.: The NUS eModule Initiative :.

Introduction

The E-Learning mode of instruction gives you the opportunity to use the features and benefits of technology as a catalyst in teaching. We welcome you to consider the development of eModules that utilize interactive multimedia and the Internet as a medium to actively engage your students on various subjects. These eModules can be designed either to be taken totally online or in a blended learning environment.

Although the first eModule "SSM1205 - The Nation's Health: Lessons from SARS" was primarily for dissemination of information, its implementation has given us a tested precedent to work with and to learn from. It is an opportunity that enables us to further understand and evaluate pedagogic design for E-Learning in a campus-based university such as ours. We are also encouraged from the positive response to E-Learning based on the feedback received from our students. The NUS eModule Initiative aspires to give you the platform in using E-Learning not just for web-based delivery of lectures or as a digital repository of documents but instead to rethink teaching strategies for online instruction.

Keeping this in mind, here are some objectives of the initiative for your consideration:

- To provide active learning environments where instructional technology add-ons are best exploited in creating dynamic module content
- To create more opportunities for lecturer-student and peer-to-peer interaction
- To bring in a new pedagogic strategy of blended learning which would enable both educators and learners to better analyze, reinforce & assimilate information pertaining to the subject
- To capture and retain a good amount of tacit and explicit data about the subject from the content experts
- To serve as a repository of knowledge that can be revisited and reused infinitely by the learners without the lecturer having to take extra time in addressing factual theories

Along with these objectives are various reasons to create eModules that may be applicable for your subject:

- Students tend to forget fundamentals
- Valuable teaching time is spent on revising old content
- Prerequisites are often not recollected when taking an advanced module
- Lecturers feel the lack of time in engaging the students interactively
- A lot of effort is exhausted on de-constructing knowledge
- Difficulty in explaining concepts to a varied audience
- Students may not respond in class due to fear of embarrassment but may prefer to correspond online or anonymously
- Majority of lecture activity revolves around taking notes

E-Learning is not about making educators obsolete but more as a channel for you to take advantage of web-based instructional models. You have our full support as we work towards improving the educational offerings to our students and we look forward to your endorsement. Please do browse the other pages on this website as well and let us know your thoughts.

Benefits

In addressing the objectives and reasons mentioned in the Introduction, here are some benefits that may also encourage you to consider developing eModules:

- ★ Enables self-paced learning
- ★ Convenient access – anytime and anywhere
- ★ Multi-sensory engagement catering to different learning styles
- ★ Humanizing content delivery with virtual presence of the lecturer
- ★ More opportunities to spend quality time engaging the students in face-to-face activities or discussions rather than in delivering information
- ★ Focused content presentation for effective learning
- ★ Build once – Use forever
- ★ Ability to serve a mass audience as well as small groups
- ★ Cost savings on allocating and running Lecture Theatres
- ★ No timetable scheduling for conducting classes
- ★ No quota requirements
- ★ Maximize usage of current IT infrastructure and increase ROI
- ★ Increased time for Research
- ★ Recognition from Faculty and University
- ★ Possibility of commercializing the eModule

Categories

We would like to offer you 4 types of eModules for your consideration:

1. eMTotal
This is an eModule that has the entire module delivered online. All lectures and associated content will be designed into the eModule framework and offered to the students via the Internet. Only tutorials will need to be conducted offline if you see the need.
Estimated development time: 8 months

2. eMBreeze
In case you wish to or have already converted sufficient content using Macromedia Breeze, we can work with you in integrating these presentations into the eModule framework. This option would be suitable if you would like to design the content by yourself without the video element.
Estimated development time: 5 months

3. eMSlice
If your module has portions that could be delivered online, then this option would be appropriate for you. We will work with you in converting the identified lectures/content into a scalable design that will allow you to add more module lessons if required at a later stage.
Estimated development time: 3 months

4. eMPilot
Are you curious to know if this model will work for your module and students? Try it out with one or two lectures to test it with your students. Based on the feedback received you could then take a clearer decision to proceed further.
Estimated development time: 2 weeks

** Please note that the development time frames stated are subject to the scope of work involved.*

Strategy

In developing eModules we use a Learning Object framework to structure the subject matter. A typical eModule would comprise of a number of Lessons. Each Lesson would consist of its Objectives, Synopsis, Content, Assessment and Conclusion. If required, a Final Assessment can also be included when the student completes all the Lessons.

