

## Some Corporate eLearning Case Studies in Singapore

Lim Kin Chew

E-learning Competency Centre  
c/o National Institute of Education  
1 Nanyang Walk  
Singapore 637616  
E-mail: kclim@nie.edu.sg

### **Abstract**

*With the boom of the Internet in 1994, many organizations, universities and governments have exploited the Internet to deliver educational and training programmes as they see some limitations in the usual face-to-face classroom environment. In Singapore, the early adopters are the polytechnics and the universities which began to use eLearning as early as 1995. However, corporate bodies need a gentle push. In 2002, the Infocomm Development Authority of Singapore initiated the eLearning Early Adopters' Programme (eLEAP). The intention of this programme is to encourage some companies to start using eLearning to make staff training flexible in time and location.*

*There are two objectives of this paper. The first objective is to discuss the details of eLEAP, giving the background, the objectives, the time frame, the funding, and the qualifying criteria for companies intending to participate in this programme and how the programme actually works. The second objective is to share the experiences as gained by the author when he evaluated the e-learning courseware from about a dozen companies.*

*The key issues to be discussed in this paper are firstly on how the various eLearning coursewares planned to integrate with the actual work to be done*

*in the various companies. Secondly, the author wants to highlight the modern instructional design approach that other companies can adopt when they want to integrate eLearning with their day-to-day work.*

*This paper is based on the series of staff interviews and actual tries carried over the various eLearning coursewares from the various eLEAP participating companies. These companies range from semi-conductor companies to call centre operational centre to a bank. The author will also discuss the quality criteria used to evaluate the courseware from the participating companies. These criteria were used to determine the funding eligibility for the companies.*

*With this paper, the author believes that he will be able to share his experiences in helping to evaluate the effectiveness of corporate e-learning programmes especially when these programmes affect the day-to-day operations in the companies.*

## **1 Introduction of eLEAP**

### **1.1 Background**

The eLEAP was initiated by the IDA some time in June/July 2002. eLEAP was a programme that provided a jumpstart fund for non-governmental organizations to support e-learning implementation. It

was also meant for training providers which planned to convert their courses to an e-learning format.

### **1.2 Objectives**

eLEAP has three main objectives. The first objective was to facilitate the development of the e-learning infrastructure. This includes the hardware, software, networking and content facilities. The second objective was to encourage companies to embrace e-learning for continual and effective employee training. The third objective was to develop the e-learning industry in Singapore.

### **1.3 Funding**

The funding agency is the IDA. It has set aside about S\$5 million for the programme's implementation. This programme provides funding of up to 50% of the e-learning implementation costs subject to a maximum of S\$100,000 per company application. The funding may cover the following areas:

- Implementation consultancy
- Acquisition of hardware (e.g. servers, video conferencing equipment) and/or software (e.g. learning management system, courseware development tools, live collaborative tools, simulation tools)
- Customization/development of courseware and e-learning applications
- Subscription to an e-learning Application Service Provider (ASP) services

### **1.4 Qualifying criteria**

The qualifying criteria are as follows:

- The company must be a Singapore-registered company.
- For company involved in training, at least 70% of the trainees must be Singaporeans and/or Permanent Residents.

- For employees' training, the company must commit to train at least 30% or 150 employees whichever is lower for a minimum of 20 e-learning hours per employee per year, for a period of 3 years.

Although the grant was up to a maximum of S\$100,000, but when the programme was implemented, the grant was between S\$40,000 and S\$90,000. This represented between 17% and 30% of the actual e-learning project cost. In addition, the IDA wanted to have a good spread of companies from different industries. As such, we had companies from industries like semi-conductor manufacturing, banking, trainers' training, language learning, brewery, call centre operations and project management training. Many company applications were rejected mainly because they did not meet the qualifying criteria.

### **1.5 Application Process**

The following illustrates the eLEAP process:

1. The company first submits the application to the IDA.
2. IDA evaluates the application and approves or rejects the application.
3. If the application is approved, the company will then proceed to develop the e-learning courseware or the e-learning system and implement the e-learning solution.
4. When completed, the e-learning courseware or system will then be evaluated and reviewed by the E-Learning Competency Centre (ECC).
5. Based on implementation plan or status and the courseware evaluation report from the ECC, the IDA will then decide the funding level. This funding level, as mentioned above, is subject to a maximum of S\$100,000 per company application.

Figure 1 illustrates the above eLEAP application process.

