Malaysian Journal of Distance Education 8(1), 31-47 (2006)

Setting Up and Maintaining E-Learning Programs Through (Mindflash) Technology in Building and Offering Self-Based or Instractor-Led Courses

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Abstract

This descriptive, and analytical paper demonstrate the availability of using MIND FLASH package in designing one of the courses. It was designed to convert contents from word, power point, flash, HTML, audio, or video applications to engaging web-ready course materials.

Abstrak

Artikel yang analitis dan diskriptif ini menunjukkan keadaan mengguna pakej MINDFLASH di dalam rekaan suatu kursus. Ia direka untuk menukar kandungan daripada word, power point, flash, HTML, audio, atau aplikasi video hingga ke bahan-bahan kursus sedia-web yang menawan.

Introduction

Lecturers and instructors are faced with real task and/or challenges to keep on track with the new technology in organizing, providing, and submitting course syllables, assignments and quizzes. Most of them use Microsoft power point to present their tutorials, but few are fully aware of the new tools and technology in organizing course materials and syllables to their students.

E-learning is the convergence of the web and learning on all levels, whether it is elementary school, college, or business. Knowledge is now considered a competitive advantage and a company's most important asset. However, e-learning is the delivery of formal and informal learning and training activities, processes, communities and events via the use of

all electronic media like Internet, intranet, extranet, CD-ROM, video tape, DVD, TV, cell phones, personal organizers et cetera.

E-learning fits into two categories: synchronous and asynchronous. Synchronous e-learning imitates a classroom, which means classes take place in real-time and connect instructors and students via streaming audio or video or through a chat room. Asynchronous e-learning lets a student access prepackaged training on his own time, working at his own pace and communicating with the instructor or other students through e-mail. Some vendors specialize in e-learning packages that run over a company's servers. Others use an application service provider model and handle everything from creating a training course to storing the information (e-learning, 2006).

Computer-based training (CBT) and web-based training (WBT) refers to a course that is distributed on CD-ROM or over the Web for students to take as a self-paced asynchronous course. The advantages of WBT over CBT are that online materials can potential exists, since a student is online, for interaction with an instructor and other students. The disadvantages of WBT over CBT are that a student needs Internet access, either to be connected while taking the class or to be uploading and downloading materials. This can be costly, especially for large multimedia files, and prohibitive if a student is travelling or access is expensive (Neal & Millen, 2005).

Objective

The main objectives of this study are to:

- define the concept of E-Learning.
- identify the main features and characteristics of E-Learning.
- identify the pros and cons of E-Learning technology.
- demonstrating MindFlash technology in performing and designing course syllables.

Methodology

This descriptive, analytical, and experimental study using MindFlash package and experimenting one of the courses the researchers teaches presently.

The Benefits of E-Learning

The potential benefits of e-learning are (Hambrecht, 2000 & Lies & Truth, 2006):

(i) The biggest benefit of e-learning is that it eliminates the expense and inconvenience of getting the instructor and students in the same place. In the US, with this anytime statement a lot of time, people were forced to learn outside the office hours. So the anywhere became at home. This created a negative attitude towards e-learning. Most of the time the learner is also limited because of technical reasons e.g. he need to be at a computer with fast Internet connection.

(ii) Web-based products allow instructors to update lessons and materials across the entire network instantly. This keeps content fresh and consistent and gives students immediate access to the most current data. Information can be retrieved just before it is required, rather than being learned once in a classroom and subsequently forgotten. Automatic updating capability for on-line learning of the content, so users can access the most recent version of the learning material, always aiming to offer the most adequate learning environment.

(iii) Since they can customize the learning material to their own needs, students have more control over their learning process and can better understand the material, leading to a 60% faster learning curve, compared to instructor-led training. In one hand the learner will get a lot of control but there are two negative things about this. First: That the learner ‘gets’ control doesn't mean he ‘has’ control. Self directed distance learning is not the best learning model for everybody. Lots of learners do not have the knowledge and skills to manage their

own learning process. Second: Most of the time their manager will "look over their shoulder" by using the L(C)MS.