The Content section within a Lesson is broken down into granular Topics where along with the information; we also have an audio/video of the lecturer highlighting important points about the topic.

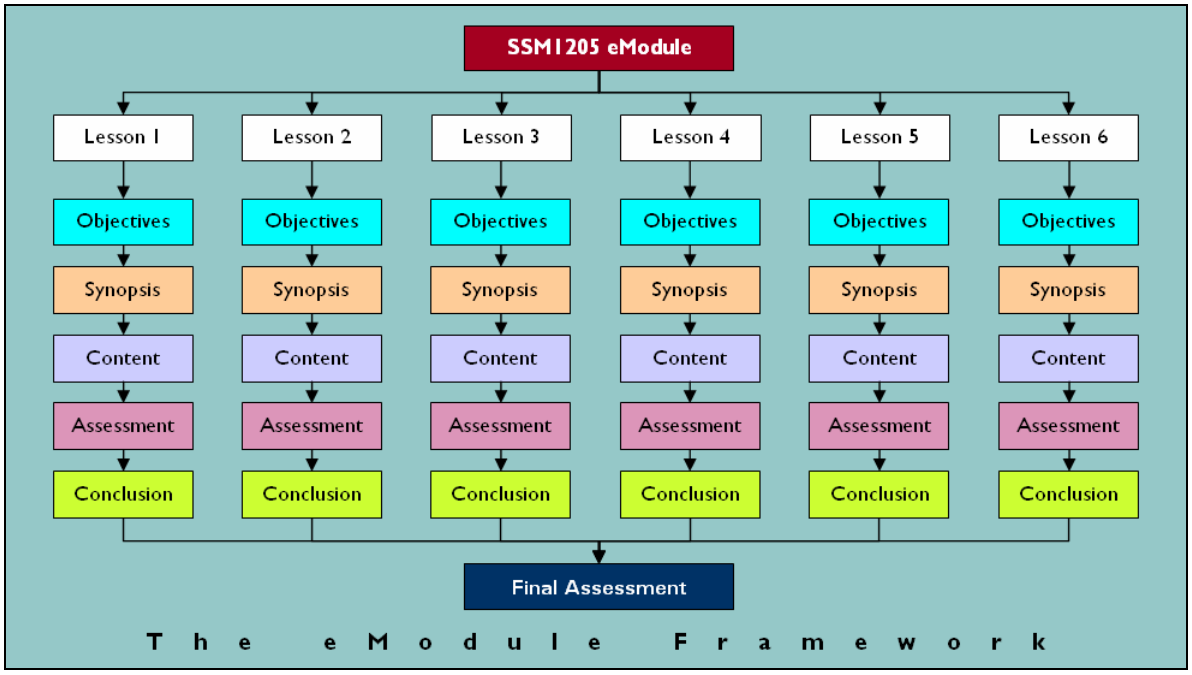

Figure 1: The eModule Framework for the module SSM1205

In addition, each lesson and/or the eModule can be linked to an accompanying Discussion Forum where students can exchange views with their peers and lecturers to facilitate asynchronous communication. Every eModule also comes with a student survey form to collect feedback for analysis on the performance of the module. An example of the statistics that we have collected for SSM1205 can be seen here.

Process

The development process for building the SSM1205 eModule is as shown in the flowchart below. Please note that this is just one of the many ways we can construct an eModule.