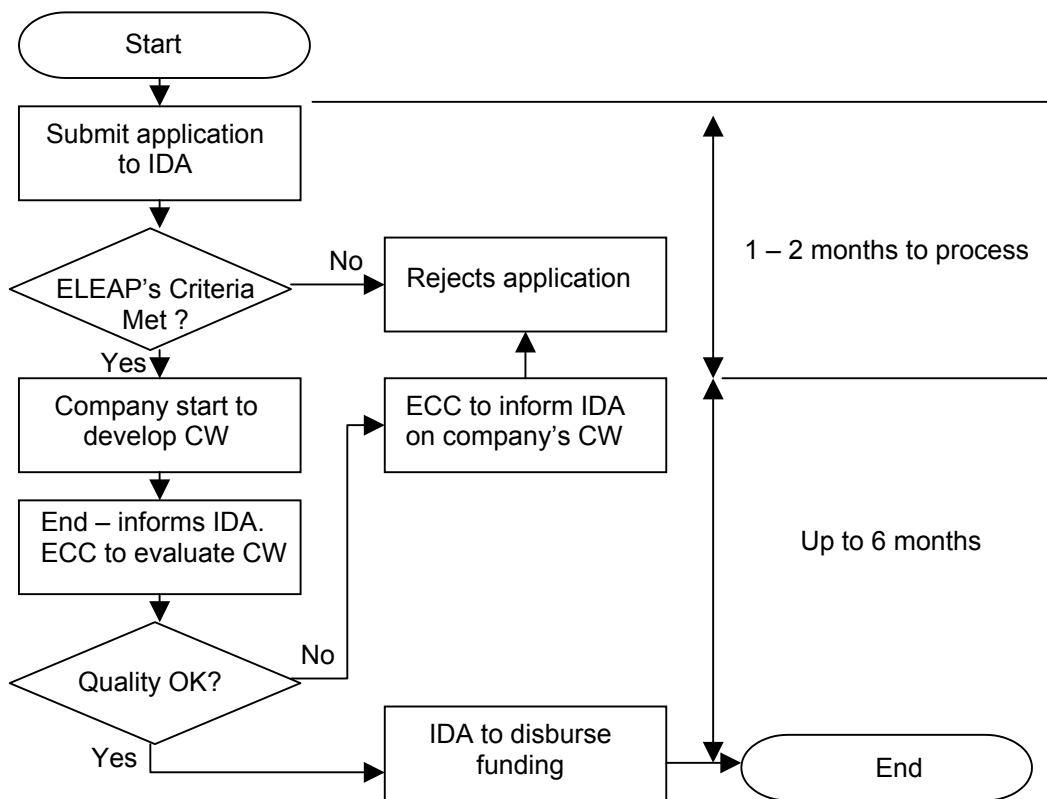


Figure 1 – eLEAP’s Application Process

Legend:

CW: Courseware

ECC: E-learning Competency Centre

ELEAP: E-Learning Early Adopters Programme

IDA: Infocomm Development Authority of Singapore

**1.6 The Timeline**

eLEAP was officially launched on 30 March 2002 by the then Acting Minister for Information, Communications and the Arts, Mr. David Lim. Subsequently, the IDA received many applications. Eventually, only 15 company applications were approved. As a pilot project, this programme proved to be very successful. Because of this success, the IDA decided to terminate the project in mid 2003. However, evaluations and reviews

of existing e-learning coursewares from the companies are still ongoing.

**1.7 The companies**

Out of the 15 company applications that have been approved, the ECC have evaluated and reviewed the coursewares from about 12 companies. The following is a list of the company e-learning coursewares that have been evaluated and reviewed. (For confidential reasons, the actual names of the companies have not been shown in this table.)

No.	Company	Project Name	No. of Course Modules	Content Hours	Development Time
1	IT Training	E-learning Portal	5	40	4 months
2	Trainer's training	Cambridge-SMG Teaching Award	5	14	4 months
3	Semi-conductor manufacturing	Tech Semiconductor E-learning	36	63	6 months
4	Bank	Corporate E-learning	4	13	6 months
5	Photo-copier machine	VITEL E-learning	15	51	6 months
6	Disk drive manufacturing	6 Sigma Orange Belt	12	14	6 months
7	e-Learning Service Provider	Chinese E-learning Courseware	10	6	6 months
8	Language learning	E-Business Mandarin	3	30	6 months
9	Publishing	Total Chinese E-learning	1	50	6 months
10	Call centre operations	Tele-centre E-Learning Portal	11	9	2.5 months
11	Association of pest management people	E-learning for Pest Mgt Skills	6	12	6 months
12	Electronics training centre	Introduction of E-Learning for electronic engineers	3	12	6 months

