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# **Transforming to Please : Personalized Learning Environment and Students Engagement**

By:

**Raja Maznah Raja Hussain**

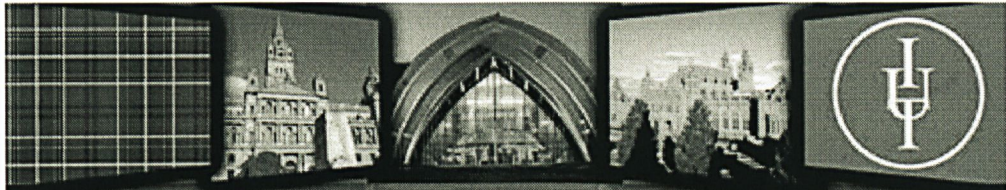
(Paper presented at the *33rd International Conference on Improving University Teaching* held on 29 July - 1 August 2008 in Glasgow, Scotland).

Perpustakaan Universiti Malaya



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# Improving University Teaching

## *33rd International Conference Glasgow, Scotland*

*"Transforming Higher Education Teaching  
and Learning in the 21st Century"*

<http://www.iutconference.org>



Title:

TRANSFORMING TO PLEASE: PERSONALIZED LEARNING ENVIRONMENT AND STUDENTS ENGAGEMENT

Theme:

Author:

Prof. Dr. Raja Maznah Raja Hussain  
Director  
Academic Development Centre  
IPS Building  
University of Malaya  
50603 Kuala Lumpur  
Malaysia

# TRANSFORMING TO PLEASE: PERSONALIZED LEARNING ENVIRONMENT AND STUDENTS ENGAGEMENT

## ABSTRACT

This presentation reports on the pedagogical approach to engage undergraduate in-service teachers learning to use ICT for primary education. To learn about ICT, students were immersed in the ICT learning environment using the MOODLE platform as the Learning Management System (LMS). The LMS served as the class group communication tool and a repository for file sharing. It was also a platform for communication and clarification of class assignments and/or lectures and a place for posting assignments in progress. Students were encouraged to explore, develop, reflect and construct their own knowledge and create their own learning content, thus personalizing their learning environment, while the instructor plays the role of a coach and a facilitator of their learning. This research project is part of an on-going action research on Scholarship of Teaching and Learning (SoTL) in Higher Education to develop a Pedagogy of Engagement Integrating Technology (PoEIT) model (Raja Maznah, 2006). Students were transformed through their engagement with the online tools and their involvement in the discussion forums and blogs.

# **TRANSFORMING TO PLEASE: PERSONALIZED LEARNING ENVIRONMENT AND STUDENTS ENGAGEMENT**

## **INTRODUCTION**

Why teachers do not use information communication technology (ICT) in their teaching has been debated on many levels in Malaysia. How do we interest teachers to use the technology for teaching and learning? Is it their attitude or is it fear that has kept teachers away from using the tools? These are some of the questions asked by the Ministry of Education (MOE) after having spent a lot of money financing the ICT initiatives in schools over the last decade. The establishment of Smart Schools in 1997, did not change much the way that teachers view technology in teaching and learning and the way that teachers design learning experiences for their students. Technology was seen to be just another tool, a burden in many ways for most teachers. ICT is perceived to be complicated. Teacher readiness to embrace technology has been a trying issue in the effort to prepare students who are 21<sup>st</sup> Century ready. Nevertheless, with the amount of money spent by the government on many ICT initiatives it is hoped that ICT will help teachers to prepare the future generation to compete in the global arena. The preparation is to ensure that our students can meet such standards as set by the National Educational Technology Standards for Students: The Next Generation (ISTE, 2007). The categories are listed as follows:

1. creativity and innovation;
2. communication and collaboration;
3. research and information retrieval;
4. critical thinking, problem solving, and decision making;
5. digital citizenship; and
6. technology operations and concepts.

