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Innovation and E-learning in Translator Education:

A Singapore Experience

Susan Xu

SIM University

Abstract

The last decades have seen the education of translators shift to several new dimensions, thanks to rapidly-developing technology and globalization. This paper presents an overview of the innovative development in devising integrated and detailed e-Learning plans and activities to enhance the design and delivery of the course content in the BA in Translation and Interpretation (BATI) programme. In the first section of this paper, it outlines why we believe e-learning has complementary roles to play in the translator education environment. We will then describe the progressive approach in integrating online learning environment with on-site classroom environment in order to give students the best of both worlds. In the main body of the paper, we will highlight some key features of this approach that have fundamentally changed the way translators and interpreters are being trained. We will examine how e-learning platform is deployed to resolve problems in the training of translators and interpreters in the open-learning environment. Implication and issues encountered in the process of implementing e-learning plans will be discussed. It is concluded that solutions to these problems lie in the collaboration between educators and technologists and this poses challenges and opportunities to both educators and technologists in the relevant field.

1. Introduction

“The boom in translation jobs comes because of – and despite – technology.”
(Jeffrey Ressler, *Translation Nations* 2007).

“Our switch from high touch to high tech, from handwritten and heartfelt to

computer-driven, has a lot to do with the glorification of the computer, the cure-all of our time.” (John Nasbitt, 2007).

Technology changed the way we communicate. It is not an option but a necessity in the world of today and tomorrow. The last decades have seen the education of translators shift to several new dimensions, thanks to rapidly-developing technology and globalization. There seems to be an increasing perception that the conventional classroom teaching alone will no longer equip translators-in-training with the wide range of professional skills, knowledge and competencies that are required by today's fast evolving language service market. Many academic colleagues in translation and interpretation (T&I) fields are actively seeking ways to leverage on information technology solutions to supplement the conventional instruction and add value to the student learning experiences.

Singapore, a small red dot on the world map, has created a legend through its development from a busy entrepot during colonial era to an economy and society that is well-connected to the global community. The government endeavors to cultivate a vibrant and competitive infocomm infrastructure in Singapore in order to enhance the global economic competitiveness of Singapore. From 2005 to 2006, the percentage of households with access to computers increased from 74% to 78%, while the percentage of households with internet access increased from 66% to 71%. This creates a conducive infocomm environment that is both pro-individual and pro-organization.

Within this context, SIM University (UniSIM), Singapore's first and only private university set up to meet the higher education needs of adults learners, has embarked on an ambitious and proactive plan to implement e-learning in all its academic programmes. With the launch of Bachelor of Arts in Translation & Interpretation (BATI) programme, the first and only degree programme of its kind in Singapore, we aim to respond innovatively by providing a reliable and efficient e-learning infrastructure and making online teaching and learning an integral part of the training process.

2. Background of the Study

2.1 Flexible Learning Model

The establishment of UniSIM as Singapore's first and only private university dedicated to adult learners, is a development that has taken more than 10 years of meticulous planning and preparation. Since 1992, it has been running the Open University Degree Programme in collaboration with the Open University of the United Kingdom (OUUK) with the objective to upgrade non-graduate teachers to graduate status. The Singapore Government granted UniSIM the university status in 2005, with the vision of diversifying its education landscape to provide greater opportunities for working adults to acquire new skills and knowledge for professional and personal upgrading. UniSIM serves a market segment largely different from that of the three other local public-funded universities. It provides working adults and those who have missed out a tertiary education earlier in life an alternative access to a recognized local degree.

UniSIM courses are designed based on the flexible learning mode supported by print and multimedia materials, face-to-face teaching, regular assignments, on-line learning resources and correspondence teaching (See Figure 1). This flexible modular system provides working adults with the opportunity to upgrade without compromising career, family and social responsibilities. Depending on the amount of time they have, students can organize their study and set the pace around their needs. The course materials are designed to enable self-study even though students have access to face-to-face lectures and tutorials or seminars. This allows the students the flexibility of having regular face-to-face classes or independent self-study or a blend of both. Although attendance at these face-to-face sessions is not mandatory, a majority of the students do attend the classes, partly because they find them useful and partly because within the Singapore context, where distances and transport are not a problem. Students are assessed via regular tutor-marked-assignments (TMAs) and an end-of-semester examination or project.

In working towards its strategic goals, UniSIM is building a computer-linked network environment and introducing a slew of e-learning initiatives to achieve an enhanced

learning experience for its adult learners.

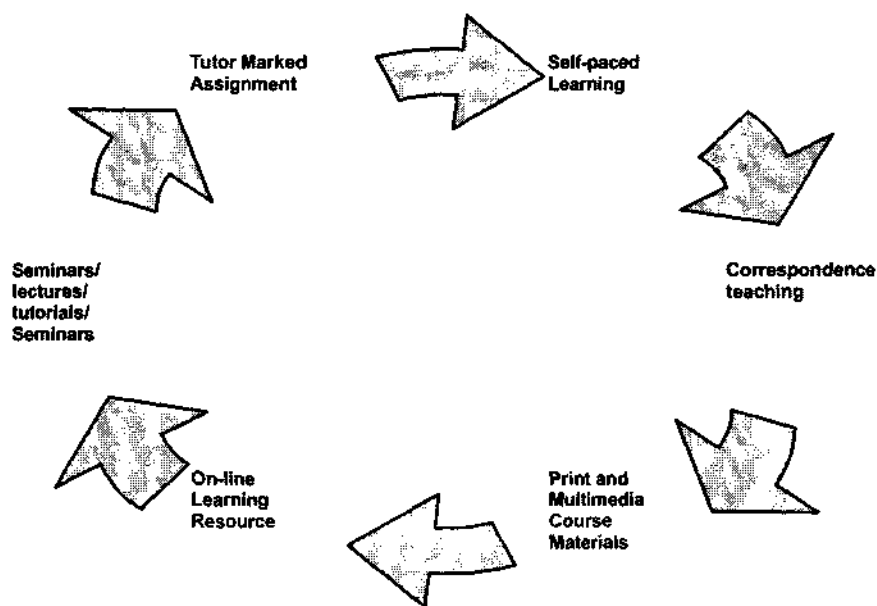


Figure 1: UniSIM's Flexible Learning System

2.2 The Curriculum Design of the BATI Programme

The Bachelor of Arts in Translation and Interpretation (BATI) programme is set up with the objective to build a talent pool of professional translators and interpreters in Singapore. It offers students the opportunity to achieve mastery of Chinese and English as it enhances language, linguistic and communication skills. It addresses the latest theories, techniques, and methods of translation and interpretation. The wide range of practical courses provides a broad cultural background and essential interdisciplinary knowledge required by professional translators and interpreters. The programme also places a special emphasis on the role of technology in various aspects of translation and interpretation, enabling students to gain vital experience in the rapidly developing area of translation technology. Last but not least, the programme is dedicated to life-long learning and the holistic development of the students through imparting a set of life skills, enhancing students' abilities and empowering their minds. Figure 2 illustrates the six key components of the BATI curriculum.