## 2 The Case Studies

### 2.1 General observations

Here are some general observations on the e-learning courseware packages as developed by the various company applicants:

1. About 90% of the e-learning courseware projects meet the courseware quality criteria as set up by the E-learning Competency

Centre. The quality criteria are: interface, navigation, operation, content, presentation, practice, feedback, assessment, engagement techniques and support. The quality criteria document can be downloaded from ECC's website at: [www.ecc.org.sg/cocoon/ecc/website/services/course\\_eva.services](http://www.ecc.org.sg/cocoon/ecc/website/services/course_eva.services)

2. All the courseware projects involve mainly asynchronous Web-based

- learning. Three companies incorporated video clips in the courseware. However, video clips need to be used properly. Too long a video clip will make it boring and learning can be very passive. An example is to ensure that the video clip is not more than 5 minutes long in duration. In addition, there must be some engagement activities for the learner to participate immediately after watching the video clips.
3. One company digitized the video recordings of the trainers' presentations on some very technical training and put them up as an archive of video clippings for learners to view and learn. Unfortunately, without proper editing and instructional design considerations, such an approach tends to be very boring and without online learning facilitation, may prove to be ineffective in training.
  4. Several companies outsourced the content design and development. One example is that of a bank which worked with a professional e-learning content development company to develop a good e-learning package for the training of their own loan officers.
  5. Some companies have reported that by adopting e-learning, they were able to reduce their usual face-to-face training considerably. An example is the e-learning courseware for training photo-copier customer service engineers. With e-learning, the training was reduced to about 2 days at the most. Without e-learning, the customer engineer has to spend between 6 to 7 days in the headquarters in order to learn how to repair the new photo-copier machines.

Figure 2 shows an example of a success story from one eLEAP participating company.



Figure 2 – Success story from an eLEAP participating company.

6. Language e-learning is best implemented by having much listening and practice from the learners. An example of this is the Mandarin e-learning courseware in which many audio clips were introduced for the learners to keep listening how the various Hanyu Pinyin words were pronounced. Equally important is that there must be practice for the learners.
7. All the e-learning coursewares were actually blended learning. There were online facilitators to make sure that the online learners were comfortable with the e-learning coursewares and also to motivate them or answer their questions.
8. As developing e-learning courseware is expensive in both time and money, it is important to choose the relevant content area for conversion to e-learning so that the courseware will address the company's core business. One example was that of a brewery company which focus on the training for their sales and marketing staff. According to the company, they want their sales and marketing staff members to have the right attitude and approach in attracting and retaining their customers. So, their e-learning courseware contains interesting snippets of stories as told by their existing staff members. The e-learning courseware was developed by an outsourced company.
9. Another company has decided that the entire company will focus on the Six Sigma quality approach. As such, they commissioned an outsourced e-learning company to help them convert their existing Six Sigma quality training materials to Flash-based presentations which were delivered from a learning management system. A learning point from this approach is that e-learning can help to consolidate and centralize a company-wide quality approach and training.
10. E-learning can be used to ensure that employees go through some standardized training and be equipped with the necessary pre-requisites before they are allowed to work. One example of this is the e-learning courseware for members of the Singapore Pest Management. Their members need to know the different types of chemicals and disinfectants to be used to exterminate different types of pests. Together with an outsourced content development company, they developed an e-learning courseware which tested the pre-requisite knowledge of their members.

## **2.2 Case Studies of Two Companies' e-Learning Programmes**

This section looks at the case studies from two different companies' e-learning programmes. The first one is from a brewery company.

### **2.2.1 Brewery company – Changing Customer Behaviour**

APB is a brewery company based in Singapore. It has a sales staff of about 130 people and a marketing staff of about 50 people. Unfortunately, it has a high staff turnover, especially in the sales and marketing departments. Knowing this situation, the General Manager of this company decided to make the training of his Sales and Marketing staff a priority. He then worked with an outsourced e-learning company to analyze, design and develop an e-learning courseware which will train the sales and marketing staff.