(iv) Distance education can be more stimulating and encourage more critical reasoning than a traditional large instructor-led class because it allows the kind of interaction that takes place most fully in small group settings. An electronic environment can offer a very different learning experience for all the learners. But not only the technical possibilities are important. If we really want to offer a very tailor-made learning experience we need to take a lot of variables into account e.g.: prior knowledge, learning style, age, job profile, preferences for media formats. This all can be done but it means that the content developer has to create a very sophisticated and extended set of learning objects. This is not desirable from a time and money point of view.

(v) Risk-free environment in which they can try new things and make mistakes without exposing themselves. This characteristic is particularly valuable when trying to learn soft skills, such as leadership and decision-making.

(vi) Technology has given the individual greater authority over the learning environment. Learning does not have to occur in a classroom. It may occur at one's own desk or the home.

(vii) An individual may proceed through a course or program as the information is fully comprehended. Students can convert information to knowledge on their own timetable. E-learning is available at any time that users need to learn, to solve a sudden specific problem but also when there is only a desire of improving knowledge and skills.

(viii) The information delivered can be consistent to all users, therefore reducing the possibility for misinterpretations.

(ix) Information can be developed with individual users in mind. Courses and programs can be created to deal with each individual's strengths and weaknesses. The learning environment interacts with users providing them feedback on the learning process.

(x) Product and procedural changes can be updated and delivered in real-time. This increases the rate at which knowledge is acquired, which is especially important in the corporate market.

(xi) Time and money. Consider how much any institute or company spends in sending people to training-airfare, hotel bills, phone calls home. All those pricey meals on the company tab. E-learning eliminate costs by allowing a specialist in Sacramento to train an entire group in Singapore without leaving the office. It also offers more accessibility to the instructor and more flexibility for the student. This really depends on what aspects you are focusing. The money saver is mostly the cancellation of instructor-led training. When you look at the development costs of e-learning material: that is quite high. And especially in Europe the costs are higher: American products like LMSs are expensive and the average number of learners is lower (and less traveling costs).

(xii) Users can manage the learning process by themselves, following the structure established by the content developer but also designing and choosing the most convenient path to their needs of knowledge in a nonlinear way.

(xiii) E-learning may offer rich multimedia learning environment. Some advantages of using multimedia may be the fact of keeping users' attraction and involvement to the content, and also the fact that it adapts to the learner's style.

Characteristics of Technologies Related to E-Learning

As stated in the article “e-learning” (e-learning, 2006) - E-learning tends to isolate students physically, which can have negative effects on team building and sociability. Students with an aptitude for verbal expression may suffer in the virtual classroom. Those who feel shy about speaking up in a lecture hall may be more likely to ask their questions in this environment.

Though most e-learning packages require only a browser and an Internet connection, certain bells and whistles (like audio or video) require high bandwidth. Technology is only an enabler; you will need a continuum of

technologies and methodologies to create the most effective program (Designing, 2005).

Some of the issues to consider in technology selection are the number of students and the need for scalability; any existing software, hardware, platform, or Internet access constraints; the cost to purchase, use, maintain, upgrade, and vendor preference, reputation, and the availability of training and support.

Technologies should be easy to use, provide adequate tutorials, and help to enable students to become familiar with using the products to support their learning tasks. Additionally, students should be offered technical support technologies. The technology utilied should also be is useful. In selecting technologies for e-learning, one should determine whether the capabilities provided can support the required level of student-system, student-student, and student-instructor interaction while enabling students to carry out the required coursework. It is important to test tools to determine how features work and how the interface design impacts student's ability to learn (Neal & Millen, 2005).