My task as a teacher trainer in the University of Malaya is to train teachers and to interest them in researching for creative strategies, techniques and innovative technologies to engage learners with the 21<sup>st</sup> Century skills. I believe that such teachers can only be trained to be ready through a total immersion in the technology-based learning environment, while solving real problems, using new tools to reflect, to develop contents and to engage in social interactions. The emphasis is on the skills and knowledge required by teachers to facilitate students learning to learn and live productively in a digital society, and on creativity and innovation with technology. This paper will share my experience of teaching a third year course, Technology for Primary Education to 73 teacher trainees enrolled in the Bachelor of Education program - Teaching of English as a Second Language (TESL) for primary schools. It is also an attempt to explore the scholarship of teaching and learning (SoTL) in a scholarly teaching practice where technology is integrated into the teaching and learning, making the pedagogy more interesting and challenging. The sharing of the scholarly practice is also meant to be a form of reflection on the teaching and learning practiced in the technology enhanced learning environments. Thus making my work public, open to critique and evaluation from others so that the community can build on my previous work (Hutchings and Shulman, 1999).

## **BACKGROUND**

The course under examination is the technology for primary education course. The course is an introduction to technology based learning for the teacher trainees. The course is compulsory for the third year B.Ed cohorts. There were 73 students in the last cohort (session

2007-2008) ranging in age from 21 to 22 years old. These students are familiar with the latest ICT tools, and the majority owned a hand phone and some owned laptops which they carried to class. Most students were familiar with social networking tools and were subscribers to Friendsters, MySpace, Facebook and Blogs. A survey of students' prior ICT skills were conducted on the first day of class to ascertain their readiness to learn in a technology-based learning environment.

### ENGAGING STUDENTS

The course was designed to introduce the students to ICT tools, ICT pedagogy and how to create learning environments where technology facilitates the student learning. Students were also introduced to the concept of personalized learning and student engagement (PLEaSE). Personalized learning has the purpose of encouraging students to become more involved in making decisions about what they want to learn and how (Campbell, et al., 2007). This requires pedagogical change, focusing on students engaging and actively participating in their learning. David Merrills' First Principles (2002) guided the instructor in the design of strategies to engage students through activities requiring teamwork, collaborative learning, problem solving, creative thinking and research.

Technology was used in all the individual and group activities which allowed the trainees to experience the technology as a professional tool. The ICT pedagogy allowed them to examine the roles of a teacher and students. They were able to see and experienced how ICT can be used by a teacher to assess learner's prior knowledge, to provide learning mastery through mentoring and scaffolding processes, and to assess individual and group learning.

The process of inquiry and inductive learning built into the course activities was based on the principles of engagement theory, a framework for technology-based learning and teaching as proposed by Kearsley & Schneiderman (1999). Engagement theory is based upon the idea of creating successful collaborative teams that work on ambitious projects that are meaningful to someone outside the classroom. These three components, summarized by Relate-Create-Donate, imply that learning activities occur in a group context, are project-based and have an outside focus (Kearsley & Schneiderman, 1999):

- *Relate* — students work in teams or collaboratively
- *Create* — students work on authentic projects that are meaningful to them
- *Donate* — students share their finished projects with a larger audience outside the classroom

The class met face to face once a week for three hours for 14 weeks. A virtual learning environment was created on a learning management system to support student learning outside of the classroom hours, to engage them with the technology-based learning environment and to provide them with a personalized learning environment. The learning environment provides students with the content and resources, activities and opportunities for reflection and articulation and the necessary learner support to guide learners, assistance and feedback during learning (Oliver, 1999). As part of the course orientation, students were introduced to the virtual learning environment and the learning management system (LMS) so that they are familiar with the new learning environment, the tools and the available resources.

### **The Learning Management System (LMS)**

The virtual classroom was managed using the learning management system (LMS), Moodle. The technology enhanced the support provided by the lecturer and the tutors outside of the class time. In the past I have used free online groups such as Yahoo, MSN and Google to provide the online space for my students. This is the first time that I have used a full blown LMS in my teaching. The experience with other tools helped me to adapt to Moodle quickly. Moodle, an open source LMS was easy to use and the students, because of their past experience with social networking software had little problems navigating through Moodle. The virtual classroom concept was adopted where access to the course was made available 24/7. For the students this class was their first experience in online learning. The transformation from face to face classroom which they are familiar with to a blended classroom went quite smoothly. Most students embraced the change quickly. While few needed much prodding and convincing from the instructor, tutors and their peers. The first couple of weeks saw peer mentoring and coaching happening face to face and online.