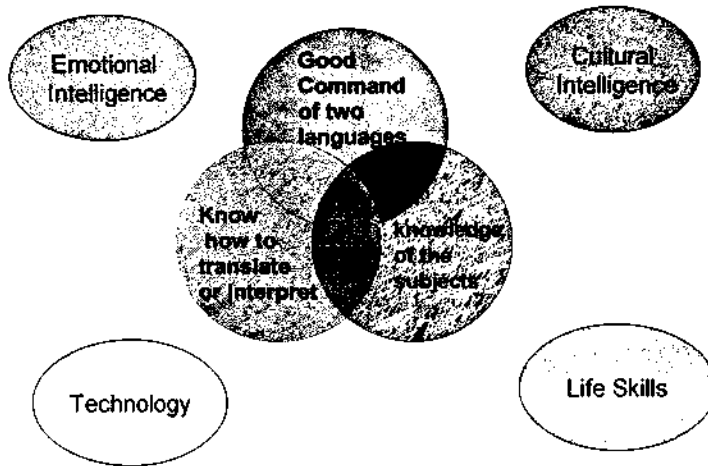


Figure 2: Key Components of the BATI Curriculum

2.3 Shift of Training Focus

Over the years, the prevailing pedagogy in translators training programmes has placed emphasis on linguistic competence, skills and techniques of translation and interpreting, and translation criteria. Employers also emphasize the ability to apply knowledge and skills to unscripted complex problems in the real world. Nowadays, employers and clients require translators to be familiar with document management, software localization, desktop publishing, etc. In the past, translators were trained like musicians: everyone aimed at becoming the top musician. Today, translation jobs increasingly involve project management, information network, language engineering, terminology, working in a large team and cross-cultural communication.

In response to the new trends, there is a need for a new approach to the process of training translators and interpreters. We thus adopt an eclectic pedagogy which not only trains the students how to translate, but also equips the students with the skills to deal with cultural differences. It cultivates emotional intelligence to handle difficult situations

with professionalism, and develops life skills such as communication skills, leadership, teamwork, coaching, creativity, critical thinking and financial planning. In particular, we believe that, through intensive deployment of technology in the education of translators and interpreters, we will be able to generate translators and interpreters with professionalism in translation as well as with technology-literacy to meet the market demand and enhance productivity.

3. Gap and Opportunity Analysis

Despite a well thought out syllabus and strong support from the university management

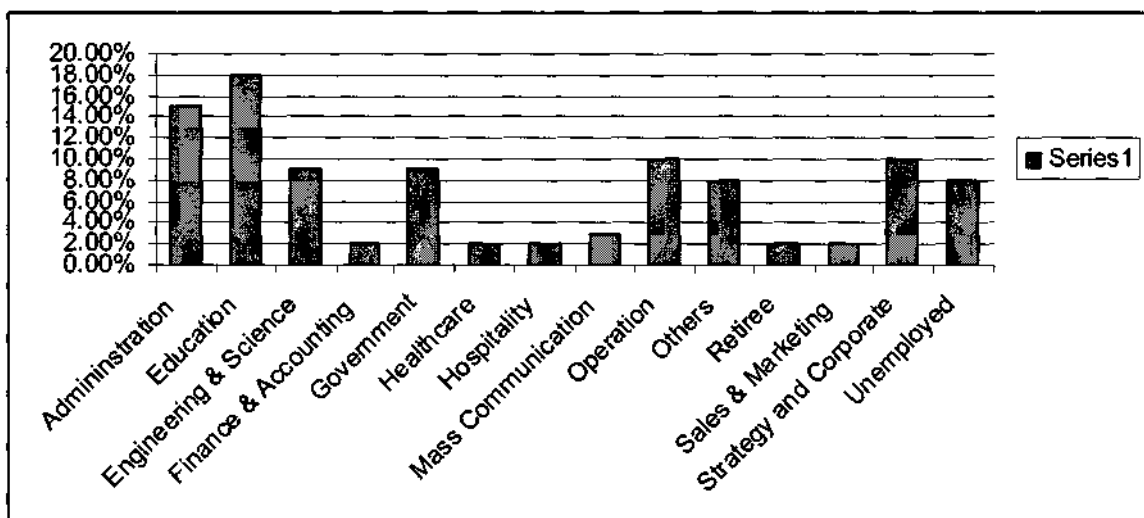


Figure 3: Student Profile by Job Functions

There is a mixture of various professions, ranging from teachers, administrators, engineers, managers and senior corporate executives, medical workers, journalists, sales and marketing specialists, accountants, financial planners, to retirees and homemakers. It is worth noting that 9% of the students are already professional translators and interpreters working in different public sectors including the court, police force and various ministries.