Technologies for Delivering Asynchronous and Synchronous Courses

There are many technologies that can be effectively employed to deliver asynchronous e-learning. These include many collaborative tools that can be brought to distance education including e-mail and discussion forums. E-mail is often used for informal, behind the scenes exchanges of resources (e.g., draft versions of documents, Web links) in support of group work. E-mail is used for teacher-student communication and student-student exchanges (Neal & Millen, 2005).

Discussion forums are included in much distance education and provide a mechanism for discussion on specific course topics as well as informal exchanges carried out asynchronously over time (e.g., days, weeks, months).

More robust discussion forums might support the ability to attach documents or uniform resource locators (URLs), or send e-mail notifications when new posts are added. Threaded discussion forums are

typically organized so that the exchange of messages and responses are grouped together and are easy to find.

Technologies for Delivering Synchronous Courses there are many collaborative technologies that can be effectively used to fully or partially support synchronous distance education. These include audio conferencing, electronic whiteboards and screen sharing, instant messaging, text chat, virtual worlds, video communication, and Web casting and Web conferencing.

Audio conferencing, using the telephone or voice over Internet protocol (VoIP), allows a group to interact in real time through sharing voice (audio) and other artifacts such as slides or text. Audio is a fairly simple and often inexpensive way of supporting lecture and discussion in a course. The biggest issue with effective audio conferencing is quality, since students are generally intolerant of poor quality audio. For telephony, speaker phones with mute capabilities aid participation, and, for VoIP, headsets with microphones similarly make it easier for a student to participate. Audio sessions, just like the classroom, vary depending on class size, and what works for a small group is unlikely to work for a large group. Since people cannot see one another, simple protocols smooth interaction, such as prefacing a remark with one's name.

Probably the most frequently used form of synchronous interaction occurs via Instant Messaging (IM) and text chat. IM and chat provide a means for a teacher to hold online office hours. IM allows students to see when a teacher is available for questions and is quicker and easier than the phone or e-mail. It allows students to easily find when another is available, e.g., for collaboration on a project.

Web casting or Web conferencing couples many of the above synchronous technologies into one package, using either the telephone or VoIP for audio. A few products even allow either to be used, providing maximum flexibility depending on location and phone charges. These technologies vary considerably in quality and cost, as well as feature set. As complexity increases, the number of capabilities becomes too much for one person to manage when teaching and an assistant or moderator becomes necessary, especially if a text chat is used since it is very difficult to talk to a class and monitor a chat at the same time. In addition, extensive preparation and

scripting is needed for a well-run session. For instance, if a polling tool is used, questions need to be entered in advance. Learning Management Systems (LMS) and Learning Content Management Systems (LCMS) provide the registration and administrative processes for distance education. They can aid a student in determining learning needs through a skill-gap analysis and personalized learning plan. They track student progress so that a teacher or manager can view what a student has accomplished (Neal & Millen, 2005).

Typically they provide multiple views and levels of security based on roles, including administrator, faculty, and student views. Many provide additional capabilities, such as authoring tools to create content. Authoring tools can be separate from an LMS, especially when used to develop multimedia. Learning portals and learning communities are a means of bringing informal and formal learning together, using a virtual classroom for live sessions and knowledge management techniques to facilitate informal knowledge locating and sharing. Communities of practice similarly support informal learning. Sometimes this coupling of formal and informal learning is offered through a personalized learning portal. When students take a course, arguably much of the learning takes place following completion when they are applying what they have learned and providing context that is often lacking in the physical or virtual classroom. There are many opportunities, especially when students are already used to communicating online, to facilitate sharing of the learning that follows a course in an online learning community.

Steps to Construct Online Courses

Most instructional development evolves by trial and error, where the instructor learns over the years what type of instruction seems to be most appropriate for his or her students without realizing that he or she is adjusting the educational instruction to accommodate such issues. Instructional designers and technology experts must work together to minimize mismatches between instructional objectives and technology solutions. Research may suggest potential benefits in use of a particular approach or technology for instruction, but feedback from actual use may reveal little or no benefit in a particular context or situation.

