in your teaching and learning process?
6. Describe how faculty members are encouraged to integrate ICT into their teaching?
7. What type of support do they receive for integrating ICT into their teaching?
8. What are some of the extrinsic and intrinsic barriers that inhibit the faculty from implementing Moodle CMS into their teaching? Time? Access? Training? What other problems do you see?
9. How are you informed about the Moodle training program? And does your department plan with you in advance for this training? Explain how.
10. How did they motivate you to attend the Moodle training program? And did you have the choice to attend or not?
11. After attending all training sessions of the Moodle, how do you perceive the training you received? Explain your answer
12. What impact does Moodle training have on your implementation of Moodle tools as an integral part of your teaching and learning?
13. Can you please give us some examples of change in your efficacy regarding the Moodle CMS usage and implementation after the training?

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Ishtaiwa, 2006; Parr, 1999; Zhao & Bryant, 2006). As faculty members are requested and encouraged by universities to use technological advancements to support their instruction, effective training is crucial to ensure that faculty can effectively use and integrate such technologies in and outside classrooms in ways that significantly improve the academic achievements of students and improve the teaching and learning process,

faculty with opportunities and times for inquiry, discussion, and reflection that are important for long-term change in practice. Similarly, Becker (1999) indicated that a formal training program was a significant factor in increasing the use of computers by teachers and the value of that program increased when teachers met informally to discuss teaching practices and project ideas.

Secondly, training sessions should be structured to meet faculty's individual needs and expectations. Professional development designers need to keep in mind that faculty members have different time commitments, requirements, teaching and learning styles, and levels of technology proficiency. These differences surely will affect faculty's e-learning perception, understanding, and practice. For example, the advanced technology users among faculty members require professional development activities that sharpen their skills further, while novices require professional training in basic classroom technology skills.

Thirdly, the problems of Moodle implementation, the increasing sophistication of advanced solutions, and the satisfaction with mastering new technologies can distract faculty from improving the quality of instruction which is the most important benefit of e-learning (Baker et al., 2003). Teaching and learning are the heart of e-learning, not the technological specifics. Therefore, training support for e-learning use should focus on what instructors really do and what they need rather than on mastering tools. This, in turn, will allow faculty members to succeed in new teaching environments.

Finally, e-learning training should have adequate time and follow-up support. Participants indicated that they lost a lot of what they learned in the training due to the lack of practice and follow-up support. Providing an e-learning mentor or follow-up training is necessary to help faculty implement what they learned from the initial training, and will help address challenges in using complicated technology. An e-learning mentor can play a significant role in helping faculty with different technological skills to improve the ways they integrate the Moodle tools for instructional purposes.

Our findings were in agreement with the findings of other studies that stress the importance of e-learning training support to meet the goals of educational reform movement (Becker, 1999; Bennett & Bennett, 2003; Di Benedetto, 2005; Davis, 2002; Denton et al., 2006; Garet et al., 2001;

fact that participants have different abilities, needs and expectations which surely will affect their perception toward the training program.

Moodle training provided to participants has positively affected their attitudes toward technology and enhanced the ability of some participants to use and develop e-learning materials. Yet, a radical change in faculty's practice of implementing e-learning did not occur. Currently, the Moodle training program at ZPU consists of ten hours of training where faculty members are working together in the same session regardless of their specialization or levels of technological expertise. Such an arrangement focuses on introducing hardware and software tools rather than the more complex issue of implementation strategies. In addition, they indicated frustration with the classes not being divided according to technological expertise and the effectiveness of the class was likely limited due to this frustration.

In this technological and rapidly transforming world, the meaning of the phrase "to know" means more than simply having information stored in one's memory; it means having access to information and knowing how to use it. The challenge for educational institutions is to design technologies for learning that draw both from knowledge about human cognition and from the practical application of how ICT can facilitate complex tasks in the workplace (De Benedetto, 2005).

Faculty members now have access to an unprecedented amount of ICT in their classrooms. However, it is evident that faculty members do not integrate those technologies as an integral part of their teaching on a regular basis. One reason may be the absence of an implementation and planning process that meets the needs of all faculties. Usually professional development or training sessions are planned by people other than those who are going to attend them, which mean that these programs in many cases may not fulfill faculty's needs and interests.

To effectively help faculty utilize e-learning in their daily practice, a different professional development or training model should be provided. Based on the results of this study, a Moodle effective training process should have the following characteristics. **First**, it should include formal and informal means of supporting ongoing faculty learning, such as one-on-one instruction, face-to-face training, coworker assistance, instructional video tapes, hands-on workshops, and online training. A single approach cannot sustain a high level of e-learning implementation. Instead, it is useful to think of providing

I do prefer covering one thing in depth and focus than covering several things quickly. Devoting time for practice, collaboration, discussion, and reflection will enable me to really learn a lot.”