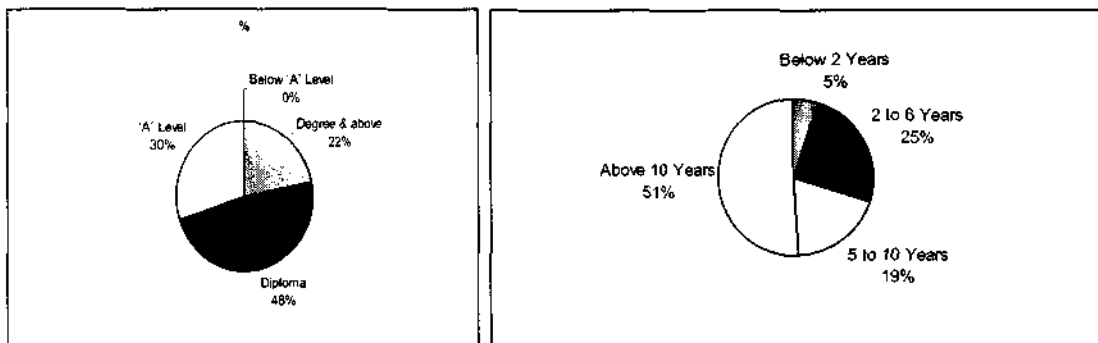


Figure 4: Student Profile by Qualification & Work Experiences

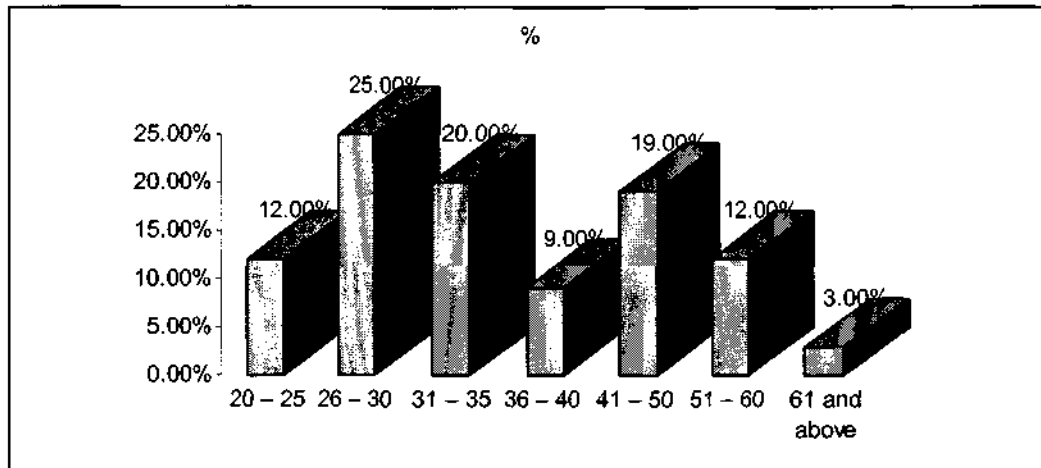


Figure 5: Student Profile by Age

Though the majority of the students falls within the age group of 26 to 35, the oldest students is 70 year old and the youngest 22. (See Figure 5).

With regard to their qualification, 22% are pursuing a second degree as they have already obtained a bachelor's degree or a master's degree in their respective fields of specialization. 48% hold diploma qualification from polytechnics, which train middle-level professionals with relevant and specific skills for the workplace. Among the diploma holders, 30% hold relevant qualifications in translation and interpreting. Only 30% are GCE 'A' level holders seeking to upgrade their qualification.

The diversity in student profile may be well translated into different motivations for pursuing the degree. This includes:

- o Working adults with secondary qualification seeking to upgrade their qualification while being trained to be a professional translators and interpreters,
- o University graduates and professionals in non-relevant fields seeking to advance their career or switch career with additional set of professional skills and qualification,
- o Professionals in relevant fields with the objective to further enhance their specialized training,
- o Those who wish to pursue personal interests and enrich life experience.

While the overall objective of BATI programme is to train professional translators and interpreters, under such a circumstance, it is almost impossible for a programme to meet the need of every student without tapping innovative solutions.

3.2 Competence Gap

The differences in student profile indicate a huge variation in the various competences of the students:

- o *Cultural competence.* Cultural variations influence translator's performance and the effect of translation. A translator in possession of high cultural intelligence plays a vital role in crossing the boundaries and building bridges of understanding. Cultivating cultural intelligence, therefore, is an integral part of the training of professional translators and interpreters to boost the students' intercultural sensitivities. Singapore, as a global city, attracts talents from all over the worlds.

30% of the students are non-Singaporeans who come from China, Taiwan, Malaysia and Indonesia. Even among Singaporeans, some come from Chinese education background who are well grounded with Chinese core values while others come from English education system who are pro-western culture and value. Their abilities to reflect on their own culture and understand the culture of others vary.

- o *Linguistic competence.* Despite the entry screening test to ensure consistent standard of bilingual proficiency among students, the varied educational and cultural background gives rise to the variances in language competence. Despite its success in implementing bilingual education, Singapore has gone through the crisis of lost of native language. Some, especially the older generation, went through the Chinese education system in Singapore and thus are relatively more fluent in Chinese than in English. Others, mostly the younger generation, use English more often than Chinese, as English is currently the main medium of instruction in schools and workplaces, and hence developed better command of English than that of Chinese. To add to the intricacy, students from China, Malaysia and Indonesia differ tremendously in their mastery of English and Chinese.
- o *Emotional Competence.* The primary characteristics of a good translator are similar to the expectation we have for all professions: they are reliable, well-disciplined, punctual, confident, calm and committed. In the context of distant learning environment, maturity contributes to the success of student's learning, as mature students tend to deploy self-discipline and initiatives in their study. However, maturity does not necessarily develop with ages. Due to the differences in personal and work experiences, students differ substantially in their abilities to be self-reflective, handle own emotion and empathize with others.
- o *Technical Competence.* Diversity in students' profile gives rise to the diversity in their technical knowledge and skills. Despite coming from an age of internet and other technology, some adult learners lack the information and communication technology (ICT) literacy skills necessary to navigate through and make good use of the overabundance of information available today. In contrast, some students are technically trained and are capable of handling most challenging technical tasks

In view of the various competence gaps, we can hardly rely on the conventional teaching but look at new approaches to the effective addressing of the differences. Use of the technology in the teaching and learning is obviously one of the options.

3.3 Learning Style Gap:

The education research discovered that different people learn in a variety of different styles. Drawing on Jenson's Brain-Based Learning and Teaching, we note that *Visual Learners* need to see the teacher's body language and facial expression to fully understand the content of a lesson. *Auditory Learners* learn best through verbal lectures, discussions, talking things through and listening to what others have to say. *Tactile/Kinesthetic Learners* learn best through a hands-on approach. It is advisable for us to understand different learning styles and take the advantage of e-learning mechanism in conjunction with the conventional learning to address the different learning styles. Only in this way, we are able to address the needs of different students and maximize their potentials.