The class met three hours a week, whereby, the first hour was used for lecture and demonstrations. The subsequent two hours were used for group discussions and practice sessions where students had access to computers. Two computer labs were utilized to ensure that each student had access to a computer for at least two hours a week during the class time. They may use the computers for research and to complete the tasks related to the course.

The course was paperless, the course materials and readings were uploaded and made available to the students in the class Moodle. Class management was made easy, since Moodle was able to track each student's activities and keep records of their attendance and readings. Assignment tasks were also uploaded for students to retrieve from the assignment folder. Students submitted their assignments on the Moodle which kept the record of submission and grades. Besides the activities prescribed to the students, with the tools available in Moodle I found that my students were in touch with me most of the time. In fact, I looked forward to their messages and discussions. Monitoring a large class of 73 students was a challenge for me and my two tutors. However, we managed to organize ourselves using folders and forums online.

### **Relating - Working in teams or collaboratively**

Project oriented problem based learning (PoPBL) was used in the completion of the class's final project. PoPBL enabled students to collaborate to learn and to stretch their thinking (Bean, 2001). The final assignment requires that students worked in groups of 4 individuals per group to develop instructional materials for use with the Interactive White Board (IWB). Each group had to develop materials for English, Maths and Science lessons. The final project helped the students to learn about Interactive White Board as a tool to engage learners in whole classroom interaction and at the same time developed instructional design competencies. The instructional design employed the objectivist-constructivist blended design approach (Chen, 2007), whereby constructivist design has the strength to result in meaningful learning whereas objectivist design has the advantage to produce efficient learning. Thus the technology supported PoPBL project approach allowed for the development of meaningful and efficient learning.

It was a challenge for the students to learn to use the IWB tool and the software to develop the content which they took in stride. The software was downloaded by the students into their own personal computers or laptops, which they used outside the class time, mostly at home. The project development lasted for five weeks and was monitored closely by the lecturer and

tutors. The group reported weekly for four weeks on their progress during the face-to-face class meetings. The final products were showcased to the whole class. The IWB products were uploaded to Airset.com, a tool for collaboration which was taught to the students during the class. By uploading their final projects to Airset, students **donated** their products for use by other teachers.

### Creating – Authentic meaningful projects

Students experienced knowledge construction activities where sharing and generating ideas became a habit. Their forum space became a teaching and learning classroom, where students posted questions and ideas that were of concern to them. The forum topics were mostly triggered by issues discussed in the class, or stories told by the lecturer, questions to ponder and readings and links posted online by both the lecturer and the students. Thus creating a learning community. 28 new forum titles were created by the students. One forum was created by a student after the semester was over to discuss a topic from another class in the subsequent semester. The forum space was a reflection of what the trainees were concerned about. Such topic as ICT use in primary schools was popular (Figure 1).