Another suggestion made by 15 participants was the necessity of having clear goals and objectives in place from the start of the program. These participants reported a sense of feeling frustrated when the process was unclear or when they were unsure of what was expected. As evidence, one of them pointed out: ***“I really didn’t know what to expect when I was taking the classes and I didn’t know what I was getting the training for. I think setting goals, building a system for implementation, and evaluating those goals are good means for improvement.”***

In addition, faculty with advanced technological expertise mentioned the idea of taking advantage of ICT as a tool to support faculty professional development. They pointed out that distance learning can provide an alternative way to support the process of professional development and address the challenges of access to traditional training. One of participants pointed out: ***“It’s an excellent way of professional development especially when dealing with a large group. It’s really personalized because you are sitting at your own computer. You have the choice to do wherever and whenever. It’s one-on-one or a large group at the same time.”***

Finally, although participants indicated that they were motivated by intrinsic factors to attend the Moodle training, they noted that financial incentives are important to participate. One participant stated: ***“A formal policy for incentives should be created. Providing incentives is a key factor to encourage faculty to pursue e-learning development and experimentation.”***

Discussion and Conclusion:

Even though a few of the faculty members identified a number of factors that inhibited the use of Moodle LMS, an overwhelming majority of them were very interested in using it in their teaching and learning. Faculty members are willing to engage in e-learning professional development activities to expand their technological skills. However, in terms of faculty’s perceptions of the Moodle training they attended, the study indicated that participants had different perspectives toward the training according to their levels of general technological expertise. The difference in perspectives might be due to the

Results Related to the Third Question:

Based on the analysis of the data collected regarding participants' response to: What types and characteristics of training do faculty members need to support their Moodle implementation? The study indicated that participants agreed that a few hours of training will not be enough to help faculty members routinely integrate e-learning as an integral part of their teaching and learning. Participants agreed that they should be provided with opportunities and times for inquiry, discussion, reflection, and mentoring that are important for long-term change in practice. They are willing to engage in e-learning training experiences if the training activities are tailored to the faculty member's individual needs, and program assignments are arranged to fit their time schedule. A participant expressed his feeling about the e-learning experience after the program he attended by saying: ***“Do they expect me to be a Moodle expert after this short training?! A single, general, and short training will not lead me to successful implementation of e-learning activities. I do want too much support to put my foot on the right track. For instance, Moodle mentor is a great way. I need someone to help me take advantage of what I learned, and go through the challenges of using new ideas and complicated technologies. Such professional development will impact my work in and outside the classroom. It gives me the opportunity to utilize e-learning resources more frequently and effectively.”***

Except for two participants who mentioned that pairing participants with different levels of technological proficiency is a good strategy for building skills, participants favored the idea of participating in training activities in groups of faculty members with relatively equal levels of technological expertise rather than different levels. Faculty also felt it is important to pre-assess participants before the training activities so that they can be assigned to comparable peer groups. Another important finding revealed from the study is that the participants stressed the importance of providing them with “hands-on” activities that model constructivist practice. They suggested that training programs should be taught in a way that allows them to share their ideas, discuss their issues, and learn from each other rather than listening to lectures about intended topics. One participant commented: ***“I do not want to listen to lectures about Moodle or e-learning because such information is available in many resources. Instead I want to spend my own time on implementing knowledge and skills needed for teaching and learning in my discipline.”***

to learn about those topics and applications. It is evident that the training enhanced some participants' ability to use and develop e-learning materials that are made available to students for use. These educators are now able to employ ICT in many and varied ways in their instruction requirements. They see technology as an effective and powerful tool for enhancing teaching and learning. Evidence of change in participants' efficacy regarding e-learning usage and implementation after the training can be seen in what one of the participants stated: ***"Now I can do things that I could not do before. Moodle has changed my way of learning, teaching, and interaction with my students. Last semester, I created special web pages for my courses, I held some online office hours, and I managed two online examinations. I have shared information through listservs, collaborated with other educators online, communicated with students, and learned so much that enhanced my students' learning opportunities. Actually, I have gained an understanding of Moodle as an effective instructional tool."***

However, one session of e-learning training alone will not be necessarily enough to ensure that a radical change in faculty's instructional practices would occur. Such change requires adequate human and technical support. Most participants indicated that participation in Moodle training was significant in helping them to think about e-learning implementation to support their teaching and learning, but they could not demonstrate frequent use of e-learning after the training program. They justified their minimal use of e-learning because of lack of technological infrastructure; lack of follow-up support; lack of students' access to resources; lack of funding for materials; lack of time; and lack of incentives.