3.4 Flexible Learning Gap

Crafted to suit the demanding schedules of working professionals and adult learners, independent learning is the focal component of our courses. Students primarily learn through tutor-guided self study *anytime* and *anywhere* through a suite of learning support. Though attendance to the face-to-face teaching is not compulsory, working adults, juggling their studies with work commitment and family needs, tend to rely on the face-to-face teaching to offset their lack of self-study. Yet, perception of insufficient face-to-face teaching hours prevails. Responding to such needs, lecturers/tutors tend to put in a lot of effort preparing for the face-to-face teaching, neglecting other forms of learning. This unfortunately puts the other group of students who are unable to regularly attend the face-to-face teaching due to their busy travel schedule in a disadvantaged situation.

To fill the gap, an innovative approach to incorporate online learning into on-site classroom seems to be a feasible solution.

3.5 Resource Gap

Translation studies (including interpreting), as a relatively new academic discipline, has to cope with the looming shortage of qualified faculty, partly because it is new and partly because of the stringent requirements of the qualified faculty: mastery of at least two languages, relevant academic qualifications, teaching experiences, relevant professional experience, just to name a few. In Singapore, it is a pressing problem as the human resource is scarce and talent pool is limited. In particular, we find it extremely difficult to find instructors in developing and teaching interpreting courses.

Meanwhile, when developing course materials for flexible learning, we have difficulties in selecting translation textbooks suitable for flexible learning, given the situation that most textbooks are published overseas and the fact that most academics in the translation field do not like the idea of using textbooks. Quality and content relevance of the textbooks are also of great concerns.

In the face of resource gap, on-line classes in the form of streamed video recorded lecture, video conference, and on-line materials developed by qualified academics have considerable benefits over the conventional classroom training.

3.6 Knowledge Gap

Ideally, a translator should have general and specialized knowledge in one or several subjects. Translators must be good at storing vast quantities of linguistic and cultural knowledge in memory and retrieving the relevant ones whenever needed to solve complex translation problems. It is a job requirement for a translator to make conscious effort to build up their encyclopedic and specialized knowledge and enhance their memory. However, the memory capacity of a human being is limited. Use of computer and internet will help to extend the memory of the translators.

The above gap analysis summarizes the various gaps between the curriculum design and the implementation. Though it poses challenges to us as educators, it presents an unprecedented opportunity for us to respond innovatively by providing a reliable and

efficient e-learning infrastructure and make the online learning an integral part of the translators education to fill the gap and meet the students' needs.

4. Integrating e-learning into the Curriculum

"E-learning (electronic learning) covers a wide set of applications and processes, such as web-based learning, computer-based learning, virtual classrooms and digital collaboration. It includes the delivery of content via internet, intranet/extranet, audio-and videotape, satellite broadcast, interactive TV, CD-ROM, and more...." (Eva Kaplan Lieserson - Learning Circuits).

To a large extent, e-learning is naturally suited to flexible learning, as it offers flexibility, convenience and the ability to work at any place where an internet connection is available and at one's own pace.

At UniSIM, BlackBoard(BB), the Learning management System(LMS), is used as the virtual space, the interface through which all our e-learning activities take place. This facilitates things, to some extent, as e-mail, file posting, upload, download, and tracking information can be managed through a single interface. In addition, students are grouped into different tiers and sectors in the on-line community based on the courses they register, and the tutorial and lecture groups they belong to.

Detailed and integrated E-learning plan in the BATI programme has been devised with the objective to bridge the gap between the curriculum design and implementation. To slowly build up the confidence, we plan for three stages, each of which offers a 'flavour' of e-learning, namely, supplemental, hybrid and full. (See Figure 6). Stage 1 has been implemented in all courses. Stage 2 has been implemented in two courses and will be implemented in at least 50% of all courses. Stage 3 is a project-in-progress and will be implemented in 25% of all courses.

4.1 Electronic assisted learning - getting a head start

At this stage, we present and share some content online to allow students to gain

technical competence in the process. The in-class activities and out-of-classroom tasks remain the same. Use of on-line learning is not a means to achieve the course objective but a means to supplement the on-site teaching, and therefore does not have much impact on the learning.