Course templates can help instructors create the initial structure for an online course and can promote consistency in the design of course artifacts within and across online courses. Instructors can use templates to create announcements, course content, descriptions, objectives, policies, registration, syllabi, assignments, discussion forums, participant biographies, and postclass feedback (Designing, 2005). Templates typically include a "what you see is what you get" (WYSIWYG) content editor. Course content can be created from scratch using the editor or linked to or uploaded from existing files or a content repository. Instructors can typically copy and modify default templates or create new templates to meet the needs of a specific course.

A course development plan to analyze, design, build, and evaluate a course should be developed (Hall, 2000). The typical steps are to analyze the learning problem, the organizational issues, and identify learner characteristics, knowledge, and skills; design what the instruction will look like: instructional goals, teaching/learning activities, and how the learning will be evaluated; develop materials to the design description and test; implement or plan for how a class will be delivered, received, updated or revised, and maintained and any training and piloting; and evaluate throughout the design process and during implementation to make sure class is effective for the learners. Iterative testing, even of prototype or storyboard, should be done to ensure that the course will be effective, and a course should be piloted with representative audience in as close as possible to the actual setting. Evaluation is discussed in depth in a later section. Another part of course development plan is to determine the shelf life of a course, that is, how frequently it needs to be checked for accuracy (including working links) and how often it should be updated.

It is difficult to estimate the time and cost for producing an online course. ASTD (American Society for Training & Development) is the world's largest association dedicated to workplace learning and performance professionals uses very general ranges of 40 hours of development for 1 hour of classroom instructions and 200 hours of development for 1 hour of finished computer-based training (ASTD home, 2006). Some of the variables impacting time and cost are the length of the module, since a longer module will cost more; complexity of the topic and resulting material to teach it; testing; graphics and multimedia, with audio, video, and animation being the most time consuming and expensive to create; the

simplicity or complexity of navigation since the more options included; the more complex and costly the development will be; and content, whether content already exists or needs to be developed or updated.

What and Why Mindflash Training System

Using MindFlash system as demonstrative tool for developing or designing lessons, accordingly, we find it very important to define the concept (MindFlash) and list its most important features which helps and encourage all instructors and demonstrators to adopt.

MindFlash is a hosted training system. It contains features only found in enterprise learning and content management systems but it is designed to be extremely easy to afford, use and implement.

It is used by large and small organizations to setup and maintain their e-learning programs. The system includes tools to build and offer self-paced or instructor-led courses, customize the appearance of the website and courses, and generate and distribute reports.

The MindFlash training service is used by corporations, training organizations, schools, instructors, content creators, and consultants. The MindFlash service is used by large corporations with thousands of employees like Shelter Insurance and Intuit, and by small schools like the BGCenter and University Instructor.

Course content can be created in a number of formats, including Microsoft Word, PowerPoint, Flash, HTML, audio and video. Content from each of these formats is converted to web-ready content by MindFlash. All you have to do is create your content in a format you are most comfortable with. Upload the content and we do the rest.

MindFlash was designed to convert content from Word, PowerPoint, Flash, HTML, Audio, or video applications to engaging, web-ready course material. You will be able to use any or all of these formats when you create your course.

In order to build courses you need a computer with Windows 2000+, Office 2000+, and IE 5.5+. You can use any authoring tool to build the

content. This includes Dreamweaver, FrontPage or any other HTML editor (MindFlash, 2006).

As for the features of MindFlash we are listing down the most recognized ones:

1. Create Courses
   - Build engaging online training courses in minutes.
   - Combine course content in any format - Word, PowerPoint, Flash, PDF, audio, video.
   - Write quizzes and surveys to assess Learner progress using Microsoft Word.

2. Offer Courses
   - Allow Learners to self-enroll or enroll entire lists.
   - Integrate with Authorize.Net, WorldPay or PayPal to collect payment for courses.
   - Collect and store custom registration information.
   - Learner interface now available in English, Spanish and Portuguese.