Sixteen participants expressed the desire to attend a follow-up training or to have a Moodle mentor to help them properly understand and practice what they learned at the initiative training. One participant pointed out: ***"We had many things to learn. It is difficult to comprehend those much new materials. Unfortunately, I lost many skills obtained from the training and I didn't use much technology as I should because of lack of practice and follow-up support. I would like to have a Moodle specialist to help me. With the specialist help, the situation will be different."***

Another participant said: ***"I wish that I had more time to devote to this. It takes a lot of time out of my schedule and sometimes that is a problem."***

in the training as a refreshing experience which helped them to better take advantage of their computer proficiency to design meaningful e-learning activities that students really enjoyed. As one participant stated: ***“A major benefit to me was being able to present great information to the students in a motivating format which was very interesting and informative to them.”***

Another participant pointed out: ***“I have become more proficient with the usage of the computer and have been able to communicate information to my students more effectively. My course web page allows my students to check announcements, lesson assignments, and classroom activities. I really appreciate this kind of programs.”***

One important finding was that participants had different reactions toward the training experience. Participants who had less technological expertise considered the program too challenging and felt overwhelmed because of the huge amount of information and applications that were introduced in a short time during the program. For example, one participant noted: ***“I was overwhelmed by the number of new ideas and assignments...because I work at a much slower pace than most of my peers.”***

On the other hand, more technology experienced participants thought that the program was not challenging enough. As a participant commented: ***“Many times during the training sessions I felt frustrated and bored because we used to spend a long time on a simple activity waiting for others to be done.”***

Results Related to the Second Question:

The second research question was “What impact does Moodle training have on faculty’s classroom instruction? Data analysis of faculty members’ responses was conducted to identify the impact of Moodle training on classroom instruction. The findings indicated that participants hold a strong interest in using Moodle LMS. They were highly motivated and interested in using the program especially for distributing course materials that would otherwise have been handed out as hard copies, constructing course web pages, using the computer to communicate with others, and computer-assisted instruction. They were willing to attend more professional development programs

Based on the analysis of the data collected regarding participants' response to: How do faculty members at ZPU perceive the Moodle training they received? The study indicated that participants in the study had different perspectives toward the Moodle training according to their levels of general technological expertise. The three participants who did not use technology reported that they learned new strategies and techniques of using technology for instructional purposes, yet they did not feel they benefited from the training sessions, and they felt frustrated and overwhelmed. These participants explained that Moodle training might work better for faculty members who possess at least the basic technological skills. As evidenced in a participant's response,

“I should have taken the International Computer Driving License (ICDL) or any other computer course to possess basic skills before attending e-learning professional development. There was too much information and too many software applications in a limited time. I am not ready to implement e-learning in my teaching. To be honest, the instructor tried to help me but I was very slow. Attending such program was just wasting of my own time.”

The nine novice technology users considered participation in the training as an enlightening and beneficial experience in terms of what they are able to do as a result of the Moodle training. They mentioned that the training helped them move beyond basic personal use of computer software such as Word Processor and the Internet to employ a wide range of ICT applications as part of their own teaching and learning. A novice technology user stated: ***“Overall, participating in this program was beneficial to me. I cannot believe what I can do now as a result of attending such program. I never expected myself to be able to manage an online examination. I think that I will attend any other programs to be knowledgeable about this vital tool.”***

Another participant noted: ***“Prior to the program, I had many questions about Moodle and I was unsure how to get things done. The instructor helped lighten my load. I have learned to utilize technologies that are already in place. I've created e-learning activities and made the students much more active rather than simply repeating the things that they are told.”***

The 11 advanced and expert technology users reported that the Moodle training was an opportunity to obtain new ideas and new ways of integrating ICT in their own teaching and learning. They considered the participation

looking for major patterns, trends, and themes. Hitchcock and Hughes (1995) explained that analyzing data and compiling the results in these ways are the “culmination of the research process (p. 172).”

In addition to analyzing the interviews, documents collected from the participants were examined for other insights about how trained faculty perceived Moodle training and how it affected their teaching and learning. This analysis helped the researchers to glean any references made to the Moodle integration and helped to create assertions that guided the study.

Results of the Study:

Results Related to the First Question:

During the interview, participants were asked to assess their perceived levels of general technological expertise. Research data indicated that participants vary in their perceived levels of technology proficiency. They had different levels of general technological expertise. For example, three participants stated that they did not use technology at all before the training session, nine participants considered themselves as novice technology users, six participants considered themselves as advanced, and five considered themselves as expert technology users. Table 4 summarizes the number of participants by gender and general expertise as ICT users.

Table (4)
Number of Participants by Gender and Technological General Expertise

General expertise	Number	Gender		Total
	Percentage	Male	Female	
Don't use	N	2	1	3
	%	9%	4%	13%
Novice	N	4	5	9
	%	17%	22%	39%
Advanced	N	4	2	6
	%	17%	9%	26%
Expert	N	3	2	5
	%	13%	9%	22%
Total	N	13	10	23
	%	57%	43%	100.0%

A secondary data source for this study was document analysis. A variety of documents were collected, including participants' reflection notes during the professional development activities, participants' lesson plans, instructional web pages, handouts and assignments, slides from faculty's PowerPoint presentations, and examples of students' electronic activities and assignments. Researchers examined nine reflection notes, six handouts, five electronic assignments, and four PowerPoint presentations.