Having analyzed their customer's requirements, the outsourced e-learning company and APB developed the e-learning

courseware which addressed the needs of the Sales and Marketing teams as well as meeting the objectives of the APB Company. To allow the learners to have their own learning paths, the outsourced e-learning company adopted a non-linear approach. This means that anyone taking this course can start from anywhere in the courseware and proceed according to his or her understanding level. For the learners in the APB, they regard this e-learning as their staff training. The learners of this courseware can listen to narrations by several of the company staff. Staff members who contributed their stories were able to share their working experiences with the learners. The courseware had the following components: Introduction, 5Ps, War Stories and TIPS. The narrations were contained in the War Stories part.

The outsourced e-learning company took about 8 months to develop the entire courseware, which contained many Flash-enabled Web pages. Their development team members comprise the following: Primary instructional designer, assistant instructional designer, 2 – 3 programmers giving a total staff strength of between 5 – 6 members.

The entire courseware was administered within the company's intranet. This means that the Sales and Marketing staff members have to take this courseware within the company's premises. The project started in the first quarter of 2003 and it went live on 27 November 2003. The company's staff members were given 30 days to complete this course.

There were several reasons why this courseware was successful. Firstly, it was driven largely by the General Manager. So, there is top management ownership of the courseware. Secondly, the outsourced e-learning company has done some extensive analysis of the learner's background and they created "persona" documents for their users. This made it easier for the company's staff to

guide their colleagues as they go through the e-learning courseware. Thirdly, the outsourced e-learning company also provided the end-to-end support including the Learning Management System. This makes it easier to manage the learning accounts of all the Sales and Marketing staff in APB Company. Fourthly, in order to win over the confidence of the end-users, the outsourced e-learning company carried out the following activities:

- a. Specify minimum system requirements for the hardware
- b. Introduce user acceptance tests
- c. Do internal marketing for the courseware
- d. Put up posters and banners to promote the courseware
- e. Give out stress balls and make it fun to take the courseware

Eventually, the APB Company was able to report that generally, all end-users were very enthusiastic about the e-learning courseware.

The second case study is that of a bank which wants to train their bank officers on how to work out mortgage plans.

### **2.2.2 Bank–Discovering ABC Mortgages**

ABC is an international bank. They want to focus on the Singapore property market. This means that they want their banking staff members to be well trained and be able to respond to their customers' needs. They do have their existing in-house classroom training. However, they are finding it to be rather restrictive and they want to make it flexible for their bank officers to undergo their mandatory training. The bank's management then decided to opt for an e-learning alternative. They engaged an external outsourced e-learning company to help them analyze, design, develop and implement this e-learning solution.

The courseware trains the bank's staff on tracing the Singapore property market, understanding government policies and

regulations, buying private residential properties, the bank's mortgage loan, selling key mortgage loan products and servicing the mortgage loan customer. The courseware was based on the bank's in-house classroom training. The target participants were all the sales and support staff of the bank. With the e-learning course, the bank expects to implement a blended approach to increase learning effectiveness and to complete training within a shorter time period.

The following are some of the benefits the bank has achieved:

- e-Learning provides another alternative to the traditional classroom training. The traditional classroom training is still the most desirable type of training.
- The e-learning content can be delivered more consistently and efficiently. All learners will get the same materials via the bank's intranet. Changes to the materials can also be made very quickly and also made once.
- More interactivity can be built into the e-learning courseware. The learner will feel more encouraged to want to try out the e-learning courseware.
- The bank's trainers can spend more time coaching the learners whilst the learners can proceed with their learning at their own pace.

### 3 Conclusions

Having elaborated some examples of how some companies use e-learning in their workplaces, we may want to ask ourselves on whether there is any model on how e-learning can be integrated into the workplace. This is important as the ultimate goal of e-learning is to ensure that our workforce is trained and can do the assigned job.

Actually, the four-component instructional design model (Van Merriënboer, 1997; Van Merriënboer, Clark, and de Crook,

2002; Van Merriënboer and de Crook, 2002) stresses integration, coordination and transfer of learning. Briefly, the four components tell us that for any e-learning courseware, we need to provide firstly the learning tasks that are the meaningful tasks the learner does in the workplace. Secondly, the courseware must provide the supportive information so that the learner can solve the problems and give reasons for the solutions. Thirdly, there must be just-in-time relevant information provided to the learners when they need them. Fourthly, there must be sufficient practice exercises for the learners to work on so that they can sharpen their skills.

The eLEAP is an example in which the Infocomm Development Authority of Singapore gets the companies to start using e-learning to complement the human resource training of their employees.

### Reference

Wim Jochems, Jeroen Van Merriënboer & Rop Koper (2004) "Integrated E-Learning – Implications for Pedagogy", *Technology & Organization*, pp 13 - 22