Discussion	Started by	Replies	Unread	Last post
Teacher is like a diamond?	nurul izzwaida norizan	9	0	Sun, 24 Feb 2008, 06:04 PM
what have i learn so far...	Muhammad Hafizuddin Abdul Aziz	3	0	Sun, 14 Oct 2007, 04:34 PM
Fishy! Philosophy???	muhammad soddiq	11	0	Thu, 11 Oct 2007, 06:42 PM
ICT for all?	Peik Jin Teoh	48	0	Thu, 11 Oct 2007, 06:36 PM
how far have we developed our ICT skills?	Zulfadli Ab Rahim	30	0	Thu, 11 Oct 2007, 06:19 PM
Learning with the ICT website...does it works in primary school?	siti honey	23	0	Thu, 11 Oct 2007, 06:19 PM
The meaning of Merdeka.	Gladys Koh	25	0	Thu, 11 Oct 2007, 06:34 AM
e-portfolio?	nurul izzwaida norizan	26	0	Wed, 10 Oct 2007, 12:33 PM
How do you know if your students are actually having difficulties in learning through ICT? how can you help them?	Farhana M.Kamaruddin Peter	34	0	Wed, 10 Oct 2007, 12:17 PM
Quote "Academic Blogging is a MUST" Unquote	JiaRong Yap	41	0	Tue, 9 Oct 2007, 10:03 PM
Is ICT in teaching really effective??	lialoura long	42	0	Sun, 7 Oct 2007, 01:09 AM
Does the implementation of ICT in school helps students to improve their language skills in Science and Math?	Izzatul Nadiah Ibrahim	32	0	Sun, 7 Oct 2007, 01:03 AM
Do you think all schools nationwide are ready to be 'SMART' schools next year?	Harjinder Kaur Chima	32	0	Sun, 7 Oct 2007, 12:53 AM
Do they need them?	Abdullah Ihsan zainuddin	22	0	Sun, 7 Oct 2007, 12:43 AM
Teachers role..After all, education system nowadays is lighten up by ICT . What do you think? Do you think a teacher is really needed in this case?	Farhana M.Kamaruddin Peter	9	0	Fri, 5 Oct 2007, 04:40 PM
Out of Curoisity	Syed Amir Aizat Syed Aminuddin	28	0	Fri, 5 Oct 2007, 01:11 AM
There is an article in today's Tech & U (a NST pull out) where Prof. Dr. Raja Maznah talks about technology in education	Harjinder Kaur Chima	6	0	Wed, 3 Oct 2007, 05:26 PM
WHY ICT?	Farhana M.Kamaruddin Peter	20	0	Wed, 3 Oct 2007, 12:10 PM
DID OUR STUDENTS READY FOR ICT BASE LEARNING???	wan noraiman	27	0	Tue, 2 Oct 2007, 11:08 PM

Figure 1. Discussion topics started by students

Issues such as lack of infrastructure and ICT facilities in schools became crucial. Higher order thinking was observed to happen in the forum where students created contents from knowledge that they researched on the Internet and from their personal experiences. On many occasions peer-teaching and mentoring took place in the online classroom as evidenced in the discussion in Figure 2. The environment has created self-directed learners (Hartley & Bendixen, 2001) who are able to regulate, guide and direct their learning. Self-directed learning was also evident in the weblogging activity that each student had to do.



http://www.muc.edu.um.edu.my/moodle/mod/forum/discuss.php?id=1581

**Re: How do you know if your students are actually having difficulties in learning through ICT? how can you help them?**  
 By Alison Chong - Wednesday, 1 August 2007, 10:29 PM

Well, again it's me. Of course, when we get to know that our young learners are facing problems in learning through ICT, something need to be done indeed (particularly the way how you do it). After attended today's class, I think it has given me a lot of insights in relation to using ICT in learning. All right, in my humble view, I would say we - as the future teacher, we must at least impart the sufficient skills and knowledge about the ICT to the students before we could get the students to learn through the ICT successfully. There are lots of IT information that you can be benefited or easily retrieved from the internet to teach your students, such as how to use Dreamweaver, Microsoft FrontPage and many more at <http://myschoolnet.pkk.kpm.my/indexp.htm> for instance (I guess you should know about this ).

Not forgetting, we also need to think in advance about the principles of learning (as listed in chapter one... it's endless list!), so that we can provide them an interesting and engaging ICT-based learning experience without leaving them with a feeling of boredom and strenuous. Whether you have time or not to do this, I shall say it all depends on a teacher's resourcefulness and their willingness to help his or her students to excel, as there is a saying goes like this - if there is a will, there is a way! Believe it or not? You decide! (;) hiak hiak.....