To analyze the data drawn from interviews, data analysis guidelines offered by Miles and Huberman (1994) were used. These guidelines include creating codes for the field notes drawn from interviews, noting any reflections or remarks in the margins, creating codes for identifying similar patterns, themes, and common sequences in the data set, and creating a set of generalizations that derive from the available data. Additionally, the researchers followed two other methods of analysis suggested by Miles and Huberman (1994). One was data reduction by eliminating all information that was not relevant to the research questions, summarizing ideas, categorizing similar patterns, and paraphrasing stories. Another aspect of data analysis involved coding and categorizing.

According to Seidman (1998) coding data is a process of noting what is relevant, labeling it, and then putting it into appropriate "files". Developing a list of codes is a very important phase of the data analysis process. Bodgan and Biklen (1998) suggested several steps in developing a coding system. In applying these guidelines to this study, field notes were written immediately after each interview which helped to record various impressions and additional information related to the content of the conversations. The audio tapes were transcribed within one day after the interviews were conducted. These transcribed texts and field notes were then carefully analyzed looking for useful responses in answering the research questions. The researchers numbered the pages of the transcriptions for each interview in chronological order according to when the data were collected. The second step in the analysis was to read the data twice to get a sense of its overall coherence. During these readings, the researchers developed a preliminary list of possible coding categories and ideas that might be included in the final report. After developing this list, a reduction process was applied by categorizing the raw data into the codes, refining the list of codes to eliminate repetitions and redundancies, and

participants to explain the purpose and data collection details, and to ensure that identities would not be revealed.

Data Collection and Data Analysis:

This study used two major sources of data to collect information needed to answer the research questions. They were interview and document analysis. Interviews were employed to obtain in-depth perspectives, personal stories, and personal contexts of the participants. The interview questions were developed from the literature review, research questions, and the researchers' experience in the field. ***They dealt with the following areas of inquiry:***

- Comfort level of implementing e-learning technology,
- Faculty's perceptions of the Moodle training they received.
- Impact of Moodle training on their teaching and learning process.
- Characteristics of effective training programs.

Once the initial interview guide was developed, it was submitted to a panel of six experts in the field of curriculum and instruction, Instructional technology, and research and evaluation at the Hashemite University and Zarqa Private University. Experts were asked to judge the questions for their quality and adequacy to achieve the goals of the study. Based on that review, two questions were rewritten, and one item was added. To pilot the interview process, the first researcher interviewed four faculty members (two males and two females) who were not participants in the actual study. Questions and comments raised during these interviews helped the researchers to further clarify the intentions of the study, and the wording of the questions. However, the pilot process did not lead to the addition or deletion to the list of preliminary questions. This piloting process was valuable in improving confidence that the interview questions were easy to understand, and would generate data congruent with the purposes of the study. The questions were presented and discussed in Arabic. Translations were made by researchers. (A copy of the interview guide is presented in Appendix A).

Each participant was interviewed by the first researcher one time. The interviews for all participants were audio taped and transcribed. Recording interviews assured having the most complete record of what was said as advised by Hitchcock and Hughes (1995). By audio taping interviews the researchers were able to capture the meaning and context of what was said, and could write field notes at the same time.

we continued to randomly select other instructors from that school to petition for participation.

Our final sample consisted of 23 full-time faculty members of ZPU. Participants represented diverse academic backgrounds, gender, ages, and years of teaching experience. They were drawn from Faculty of Islamic studies, Arts, Sciences and Information Technology, Economics and Administrative Sciences, Educational Sciences, Law, Allied Medical Sciences, and Nursing which represent all faculties at the university. Of the 23 participants, 13 (57%) were males, and 10 (43%) were females. They represented a spectrum of ages (29-59), and teaching experience (1-23). These variations were useful to get broad perspectives on Moodle LMS training from different faculty at different levels of professional engagement (See Table 3).

Table (3)

Description of Participants by College and Gender

College	Gender		Total
	Male	Female	
Economics and Administrative Sciences	3	1	4
Sciences and Information Technology	2	2	4
Arts	2	3	5
Allied Medical Sciences	2	1	3
Nursing	-	2	2
Educational Sciences	1	1	2
Law	1	-	1
Islamic studies	1	-	1
Engineering	1	-	1
Total	13	10	23

According to Hitchcock and Hughes (1995), one of the important elements of successful ethnographic-type research is establishing strong and effective relationships between the researcher and participants. This requires developing a sense of friendliness between them that leads to feelings of trust and confidence. Having this kind of relationship helps the researchers to get more and better information from participants and ensure their confidentiality. To develop such trust and confidence, an orientation meeting was held with all