3. Communicate Courses
   - Interact with Learners by hosting public chat sessions.
   - Allow users to communicate with each other via the bulletin board.
   - Assist specific Learners through a private chat session.

4. Track Courses
   - Organize Learners in groups for clear reporting and easy enrolment
   - Generate custom reports at the Course, Group, User, and Quiz level
   - Export reports in CSV or Excel format for easy manipulation

Until only a couple of years ago you may have needed several systems: a Learning Management System (LMS) to manage the portal and user registration, one or more specialized Authoring Tools (AT) to build content, and a Learning Content Management Systems (LCMS) to maintain a course outline and repository. The Mindflash system includes all the required components and important functions of an LMS, Authoring Tool, and LCMS for a much reduced cost. The following table

shows the differences between MindFlash and other systems according to certain points (MindFlash, 2006).

Table 1 Comparison between MindFlash and other systems

	Mindflash	**LMS**	**AT**	**LCMS**
Website to host courses and users				
Customizable e-learning web portal	X	X		X
Standard user registration	X	X		X
Collect additional user information	X	X		
Send and track course invitations	X	X		
Built in e-commerce support	X	X		
Automated group enrollment from lists	X	X		
Course creation for one or more authors				
Unlimited courses	X	X	X	X
Unlimited authors at no additional cost	X			
File storage/repository	X			X
Drag & drop tool to manage course outline	X			X
Course customization tools	X		X	X
PowerPoint conversion tool	X		X	
Word & PDF conversion tool	X			
Support content in any web format	X			X
Support content in any language	X			X
Support for standards (SCORM/IMS)	X	X	X	X
Display all content in a consistent interface	X			X
Quizzes, tests, and assessments				
Multiple choice quizzes	X	X	X	X
Multiple quiz question types	X		X	X
Randomized quiz questions	X			X
Timed quizzes, multiple attempts	X			X
Adaptive paths and completion rules	X			X
Reporting and management tools				
Integrated Learning Management System	X	X		X
Course reports	X	X		X
Robust reporting tools	X	X		
Group management tools	X	X		
Various levels of user access	X	X		X
Included communication tools	X	X		
Total cost of ownership				
Learning curve	Low	High	Low	High
Free trial	X	X	X	X
Free support for all users	X			
No software or hardware cost	X			
Free Maintenance	X			
Setup cost		$$$		$$$
Upfront licensing fee		$$$	$	$$$
Update cost		$$$	$	$$$
Recurrent per user cost	$	$$$		$$$

The following demonstrative example of MindFlash application on one of the courses the researchers of this study is teaching describing step by step the procedures of designing and developing teaching course using the above system.

The first step in using MindFlash system is by entering website "www.mindflash.com", the system response by home page in which the user can try a free training course with free 30 days without obligations (Figure 1). Then the website course and the user name with password will be given to the user according to the information entered by him. The system always considers the user e-mail as user name while the organization name considered as password.