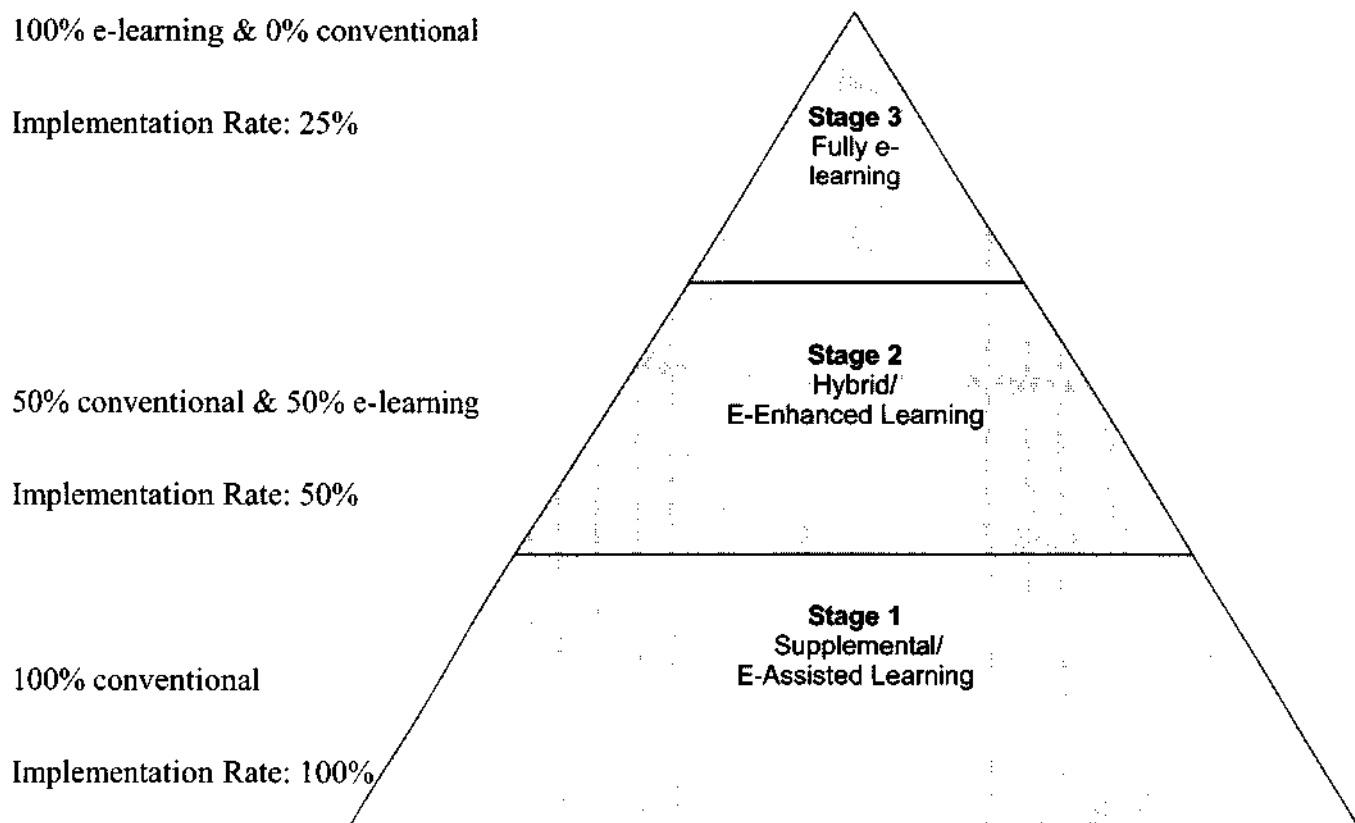


Figure 6. Implementation Plan of E-learning

We use the following BlackBoard functional features mainly for course information delivery with negligible course teaching and learning:

- o Announcement,
- o Link to student portal (where students can retrieve administrative info such as

- timetable, course results, course registration, etc)
- o Partial course materials including course calendar, curriculum plan, timetable, lecture notes, study unit in PDF format, assignment booklets, specimen exam paper and past-year exam papers
 - o online library resources
 - o Asynchronous e-mail communication
 - o Asynchronous discussion boards
 - o On-line submission of course assignments
 - o On-line returns of graded assignments
 - o Links to supplementary internet resources

Students are encouraged to register with the student portal their mobile phone numbers and preferred e-mail account. By sending SMS to the designated telephone number, students are able to retrieve their timetable and course results via SMS. When a new announcement or course information is posted to the community they belong to, the students will receive an e-mail alert.

Students find it challenging to adjust to the electronic submission of assignments, whereas, similarly, instructors have difficulty in marking and returning graded assignment electronically. According to UniSIM's policy, all Tutor Marked Assignments (TMAs) will need to be checked for plagiarism. The electronic submission of TMAs facilitates the electronic checking of plagiarism, as the assignment setup in Blackboard has been integrated with Turnitin (a plagiarism check software). TMAs will automatically channelled to Turnitin for the plagiarism detection. Instructors will then download and mark the TMAs at their PC and upload the marked scripts via the Blackboard system.

The lengthy workflow of the TMA submission, the naming convention of the documents, and other technical problems encountered challenges the students and instructors' capability of handling technical problems on top of their effort to complete the assignment and marking. It also tests their patience and adaptability.

Due to the bilingual nature of the BATI programme, the issue of incompatibility between

Chinese processing software and the BlackBoard system needs to be addressed. To tackle this problem, tutors and students are requested to use Microsoft IME (Input Method Editor) to input Chinese Characters. This approach proves effective in eliminating the incompatibility. Another drawback is the limitation of Turnitin as it does not support Chinese language. Assignment completed in Chinese will not be able to go through plagiarism protection.

In the process of electronically submitting TMA, grading them and returning the marked scripts, instructors and students have gradually gained confidence in using electronic tools to supplement their teaching and learning. Their comfort level with the on-line system has noticeably gone up, as a consequence. The submission rate of TMAs is recorded 99%. For a number of the courses, we note 100% submission.

Classroom learning is free from notes-taking, as the presentation slides and lecture notes are available online. Instructors constantly refer to the materials posted on the BlackBoard during the class. Students focus their effort on the most interesting part the learning such as discussion, practice and feedback-gathering. Much of the uninteresting, unrewarding parts of the learning (e.g. assignment submission, notes-taking and administrative details) are taken care of by the network and machines. This, in some way, frees up students' memory to store more meaningful information.

Asynchronous discussion boards are available for the students to interact with their instructors and classmates. Unfortunately, as the learning and teaching very much depend on the conventional face-to-face teaching and self-study, the participation rate is considerably low.

Though the group of older students experienced the age-related barriers in their familiarization process at Stage 1, with their aspiration to learn and their personal effort, coupled with the support from the university, instructors and fellow classmates, they managed to overcome the obstacles in their journey towards e-learning.

When measuring the success of e-assisted learning, we look for the evidence that students are building up confidence in dealing with computers and network. We also look for the

evidence that students are feeling motivated and making academic progress. We note that most students (including the elderly) opt for electronic communication with the university, the instructors and their classmates, though telephone contacts and face-to-face contacts are available. We also observe the constancy and consistence in TMA submission for all courses. Problems reported with computers are diminishing towards the end of the course. This builds up self-esteem and motivates the students to learn advanced features of e-learning. The frequent feedback emerging from the various types of activities and end-of-semester course evaluation record a high satisfaction rate.

Students start to sip the 'flavour' of e-learning by experiencing the positive changes the e-assisted learning. Based on the feedback received, students are generally happy with ready access of the information at any time and anywhere and the fact that information retrieved from on-line platform is usually much faster than that by hand or mail. As Stage 1 does not require intensive interaction between the students and the system, it appears less demanding to those with low computer literacy, in comparison with a system that require intensive interaction.

Assessing its effectiveness in filling the various gaps, we conclude that it contributes to the enhancement of the flexible learning experiences by providing options. It caters to the need of visual and auditory learners but may not be so appealing to kinesthetic learners. It motivates students to strengthen their technical competence and knowledge acquisition. Nonetheless, the looming shortage of teaching resources, especially teaching faculty, remains unresolved.