Table (2)
Description of the Workshop

Day	Time	Topic	Strategy
Monday	9:00 - 12:00	<ul style="list-style-type: none"> - Getting Started: Introducing Moodle, Terminology, Architecture, and benefits. - Navigating Moodle - Course Management Features: Lessons, Assignments, Resources, Forums, Chat, Choice, Dialogues. 	Introductory presentation Discussion Demonstration Practice
Tuesday	9:00 - 12:00	<ul style="list-style-type: none"> - Course Management Features: Quizzes, Glossary, Journals, Wiki, Workshops, Labels. - Learner Management Features: Participants, Groups. 	Presentation Demonstration Group work
Wednesday	9:00 - 1:00	<ul style="list-style-type: none"> - Learner Management Features: Calendar, Admin, Scales, Grades, Logs, Files, Help. - Learner Experience: Login, Enrolment keys. Wrap up	Presentation Practice Discussion

Looking at the topics of the workshop reveals that it focused on the educational and administrative aspects of Moodle to help faculty members integrate Moodle tools and applications in their teaching profession. The main purpose of this workshop was enhancing faculty members' knowledge and effective use of e-learning through giving them real opportunities to work individually and collaboratively to create e-learning activities. For example, participants were encouraged to create an online assessment, share web site links, upload and link to files, create and participate in a forum.

While none of the participants participated in any follow-up training or sought mentoring from e-learning specialists, they had access to a facilitator for questions or technical problems after the training sessions.

The study population included 103 full time faculty members, who completed Moodle integration training program held in the two academic years 2007/2008 and 2008/2009. The population was mapped using a list of faculty members who registered and completed the training sessions given at ZPU during the time frame.

In sampling participants for the interviews, faculty members originally were selected randomly from the study population, and requested participation by email. When we did not receive enough participation from some faculties,

and Bogdan (1998), qualitative methodology refers to “research that produces descriptive data, it represents the observable behavior and people’s own spoken or written words” (, p. 7). The methodology describes the research design which includes participants selected from the population, data collection methods (interviews and documents analysis) and procedures of data analysis such as creating codes, noting any reflections or remarks, creating codes for identifying similar patterns, themes, and common sequences in the data set, creating a set of generalizations, and writing the final report.

Participants:

The site of the study was Zarqa Private University (ZPU) located in Zarqa city in Jordan. ZPU is a private university that welcomed the first group of students in 1994. The number of students enrolled at ZPU during the academic year 2008/ 2009 is 5400 students. The number of academic staff members in the academic year 2008/ 2009 is 186. The academic staff is distributed as the following in Table 1.

Table (1)
Number of Academic Staff by Rank

Status	Prof.	Assoc. Prof.	Asst. Prof.	Lecturer	Total
Number	10	24	98	54	186

The university is structured into nine faculties that are responsible for teaching 26 programs. The faculties are: Faculty of Islamic studies, Arts, Sciences and Information Technology, Economics and Administrative Sciences, Educational Sciences, Law, Allied Medical Sciences, Nursing, and Engineering.

In response to the growing need for effective use of ICT and e-learning among faculty members at ZPU, the faculty of Sciences and Information Technology developed an e-learning training program to prepare faculty to effectively use Moodle LMS in the teaching and learning process. The training program provided participants with ten hours of hands-on technology training, focusing on the use of Moodle tools for improving learning outcomes. The face to face training session provided participants with technology-rich activities that could easily transfer to their teaching and learning. Participants worked to develop e-learning materials and activities that incorporated the new technology skills. Table 2 describes the workshop and its topics.

Moodle e-learning integration training program held in the two academic years 2007/2008 and 2008/2009, participated in the study. Thus, the results cannot be generalized to any other university. Perceptions toward training programs and Moodle LMS could differ based on the size and location of each institution, and the specific faculty members.

Another limitation of the study was the size of the sample of the study. Although the 23 participants was a large enough number to meet the conventions of qualitative research, it is small for the findings to be generalized. Another closely related limitation was that the study focused on faculty members' perceptions of Moodle training, but did not use other software to compare with the Moodle software.

Definition of Terms:

The following definitions were addressed for this study:

- A. E-learning: An innovative development in education that uses information and communication technology to improve teaching and learning, and to promote educational interaction between instructors and students in, hybrid courses, or online distance learning courses.
- B. Information and Communication Technology (ICT): electronic means of capturing, processing, storing and disseminating information.
- C. Learning Management System (LMS): "comprehensive software packages that support some or all aspects of course preparation, delivery, communication, participation and interaction and allows these aspects to be accessible via a network" (Collis & Boer, 2004).
- D. Moodle: A free, open source software package designed using sound pedagogical principles, to help educators create effective online learning activities.

Methodology:

This study used qualitative research methodology to gather evidence and data to answer the research questions. The choice of qualitative methodology was most suitable for this study where the participants were targeted for their knowledge and expertise of phenomenon under study. According to Taylor

The Research Questions:

Most of the research about the effectiveness of e-learning training offered to faculty and its impact on their use of digital technologies for instructional purposes has been conducted outside of Jordan. Little is known about Jordanian faculty. *This study addresses this issue by examining three fundamental questions:*

- ◆ How do faculty members at ZPU perceive the Moodle training they received?
- ◆ What impact does Moodle training have on faculty's classroom instruction?
- ◆ What types and characteristics of training do faculty members need to support their Moodle implementation?