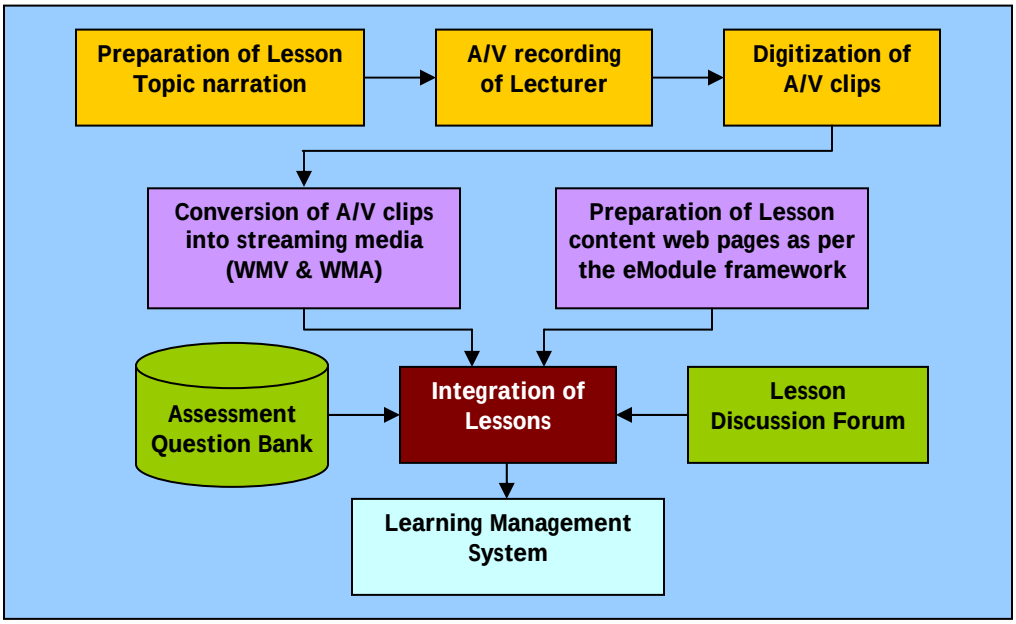

Figure 2: The eModule Production Workflow

Stage 1 - Content Preparation:
Existing module content will be analyzed and restructured to fit into the eModule framework. As described earlier, the module will be broken down into a number of Lessons. Each Lesson will comprise of the Topics covered along with its Objectives, Synopsis, optional Assessment and Conclusion. Once you ready with the raw content, narration that you would be giving on each Topic will be scripted.

Stage 2 - Video Recording of Lecturer:
Using the facilities at the CIT Studio, we will record the video of your narration for each Topic. By using the teleprompter to read out the narration, you will be able to put more emphasis on your delivery rather than on speaking extempore. Sufficient time will be given to rehearse and make you feel comfortable.

Stage 3 - Audio/Video Post-Production:
Video footage will now be edited and segments related to each Topic will be produced. This way we will be able to easily update any video segment if required at a later date by re-recording that specific portion only.

Stage 4 - Designing Lesson Web Pages:
Using the content provided by you in Stage 1, HTML web pages for each Lesson will be designed based on the eModule template. These pages can be enhanced with instructional multimedia add-ons as described in the next section. Updating or editing these web pages will also be carried out by us as and when you see the need.

Stage 5 - Integration of Lessons:
As the Lesson pages get completed, we can include links to Discussion Forums and Assessments if you require it. The Forum and Assessment will be created in IVLE and you will be able to monitor them through IVLE as well.

Stage 6 - Deployment:
Once a thorough testing of the eModule has been completed to your satisfaction, the link to this website will be included in your IVLE module outline.

The Analysis, Design, Development, Implementation and Evaluation (ADDIE) workflow will be iterative and ongoing through all these Stages and will require your approval as each Stage is executed.