- By Alison, at 10:07.m, 1/8/07

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**Re: How do you know if your students are actually having difficulties in learning through ICT? how can you help them?**  
 By maizah hussain - Thursday, 2 August 2007, 08:48 AM

The discussion is getting more exciting. I was going to mention Chapter 1, however, Alison has voiced out clearly what I was thinking... Yes, get to know the principles and start applying them to your lessons and you may see the difference.

It is true, whether the kids will enjoy the class or not, be it face to face or a virtual environment, it is us the teachers who have to be clear of what we want the students to achieve and how they are going to achieve and the tools that we need to use to get to the outcomes.

So ICT is just another tool, a catalyst for transition from the 19th Century method of teaching to the 21st C method of learning.

At the end of the day, it is the student learning that is more important, and if they are happy to be learning on their own creating their content and sharing it with others, by all mean I would say, you all have caught the bug! and you are already doing it as evidenced in this discussion thread.

Congratulations! it takes only three weeks to get you all excited about learning to learn using the ICT tools. Please do not let me decide on what you have to learn, I want you to find... what you want to learn.

Happy learning! ☺

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**Re: How do you know if your students are actually having difficulties in learning through ICT? how can you help them?**  
 By julia ai - Tuesday, 7 August 2007, 10:02 PM

Hi everyone! At last i'm here to share my ideas and thought with you guys.

Figure 2. A threaded discussion started by a student

## Webblogging and reflective learning

Learning by reflection was utilized in the course to allow students to engage in knowledge creation and to explore the connections between course materials and their individual life or psyche (Bean, 2001). Reflection was enabled via webblogging. Webblogging on Blogspot was a course requirement and graded. Criteria for grading the blogs were agreed with the students at the beginning of the course. It was a common understanding that the blog was an academic exercise and students were to use good English to write and present their ideas. Each student created a blog on the first day of class. A minimum of 10 postings were required over a period of 14 weeks. Students were required to blog on their lessons and readings, at least once a week. They were instructed to start reflecting by thinking about "Today I learn, Today I question." Their blogs were closely monitored by the teaching team. New blog entries were fed to the teaching team through bloglines.

Students posted their blog links as their personal website in their particulars, available in the LMS. Students were also encouraged to visit their friends' blogs and leave comments. Blogging helped the students to personalize their content knowledge, based on what they have learned and understood. Some students used the opportunity to read and search for more information which they know could benefit their friends by enriching their blogs with links and ideas. For most students this was the first time that they blogged for academic purposes. It took a while to convince everyone to share their thoughts and communicate what they have learnt. Good blogs were shared with the class thus encouraging others to benchmark their work.

### Soft Skills Acquisition

Besides preparing student teachers with the pedagogy to engage learners in technology-based learning environments lecturers and tutors are also responsible for making sure that future teachers are also adequately equipped with the necessary 21st century skills as outlined in the ISTE standard:

1. creativity and innovation;
2. communication and collaboration;
3. research and information retrieval;
4. critical thinking, problem solving, and decision making;
5. digital citizenship; and
6. technology operations and concepts.

Such skills are also known as generic skills or soft skills. Year 2007 was the first time that the public universities in Malaysia had to assess their students acquisition of soft skills during their third year of study. Soft skills were embedded into the teaching and learning activities and were assessed formally. Students were given orientation on the need to assess their soft skills as one of the learning outcomes, on the first day of class. Self-assessment of soft skills were encourage. To find out if students were able to assess their soft skills the instructor requested that students respond to a message posted by her on the forum before the final exam week. Here is the message.

Re: MY Soft Skills acquisition  
by [maznah hussain](#) - Wednesday, 3 October 2007, 06:01 AM

Dear All,

Now that we have come to the end of the semester, I hope you will leave this class with satisfaction knowing that you have shopped for new ideas, new technology and made new friends. I know I've made 73 young people my "children." Though the class is ending, I hope you will still meet each other and me too in this virtual classroom, that you will continue to share your ideas, thoughts and inspirations. Before I leave, I would like to ask a few questions:

- A. How have you developed the soft skills in this class? and
- B. What evidence do you have to show that you have polished your soft skills?