4. 2. Electronic enhanced learning - enriching the learning experience

At this stage, some portions of conventional teaching and learning will be replaced or enhanced with online tasks and activities. The in-class activities will be adjusted with 50% physical face-to-face interaction for course learning and another 50% learning via the various Blackboard features. The use of online learning contributes to achieving some of the learning goals in the course and will have a fair impact on student learning.

The main functional, distributional and interactive features of Blackboard utilized at

Stage 2 are:

- o Streamed audio/video recordings
- o Podcast/zipped downloads
- o Course specific interactive materials or resources (e.g. illustrations, simulations, maps, graphs, quizzes)
- o Course specific external interactive resources or materials linked to the course (e.g. relevant internet sites, libraries)
- o Course specific interactive students support materials (e.g. DVD, CD)
- o Course specific interactive remedial learning (e.g self-test, mock-examinations)
- o Asynchronous and Synchronous Discussion Boards

For a start, we identified two courses designed to enhance students' proficiency in either Chinese or English to incorporate the electronic enhanced features. Instead of replacing the existing face-to-face teaching, we take the advantage of e-learning to tackle the issue of variance in students' linguistic competence, the prevailing perception of insufficient class time, and absenteeism.

Classroom replay video recording is arranged to record the existing face-to-face sessions in the designated classrooms where cameras are installed. The video recording not only captures the classroom teaching but also the presentation (e.g. powerpoint slides) of the lecturers. Such videos can be posted on Blackboard almost immediately after the lecture, providing timely support to those who have missed the class or who wish to revise the content. It complements face-to-face teaching with additional interaction features by allowing students to stop, rewind and fast-forward. This makes it possible for the lecturers to cover the course content as planned without being interrupted by questions or slowing down to cater for the individual needs. It helps to strike a balance between those who request to have additional lessons and those who are frequently absent from their classes.

Thanks to the software technology, the sizes of classroom replay video clips are reasonably small to facilitate the access to the clips. Yet, the current classroom replay

recording has its restrictions, as it does not allow editing with enhanced interactive features. The classroom replay video is less interesting compared to the live classroom due to lack of interaction. It appears too lengthy for an audience to sit through the replay in front of the computer. In addition, the recording imposes unnecessary restrictions on the lecturers who need to switch on or off the recorder and stay within the recording zone. Also, its effectiveness may be undermined by the quality of the recording.

Podcast is deployed for courses which require extensive and excessive readings, in particular the courses to build linguistic competence. It is popular among instructors who are less comfortable in front of camera, especially in a TV studio. The instructor identifies learning objectives from each study unit of the course based on his classroom teaching, develops them into learning units, writes the speech scripts, and then records his voice in the studio. If he is not comfortable with voice recording, someone else can stand in to read the scripts. The MP3 files, with a duration between 5 to 10 minutes, are then distributed to students via BlackBoard for download to their portable media player or replay on their computers. Compared to the classroom replay video, podcast offers more flexibility for the students who could review the MP3 files as often as needed without being desk-bound. However, the MP3 files require additional effort and time from the instructors and demand high quality of the speaker's pronunciation and voice. Podcast benefits the *auditory learners* more than *visual learners* and *kinesthetic learners*. In consideration of this, we prepare powerpoint slides and bundle them with the MP3 files. This offers another option for *visual learners* who could view the outlines while listening to the MP3 files.

Interactive online remedial tools such as online practices, quizzes and mock exams are perceived effective in the learning of grammar courses which require massive drilling, and the grading of which can be automated. Developing and delivering such online tools requires a lot of time and effort from both the instructors and the instructional designers in order to maintain the interactivity and cohesiveness of the tests. The process involves the work of the content expert (i.e. the instructor), the effort of the tool developer (i.e. the instructional designers) and most importantly, the interaction between them. As a result, the process is lengthy and the materials might lose its relevance and timeliness when put

on line. To shorten this process, it is recommended that instructors learn to design the online quizzes and mock exams with the help of open-source software. However, the feasibility of this approach depends on the user-friendliness of the software and the technical competence of the instructors.

From the educator's point of view, many would rather source for off-shelf interactive materials than develop the online materials on their own. Some publishers have already started working to match such needs by developing interactive course website that is tied to the publishing of a textbook. At the moment, choices of such online materials are generally limited, let alone in the field of translators' training.

Asynchronous discussion board is an essential online component of a course to encourage the students to engage in the discussion and collaboration with their peers and instructors. Discussion board provides opportunities for students to discuss in a less pressurized learning environment. While the classroom discussion requires instant response from students, online discussion board allows students to search for additional information to support their argument. It enables students to reflect and react in a better way. In a classroom discussion, it is often difficult to get all students to participate actively, but this is not a problem in online discussion board - students who are naturally quiet in a physical discussion setting might become vocal in an online discussion. In a physical classroom environment, students with similar age, educational and cultural background naturally group together. But in an online discussion board, it is feasible for the instructor to group students in different forums according to their learning needs. This facilitates learning from peers, sharing of expertise and experiences, and cultural exchange. It fosters teamwork, as the role of the instructor is toned down and students learn from peers in the online discussion environment. While students are gaining competence in technology and becoming more engaged with the e-learning, conscious effort should be made to engage the students in the use of discussion board to promote collaborative learning.

Interactive student support online materials such as multimedia material will be used to enhance the teaching of interpreting skills. The materials commonly used in the face-to-

face teaching of interpreting are either prepared or impromptu talks by the teacher or students or audio/visual materials of recorded talks, interviews or conferences. With the rapid development of new communication options on internet, instructors and students can take the advantage of the wide variety of video content, including movie clips, TV clips and amateur content such as videoblogging available on the web. Instead of downloading and copying them onto CDs to be played during class (copyright is a concern), instructors just need to direct the students to the relevant website to practice their interpreting skills. Students can record their voice via MP3 player and post on the Blackboard for the instructor or other students to comment. This increases opportunities for practice, enhances the spontaneity of such practice and authenticity of the materials, and exposes students to new communication options.

To evaluate the effectiveness of the blended learning approach, we first examine the students' academic performance and progression rate. We then look for the evidence in their development in communication skills, technical competence, and cultural and emotional intelligence. We also gather feedback from the various instructors involved. The passing rate for courses with e-enhanced features is relatively higher than that for e-assisted courses. Participation rate in the discussion board has considerably increased compared to Stage 1, leading to a high student interaction. Student satisfaction improves as they are observed to be highly motivated. Meanwhile, they are observed to have reached higher comfort level with computers.