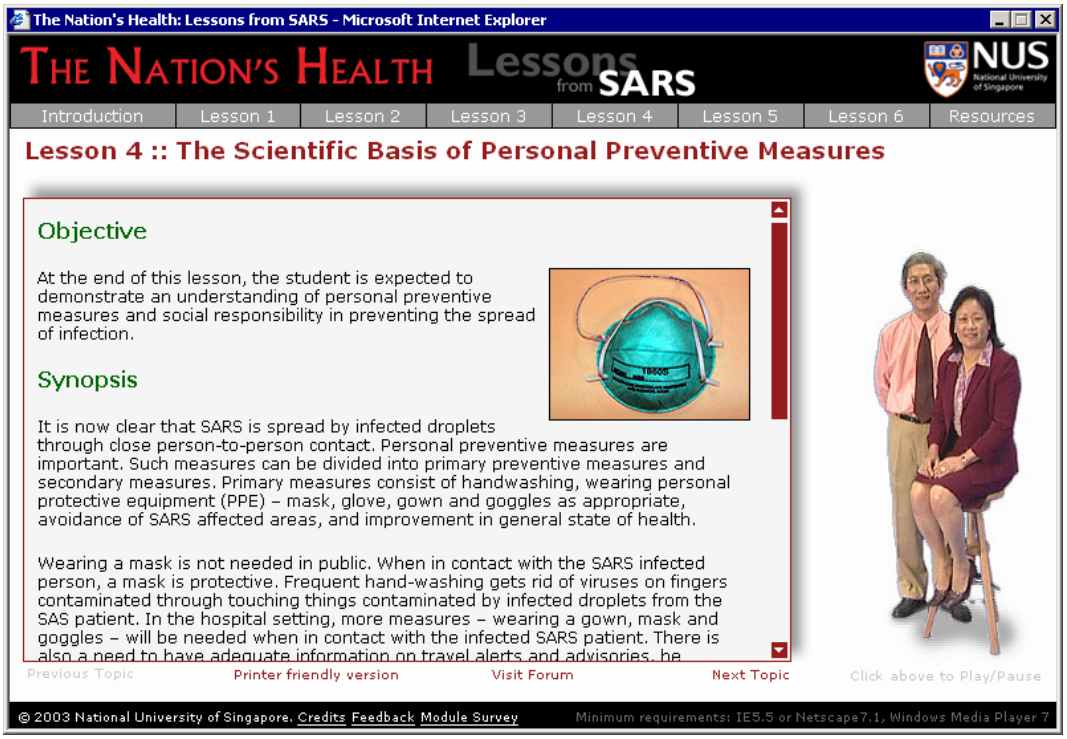

Figure 3: Screenshot of the SSM1205 eModule interface along with the Lesson contents

To view this eModule, please visit: http://emodule.nus.edu.sg/SSM1205/

Add-ons

Imagine a scenario in your classroom where you are trying to demonstrate a principle using an interactive software simulation. At best you would probably be able to show your students how it works and give them a web link to the resource that they could visit after class. It would not be physically possible to have each student try it out by themselves to understand the functionality.

Now in the eModule environment, your students can get to use this application while you teach them the theories behind it. Embedding the simulation within your content pages will enable the student to play with the application, refer to your video for guidance, repeatedly do this till they are satisfied and thereby control the learning process.

Among many add-ons that you can include with your Topic content, we have listed a few below for your consideration:

- Software Simulations
- Interactive Visualizations
- Audio/video Demonstrations
- Instructional Games
- Presentations
- Web Resources
- Project Group Activities
- Discussion Forums
- Chat Rooms
- Workbin for Assignments and Student Submissions

** Please note that development of add-ons will be considered separately from that of producing the eModule.*

Testimonies

Based on the responses gathered from more than 1000 students (as of April 2004) on the SSM1205 eModule survey, we report the following:

- More than 29,000 students have completed the eModule since it was launched in August 2003
- Majority of the students (70%) prefer to learn the contents of this module via the current E-Learning model and see it as an effective medium
- 80-90% find that the audio/video narration given by the lecturers makes the lesson interesting
- Almost 90% of our students would recommend this eModule to other University students
- Nearly 85% students would like other modules to be offered in a similar format

The detailed statistics report can be viewed here.

Along with the many words of encouragement and positive responses from staff of other Departments and Faculties, the Provost and Vice-Provost themselves have commented favorably on the eModule.

Prof. Chong Chi Tat - Provost: "Thanks to all. This is great work!" (23 August 2003)

Prof. Ivan Png - Vice-Provost: "It would be good to showcase this module. The Department and CIT have done a superb job." (19 August 2003)
"I just completed Lesson 3 (and scored 4/5 on the assessment). I want to say how superb your lesson was. Again, it confirms my original guess that this module will be a model of pedagogy for our University." (16 August 2003)

Contact

We invite you to take the next step and get in touch with us to develop your eModule. You can contact Mr. Ravi Chandran (extn. 4575, cithead@nus.edu.sg) or Mr. Prasad Iyer (extn. 1614, citki@nus.edu.sg) to schedule a meeting and discuss further.

Visit us on the web at http://emodule.nus.edu.sg/.

Thank you very much for your interest and support to the NUS eModule Initiative!