Significance of the Study:

In contributing to the body of LMSs and training literature, *this study is expected to have the following significance regarding the training of Moodle LMS in Jordan:*

1. Providing valuable insights about faculty perceptions of Moodle training. This information may assist university administrators and policy-makers in judging such investments made to better lead to more rapid and effective implementation of Moodle LMS tools as an integral part of the teaching and learning process.
2. Providing information about the characteristics of training program and whether faculty members need to support their e-learning implementation. This information may also help administrators in developing e-learning support structures to better serve faculty and their students.
3. Leading to further research in the area of e-learning and its training programs in higher education that depends on the analysis of data collected within this study.

Limitations of the Study:

There were several limitations to this study. The first one was the population of the study. Only full time faculty members at ZPU, who completed

measure faculty perceptions of their own abilities in using the tool, the impact the technology could have on student learning, and the usefulness of the tool. Attitudes in all of these areas improved seem to indicate that the training would improve the likelihood of the instructor is adoption of Blackboard.

Over all, training programs designed to help faculty use technology in the practice of teaching are varied. Some of these programs focus on developing technical skills of faculty that enable them to use specific technologies while other programs focus on broader issues of teaching with technology. The integration of ICT and e-learning techniques into the higher education system has been a major focus of public and private educational institutions. It has become the responsibility of institutions of higher education to prepare faculty to use digital technologies in effective and efficient ways to positively influence student achievement (Abbitt & Klett, 2006; Abrami et al., 2006; Ishtaiwa, 2006).

The Purpose of the Study:

Based on the fact that most educational institutions have invested largely on technology integration training programs and they highly expect that faculty members will be able to integrate technology effectively in their classrooms after technology integration training, it is necessary to understand the impact of technology training on the trained faculty and what needs to be done to improve the training programs and to enrich technology integration experiences for both faculty and students. However, the Jordanians' research literature is limited in the information it provides to guide researchers, educators, and legislators in establishing environments that will promote effective use of e-learning. Particularly, there was no known study attempting to investigate the types of e-learning training offered for faculty members and its impact on their teaching and learning (Ishtaiwa, 2006, West et al., 2007b, Zhao & Bryant, 2006).

Therefore, the primary purpose of this study was to examine faculty members' perceptions of Moodle training program offered to them and the impact of that training on their instructional practice. Understanding such issues will help both the professional development providers and faculty to improve the use of the technology to better serve students who grow up with technology.

a variety of appropriate technologies and encourage constructivist pedagogy in order to shift practices from teacher-centered to student-centered learning. The study found that while trained instructors had positive attitudes toward using technology and used more technology than instructors who had no such training; trained instructors did not show significant changes in implementing the technology into their teaching.

Other research supports the need for follow-up and mentoring sessions after training programs in order to foster collaboration among participants, to address the daily challenges of seeking to integrate technology, and to increase the effective use of technology in instruction. In examining the impact of one-on-one follow up with instructors, Davis (2002) found that participants who received one-on-one follow up assistance in integrating technology had higher levels of technology integration than participants who did not receive follow up.

Zhao and Bryant (2006) investigated the impact of state mandated technology integration training on classroom teachers based on analysis of two qualitative datasets. Data collected from social studies teachers focused on post training teacher technology integration levels and data from elementary teachers focused on the use of mentoring after technology training in order to enrich technology integration experiences for teachers and students. Data analysis indicated that technology integration training is effective at a basic level, but it alone cannot lead to higher levels of technology integration. The researchers found that a majority of social studies teachers expressed a desire for one-on-one follow up support to training and that elementary teachers reported mentoring experiences to be the most positive technology related staff development they have experienced.

In terms of studying the training programs regarding LMS technologies, one study was found that attempted to look at faculty perceptions as they participated in a LMS training program. Bennett and Bennett (2003) administered a pre- and post-version of a survey to 20 instructors who participated in a training program consisting of a half-day presentation, two full-day workshops, and three shorter follow-up sessions that focused on hands-on learning of the technologies and showcasing of pedagogical approaches to integrating the tool into courses. The purpose of the study was to

Bennett, 2003; U.S. Department of Education, 2005; Ishtaiwa, 2006; Reynolds & Morgan, 2001; Yildirim, 2000; Zhao & Bryant, 2006).

Recognizing the need for faculty training programs, many universities have offered e-learning training to help faculty use ICT and develop e-learning materials. But, university administrators expect that faculty will be able to integrate technology effectively in their instruction after the training programs offered by the university. What is not known is whether these efforts are changing the way professors teach their classes and incorporate emerging technologies into how students are learning, or not.

Several studies have examined this issue. For example, Scheffler and Logan (1999) conducted a study to identify technology related competencies that were important for teachers. The results of this study revealed that making technology an integral part of instruction was a major goal for teachers. This suggests that teachers are moving beyond administrative functions of technology to instructional ones that enhance teaching and student learning. The teachers indicated they had less need to teach about technology and more of a need to use technology as a teaching and learning tool that could be integrated into their instruction.