Interestingly, the feedback from the instructors varies. While some applaud the benefits of such blended approach, others feel that too much effort and time have been spent on preparing the e-learning materials and that they do not get sufficient technical support. In response to this, the University has worked out different payment incentive schemes for instructors who take on e-learning projects.

In short, it seems that online and on-site learning environment blend well to give the students the hybrid 'flavour'. The blended learning approach caters to the students with different learning styles to some extent. It effectively bridges the various competence gaps through its wide range of online and on-site activities. It further enriches the flexible

learning experiences by providing more opportunities for interaction and fostering the collaborative learning. This enables the students to gain more knowledge with less effort. While the e-enhanced learning partly fills resource gap by using online materials that can be purchased or downloaded, the shortage of teaching faculty remains unresolved

4.3. Full electronic learning — visualizing the future teaching and learning.

At this stage, on-line tasks and activities will replace all in-class time. There will be no or minimal physical face-to-face interaction for course learning. The use of web is essential to achieve most of the learning goals in the course and would have major impact on students learning. Students will go through a 100% learning experiences via BlackBoard distributional and interactive features which include the use of:

- o Electronic learning objects
- o Text-based Guided chat-room
- o Virtual face-to-face interaction via webcam
- o Video-over Internet Protocol conferencing
- o Course specific interactive materials or resources
- o Course specific interactive remedial learning (e.g. self-test, practice examinations)
- o Synchronous and Asynchronous Discussion Boards
- o On-line assessments and exams

In order to replace the physical face-to-face teaching and course materials with online learning, translator educators are facing the challenge of devising *learning objects*.

The learning objects are “the smallest chunks of content, those that capture individual moments of understanding.” (Clark Aldrich, E-learning Analyst Gartner Group). “The ‘materials’ in a learning object can be documents, pictures, simulations, movies, sounds, and so on. Structuring these in a meaningful way implies that the materials are related and are arranged in a logical order. They are digital in nature. These learning objects can be delivered or accessed over the internet or across a network.” (Rachel S. Smith, Learning Objects, 2007).

Incorporating interactivity into learning objects and structuring the learning activities in order to engage the users are the key factors to a successful learning object. Failure of either one will lead to the failure of the learning object. Setting up meaningful and appropriate learning activities depends on the experience and capability of the translator's educators.

We have tentatively identified two courses for full e-learning. The first one is to teach the use of Translation Memory software, the development of which is in progress, while the other is to teach consecutive interpreting.

We choose to teach the use of translation memory software on fully electronic basis based on the following rationales: 1) The course requires a lot of hands-on practice; 2) Minimal theory is involved; 3) The instructor tends to be adept at technology; 4) E-tutorial is available in the course package.

SDL Trados 2007 is chosen to be the course software based on the following rationales: Firstly, it is well-recognized and widely-used by translators; Secondly, its floating licence allows students to install the software to their PCs and use its full functionality when connected to the university server and gives the University greater control over who can use the licence and who cannot; Thirdly, its floating licence frees us from setting up additional computer lab for drop-in sessions and hence support the flexible learning concepts.

One of the major drawbacks when teaching translation software is that the students have to follow a sequence of steps in order to understand the process. Even when students have read and observed the texts and steps, many still struggle to grasp the nature of these processes. We therefore have to focus on chunking content with a series of relevant and meaningful unit. In the course of designing and developing learning objects, we pay attention to how our memory works so that students will not be overloaded with information at any time. We also bear in the mind that instructional time is not the same as learning time and it usually takes longer for the students to go through all the instructional materials and complete all the exercises and other learning activities. For

example, the course is originally designed to have a total of 18 hours face-to-face instructional hours. But that does not mean that we have to design the learning objects based on 18 hours instructional time. Average students are likely to spend more than 18 hours to go through the learning objects and learning activities. Therefore, we chunk the content of each study into a number of learning objects which last no longer than 20 minutes, to ensure that students learn in small ‘chunks’ over a short period of time.

Meanwhile, the number of learning objects in each study unit depends on how we chunk and group them. Based on Miller’s theory of ‘Magic 7’ (George A. Miller, Information Processing Theory) that our Short-Term Memory (STM) could only hold about 7 items at a time, we design the content into 5-9 learning objects. For example, the first study unit contains tentatively the following learning objects:

- 1) Introducing Translation Technology
- 2) Functional Features of Translation Memory
- 3) Types of Translation Memory
- 4) Understanding SDL Trados 2007
- 5) Translating with Translator’s Workbench
- 6) Advanced Features
- 7) Get started with Translator’s Workbench

With these 7 learning objects planned out and with each learning object taking about 20 minutes of learning time, the first study unit will require a minimum learning time of $20 \times 7 = 140$ minutes (2 hours and 20 minutes).

Each learning object is designed to encompass four key components:

- Learning objective to gain learner's attention
- Presenting content and guidance to establish the relevance
- Activities and exercises to help the students to gain confidence
- Assessment and evaluation to enhance the retention and satisfaction

Each learning object will be presented in a hypertext format so that students can easily

cross-reference different units and topics whenever and wherever they want.

Ideally, *asynchronous and synchronous discussion boards* should be set up to supplement the learning and facilitate student-centred discovery, research and reflection, in view of the removal of physical class. Instructors can set up multiple forums around different topics. In addition, instructors can set up virtual classroom through text-based chat environment to enable live synchronous interaction. Instructors can also encourage student collaboration through the use of *ePortfolios*, to allow students to share the progress of their learning for peer commenting. Later on, instructor can develop a customized module that allow students to grade each other and themselves. To facilitate the participation, the on-line participation should be factored in the course assessment.