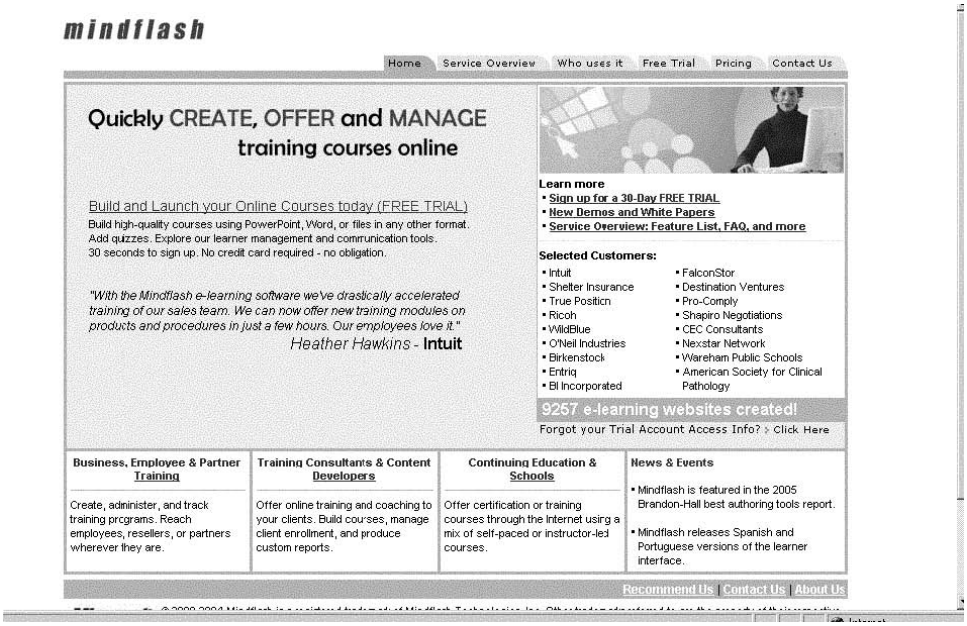

Figure 1 MindFlash home page

The administrators and instructors can add course contains with lessons and quizzes using the course website after inserting user name and password (Figure 2). Users files will be transferred and built in abling the users as it is possible for the administrators and instructors only (Figure 3). In order to make quizzes and surveys of any type, the system will add

certain tools which help for entering or making quizzes and surveys (Figure 4).