Parr (1999) examined the effectiveness of a staff development program designed to improve technology use in the classroom. He found that increased experience and competence in using technology did not ensure success in the integration of technology into the instruction. The findings revealed that there was an increase in the participants' technological skills as related to their personal use of the computer, but the skills' increase was not transferred to an increased use of the computer as a teaching and learning tool in their classrooms. Increasing the individual's skills to use technology was not sufficient to have the individual use those skills beyond personal use. Integrating technology into instruction is more complex.

In another study investigating the influence of technology on teaching practice, Di Benedetto (2005) tried to investigate the effectiveness of one state supported professional development program as it related to changing the pedagogy of instructors. Integrate Technology (InTech) was the primary way of delivering technology training to instructors in the state of Louisiana during the time of this study. The training was designed to introduce instructors to

Moodle has been built to support a “social constructionist pedagogy,” which is based on the active contribution and collaboration of the students. For instance, workshops, which include an adaptable rubric, allow students to engage in peer feedback as well as self-assessment. Wikis, forums, and chats serve as useful platforms for brainstorming, discussions, and debates. On the instructor’s side, Moodle provides several benefits. Instructors can monitor students’ on-line behavior in a secure environment. They can create and deliver lessons, which the students can access independently, or in groups. In addition, they can post resources, including text or links to web pages that the students can use to complete their assignments and for further independent learning. Feedback for any task can be given in plain text or HTML (Hargadon, 2008; Robb, 2004).

Despite the expanding adoption of LMS as a means to develop e-learning materials and activities, faculty members at higher education institutions have been slow to embrace changes in technology (Ishtaiwa, 2006; Murdock, 2006, West et al., 2007a). Many faculty members are still skeptical about integrating those tools as an integral part of the teaching and learning process (Maguire, 2006). LMS adopters can be split into two broad groups: early adopters and followers. Early adopters are characterized as faculty members who are comfortable with new technologies and eager to try the new innovations in the teaching and learning process. They take great pleasure in trying the newest tools. Followers are more apprehensive and cautious individuals, perhaps not so Technologically Literate, who need to wait and see how things work (Harrington et al., 2004).

Even those faculty members who are considered LMS users; early research indicated that they implement mainly the parts of functions that replace older techniques for reproducing and distributing documents (Bongalos et al., 2006; Garrote, 2006; Garrote & Pettersson, 2007; Morgan, 2003; West et al., 2007b). Such findings suggest that the issue is not about purchasing or up keeping LMS tools on universities’ campuses. The challenge is finding ways to convince the faculty of the value of these tools, and motivate them to enhance their levels of effective use.

Research literature supports the idea that technology training is an essential factor to assisting faculty to develop a more positive attitude toward the implementation of e-learning techniques in their instruction (Bennett &

process (Al- Mashaqbeh, 2009, Ishtaiwa, 2006). To move forward with such a goal, Zarqa Private University (ZPU) has invested a large amount of resources into modifying and supporting Moodle LMS as an open source to fulfill its faculty and students' needs.

The name Moodle is an acronym of Modular Object Oriented Dynamic Learning Environment (Wikipedia, 2006). It was created in Australia by Martin Dougiamas as part of a research project to answer the question of how can Internet software successfully support social constructionist epistemologies of teaching and learning. More specifically, the research was designed to study which web features encourage or act as barriers to community based e-learning (winter, 2006).

Moodle is freely available as an open source software, and it is flexible and easy to modify. It is highly modular, and supports a large active community worldwide, including programmers which are continually modifying and expanding its code. Such modifications are incorporated into the main software, and thus the project continually develops and expands to reflect the needs and interests of the Moodle community (Winter, 2006). In contrast to other LMSs. Moodle is beginning to stand out as a very convenient and financially available system for instructors and students worldwide. As of the fall of 2007, Moodle claimed to have over 14 million users, with over 35,000 sites in 195 countries (Hargadon, 2008); however, since there is no requirement for registration when using Moodle, there are no definitive statistics on the actual number of total implementations. Moodle had the largest market share of LMSs in small companies. There is a considerable degree of interest in Moodle in higher education for its e-learning applications citing its ease of use, robust user and developer community, functionality of tools valued by educators, and its rich set of administrator tools (Hargadon, 2008; Graf & List, 2005).

While Moodle may not have all the bells and whistles of top-line LMS products, it can provide a basic collaborative environment for e-learning applications. Using Moodle to supplement classes provides many advantages for students and instructors. To be specific, the Moodle environment includes a platform for several features including: class schedule, assignments, participant profiles, chats, wikis, an interactive glossary, e-mail, lessons that the instructor can create, quizzes, surveys, and workshops.