Also at this stage, the option of *virtual face-to-face interaction via webcam and video-over internet protocol conferencing* is being explored to tackle the problem of shortage of qualified teaching faculty, especially in the field of interpreting. We visualize that an experienced instructor in interpreting from an overseas university will be engaged to give lessons via video-over-internet protocol conferencing. Students either attend the virtual class at the university's interpreting lab where the necessary equipment are installed, or log onto the system at home using the necessary webcam and software. In view of the nature of interpreter's training, which require highly interactive environment, class size is kept small and both instructors and students are able to see and hear each other clearly with the help of technology. The virtual face-to-face interaction can be recorded and uploaded on the website for review. Assignment and exercises are released online. Students record their voice and image and submit the files online. New technology will make it possible for the instructors to make their voice comments over the files submitted by the students. Online synchronous assessment can be arranged for the instructor to assess the relevant skills and techniques of the students. Moving on, students from other university pursuing similar subjects can be invited into the virtual classroom for intercultural dialogues. On-line project groups can be formed to create opportunities for cross-boundary interaction. For instance, students in China could submit their work in interpreting from Chinese to English to their Singaporean peers (whose English proficiency level is relatively higher) for comments. Meanwhile, the Singaporean

students could invite their Chinese peers (whose Chinese proficiency is much better) to comment on their work from English to Chinese.

The above plan depicts a very rosy picture of future training of translators and interpreters. It is noteworthy that the implementation involves large investment and tremendous effort from faculty, technologists and instruction designers. Hence, we should draw attention to the critical importance of meticulous planning.

Full e-learning changes the way the translators are being trained. From teacher-centred training to student-centred learning, it motivates the students in a new and different way. It enables the students to learn by themselves and by doing. The instructor takes the facilitator's role to provide feedback, judge and evaluate students' performance. Instead of being audience of the instructor, the students become the audience of their fellow students. They learn through collaboration. Their competence in searching for information and solving problems thus improves remarkably.

Throughout an e-learning course, students can develop many electronic skill needed for professional translation work, such as working with standard file formats, HTML, downloading and uploading files, running useful internet searches, compiling online resources that can be used for their translation, working with complicated software and web accessories. Among the three e-learning stages, full e-learning is obviously the most effective in advancing students' competence in dealing with technology.

E-learning tends to enhance the communication skills of students who do not usually participate in the normal classroom setting. Issues of culture must be considered in the deployment of full e-learning tools. While the active students (most likely the local students) tend to benefit more, the passive ones who usually come from a different culture feeling isolated, should be encouraged to participate and take a more active role.

Traditional lecturing is one-time off event, but online learning is not. Students can have a better control of the pace of their learning. This helps to cater to different learning styles and different age groups.

Creating learning objects often involves concerted effort from faculty, technologists and e-learning specialists. The combination of their expertise in content, pedagogy and technology is likely to produce high-quality on-line materials in terms of content, pedagogy and technology.

The virtual classroom and sharing teaching over video-over-internet protocol conferencing effectively release the pressure of faculty shortage.

Compared to the e-enhanced learning, full e-learning offers higher level of flexibility, independence and sophistication. Students can access the content at any time wherever there is internet connection. Unlike the conventional face-to-face teaching, where students habitually omit the self-study by attending the class without any preparation, students are expected to exercise self-discipline and study independently in the e-learning environment.

The most common barrier in this stage is the lack of technical experience, as the teaching faculty are unlikely to be technical expert and information management specialist. Then, the time and effort is the next great concern, as developing and delivering an online course requires a lot of time and effort to maintain the interactivity and relevance of the content. Full e-learning depends highly on the performance of the server, software and the internet connection. Whenever one element is down, students become 'cripples' and learning is adversely affected.

Furthermore, it is more time-consuming for instructors to compose written comments than giving oral comments, as instructors have to anticipate objections in the course of writing while in conversation instructors only need to respond when query is raised.

On the part of the students, the barrier mainly lies in their self-discipline, learning style and technical competence. Those who are less-disciplined may eventually drop out of the course as they are unable to follow through the course and achieve the learning outcome. Some students, especially the elderly, tend to favour personal touch over interface with technology. Excessive involvement of technology may fundamentally reduce their interest and hence disadvantage this group of learners.

5. Conclusion

The rapidly developing technology has posed new challenges to translators and translator educators. As a result, the gaps between the curriculum design and its implementation widen, especially in the context of flexible learning in Singapore. Various e-learning forms and activities have been outlined in this paper with the objective to recommend innovative strategies to face these challenges. Their distinguished features, advantages and disadvantages have been elaborated and discussed.

Based on my own instructor's perspective in designing and administering the entire BATI programme and the student perspective gathered from their feedback and evaluation, I draw up a table to illustrate the effectiveness of each e-learning form in terms of filling the gaps in the training of translators for today and tomorrow (see figure 7).

Gap	e-assisted learning	e-enhanced learning	full e-learning
Motivation	2	4	2
Competence	2	4	4
Learning Style	2	3	2
Flexible Learning	2	4	5
Resource	1	2	4
Knowledge	2	3	4
Total/Average	11/1.8	20/3.3	21/3.5

1 = Unsatisfactory 2 = Marginal 3 = Satisfactory 4 = Good 5 = Excellent

Figure 7 : Evaluation of Effectiveness in Filling the Gap

The overall effectiveness of e-enhanced learning and full e-learning is perceived to be much better than e-assisted learning. This reinforces the major theme in this study that translator's educator should actively seek ways to leverage on information technology solutions to enhance the training outcome. We can envisage that the future translator's education will be transformed from teacher-centred training to student-centred learning. The instructional media will be moving away from single medium towards multimedia. Students will be engaged in a collaborative learning environment via web instead of

learning in an isolated way. The focus of the education will shift from information delivery to knowledge exchange and from factual and knowledge based learning to critical thinking and informed decision making.

Though full e-learning is perceived to be marginally more effective than e-enhanced learning in solving the problems in the translator's education in the open-learning environment, we believe full e-learning experience is not as rich as that of the e-enhanced learning. Given the multilingual and interdisciplinary nature of the translation studies, and the diverse skills that are used in translation and interpreting and working as a professional translators, the blended approach in integrating online learning environment with conventional teaching is still the most recommended solution that gives the students the best of both worlds. It also helps to strike a balance between high tech and high touch.

The success of e-learning depends on learning experiences appropriately designed and facilitated by the knowledgeable educators and enhanced by the technologist and instructional designers. While it is a natural call for translator's educators to develop greater control over technology, opportunities are also open to creative software developers and hardware engineers who can truly understand the pedagogical and technical issues in the support of e-learning.

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