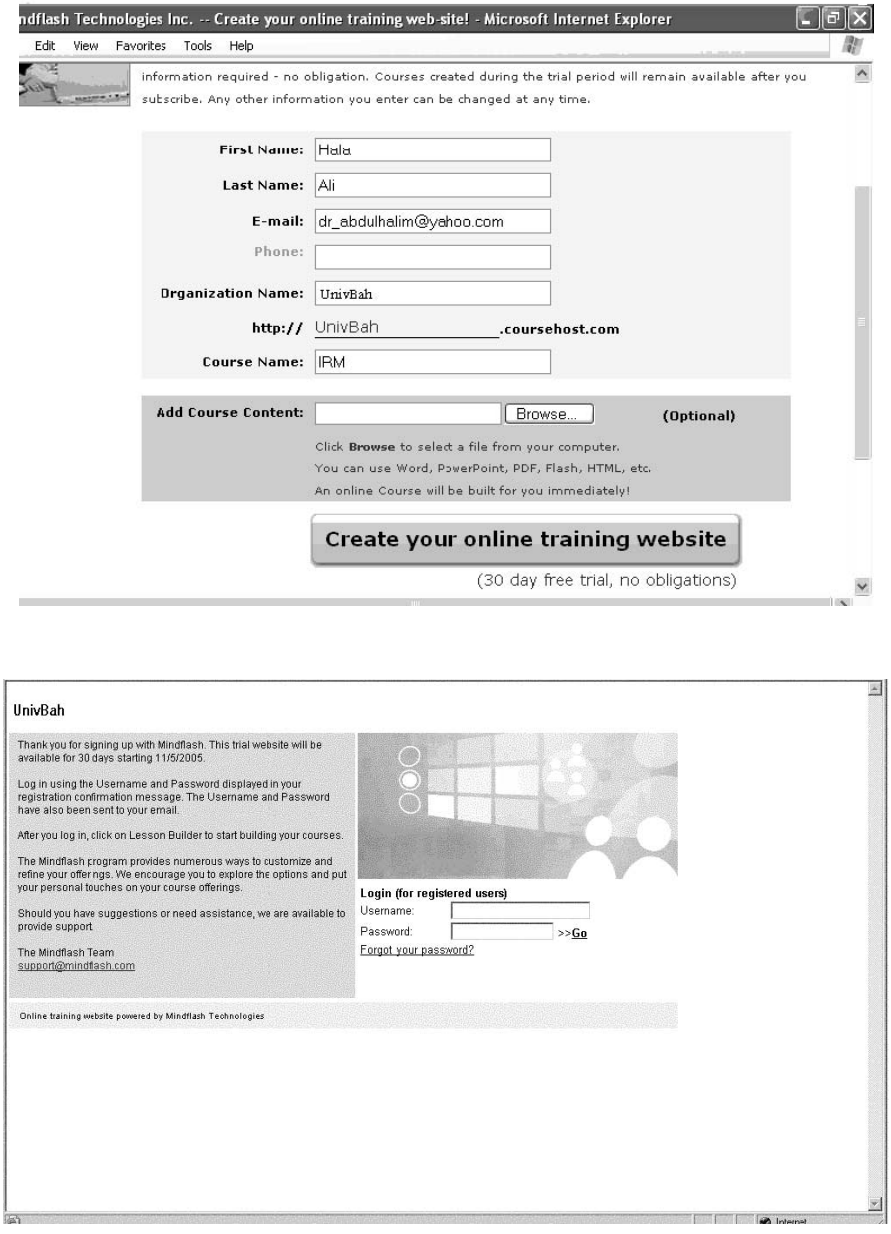

Figure 2 Creating online training website

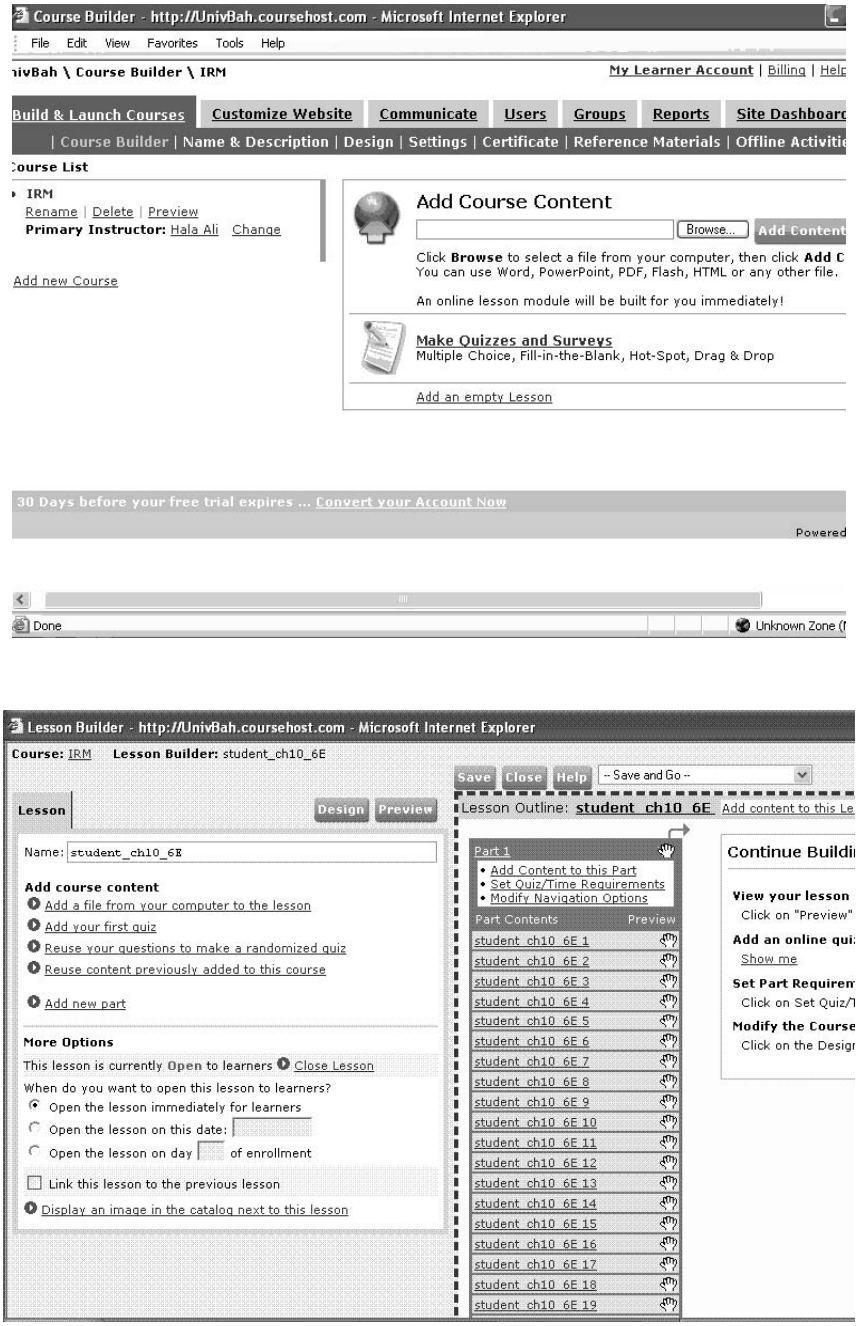

Figure 3 Creating and editing course lessons

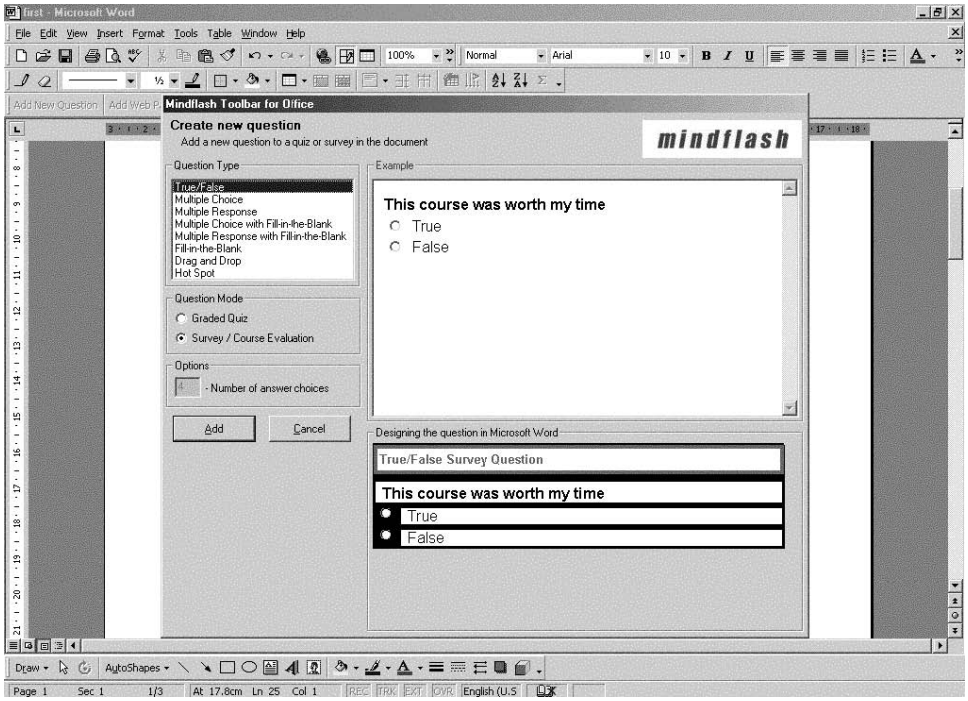

Figure 4 Making quizzes and surveys

Concluding Remarks

The study concluded that before implementing e-learning programs, organization should consider the following:

- The learning philosophy and how it does fit into the institute mission and strategy.
- How much investment in learning and what benefits are realized.
- How to manage all learning (training, education, performance support, communication, coaching/feedback, knowledge management) to achieve business goals.
- How success could measured.

MindFlash is a very suitable tool for lecturer and instructors to use and implement because of its special features and ease.

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