Introduction:

As Information and Communication Technologies (ICT) have become more robust and easier to use, more and more faculty in higher education are seeking to use ICT in the classroom. Digital technologies are changing how information is presented and arranged, how students interact with information, and how they communicate with their teachers and with each other. Instructionally, computers and digital technologies, which began as objects of study, are now playing a central role in this new learning environment and are changing what is taught and how it is taught (Ishtaiwa, 2006). As a consequence, there has been a rush by higher education institutions to adopt Learning Management System (LMS) technologies in an effort to more easily transition courses into fully online as well as more that are blended in design format (West et al., 2007b).

LMSs have become mission critical systems for educational institutions. According to Simonson (2007) the need for LMSs has become a significant one for colleges and universities, and going back to instruction without an adequate LMS is no longer seen as acceptable by most students and faculty members. Through the Internet and common office software, learning management systems are now probably the most used instructional technologies in higher education institutions. LMS can be defined as “a comprehensive software package that support some or all aspects of course preparation, delivery, communication, participation and interaction and allows these aspects to be accessible via a network” (Collis & Boer, 2004). According to Meerts (2003), LMSs have evolved from simple HTML based one-way communication tools between faculty and students to multifunctional enterprise level applications. It is a way to enable instructors who do not have web design skills to be able to easily create a web accompaniment to their courses.

Jordanian universities are among those institutions involved in an educational renewal effort to use digital technologies more effectively. A major goal of such efforts is to enable the higher educational system to move away from “chalk and blackboard” instructional strategies that focus on lecturing and recall examinations to an e-learning environment that uses computer technologies and the Internet more effectively in each of its programs of study, and one in which the students are more actively engaged in the learning

Abstract:

This qualitative study investigated the faculty members' perceptions of a Moodle LMS training program and the impact of this training on their instructional practice at Zarqa Private University in Jordan. Data were collected via interviews with 23 faculty members and document analysis for samples of their teaching materials.

The results indicated that faculty members had different perspectives toward the Moodle training according to their levels of technological expertise. They considered the Moodle training as an effective strategy for providing basic knowledge and skills about using technology. However, because of time commitments, teaching styles, and individual levels of proficiency with technology, a "one-size-fits-all" training program for faculty does not achieve the desired outcomes.

As an alternative to the generic model of training, findings from the data suggest that training activities such as one-on-one instruction, instructional video tapes, hands-on workshops, and online training may better support faculty's implementation of Moodle tools in the teaching and learning process.

Keywords:

Learning Management System (LMS), Moodle, e-learning, Information and Communication Technology (ICT), Teaching and learning.

ملخص:

هدفت هذه الدراسة النوعية إلى تقصي وجهات نظر أعضاء هيئة التدريس في جامعة الزرقاء الخاصة في الأردن، حول برنامج تدريبي لاستخدام نظام إدارة التعلم (الموديل)، وأثر هذا التدريب على ممارساتهم التدريسية. وقد جُمعت البيانات من خلال المقابلات الشخصية مع ٢٣ عضو هيئة تدريس، وحُلَّت نماذج من المواد التعليمية لهم.

وقد أشارت النتائج إلى أن أعضاء هيئة التدريس كان لديهم وجهات نظر مختلفة فيما يتعلق بالبرنامج التدريبي الخاص (بالموديل)، وذلك تبعاً لمستوى خبراتهم في استخدام التكنولوجيا. وقد رأوا أن البرنامج التدريبي استراتيجي فعالة لتزويدهم بالمعرفة والمهارات الأساسية لاستخدام التكنولوجيا. لكن، وبسبب التزاماتهم الأخرى، وأنماط التدريس، ومستوياتهم المختلفة في استخدام التكنولوجيا، فإن برنامجاً عمومياً واحداً للجميع لا يحقق الأهداف المطلوبة.

ولهذا فإن الدراسة -وكبديل للنموذج العمومي المستخدم- تقترح استخدام أنشطة تدريبية أخرى مثل التعليم: واحد لواحد، وأشرطة الفيديو التعليمية، والورش العملية التطبيقية، والتدريب الإلكتروني، حيث إن هذه الأنشطة تدعم جهود أعضاء هيئة التدريس بصورة أكثر فعالية لتطبيق أدوات (الموديل) في العملية التعليمية التعليمية.

كلمات مفتاحية:

نظام إدارة التعلم، (الموديل)، التعلم الإلكتروني، تكنولوجيا الاتصالات والمعلومات، التدريس والتعلم.

Faculty's Perceptions of Moodle (LMS) Training Program and its Impact on their Levels of E-Learning Implementation: Qualitative Look

Fawzi Ishtaiwa*

Ibtehal Aburezeq**

Khaled Abu Sheirah***

Thaer Ghbari****

* Assistant Professor, Al Ain University of Science and Technology, United Arab Emirates. (Main Researcher).

** Assistant Professor, Al Ain University of Science and Technology, United Arab Emirates.

*** Assistant Professor, Zarqa Private University, Jordan.

**** Assistant Professor, Zarqa Private University, Jordan.