Here are the soft skills again:

1. Communication
2. Creative and critical thinking
3. Team work
4. Leadership
5. Ethics and professional values
6. Entrepreneurship
7. Lifelong learning

I hope to hear from everyone. It has been a pleasure for me to be learning together with YOU. RM

Thirty-nine (53%) students replied to the questions. The responses were mostly positive and lengthy. Students indicated that they have developed the soft skills and were able to give evidence to show that they were able to assess their learning and the course has helped them to achieve learning outcomes related to soft skills. Here are some of the responses:

Re: MY Soft Skills acquisition  
by Student #1 - Wednesday, 3 October 2007, 11:38 AM

First of all, I feel quite sad that this course have come to the end of this semester. It's true that I've gain lots of valuable knowledge, experiences and skills from this course but I feel that I need more time and space to equip myself with profound knowledge of technology for pedagogical purposes.

I believe that we can still keep in touch and do share our thoughts and view so as to become world-class educators and to realize the latent potentials of our young generations.

So, here I would like to convey my deepest gratitude to **Prof.** and your dedicated teaching team (**Ms. Ng and Ms.Chin**) for your concerted effort in turning me and my course mates into IT literate person.

As far as I'm concerned, I've developed most of soft skills since entering this course. For instance

**1. Communication-** Before this I've always work with the same group members but luckily for this course I've chance to work with new group member (INA) though she is from the same course before (B.ed TESL). I've the opportunity to communicate and work with her. Besides that, blogging also develop my communication skill as I'm able to communicate my ideas and also tighten our friendship.

**2. Creative and critical thinking -** Undeniably, this course require me to do a number of work, projects and activities such as web-based learning, IWB assignment, designing posters etc. So, I've to utilize creative and critical thinking skills in order to produce high-quality products. Moreover, blogging and forum also develop my reasoning skill in discussing and responding to the topics or issues raised. (Thanks for providing wide intellectual exploration!!!)

**3. Team work-** most of the work assigned need to be accomplished in group. As a result, I find out that I've also develop skills of working in a clique of friends as I believe that more heads are better than one and also create synergism. It also teaches me on how to cooperate with others when doing particular work *.esprit de corp!*

**4. Leadership-** in my group, we never pointed group leader as I believe that everyone is a leader to himself/herself. Each of us has responsibility to lead and guide ourselves. But, in completing certain tasks, I voluntered myself to plan and divide the work among us. I feel quite proud as my leadership skill can be developed and I do hope to hone this skill in the upcoming time.

**5. Ethics and professional values-**of course as teachers to be, we should equip and practice the ethics and professional values. Some of the values which I think I've develop are we should give serious commitment when completing particular tasks, never practice procrastination and be open-minded.

**6.Entrepreneurship-** I think this is one of the soft skills which I still lack of. So, I need to be more active and seek for opportunities.

**7.Lifelong learning-** this course have made aware on the importance of life-long learning specifically in the educational field. In this 21st century, there is a rapid and tremendous development of technology and it also enormously influenced the use of ICT tools in classroom. Thus, as teachers in the technology explosion era, we need to learn, learn and learn so as to equip ourselves with sound knowledge especially about the educational technology.

Re: MY Soft Skills acquisition

by Student #2 - Thursday, 4 October 2007, 08:22 PM

Hello Prof and the tutors...thank you so much for all of your efforts to transform me to a new thinker in dealing with technology. Personally, I'm not really interested with all the technological advancements. I find them really irritating and creating trouble to me. But, now, after going through this one semester with you, I start to like technology. It is such a great experience of learning and developing new skills in dealing with the software, internet and etc. Now, I tell all my friends in other university about all the things that we have gone through this semester. Ya.. back to real business..talking about the soft skills, I think I have somehow developed the seven skills to a certain extent. Let's go one by one:-

- communication- I feel that my communication skills now is much more better. Blogging, leaving comments for the friend's blog and joining the discussion in the forum do help me to become a good communicator. Those are the medium for me to convey my thoughts, opinions and comments for the issues that being discussed.
- creative and critical thinking- I started to force my poor brains to think, evaluate and reason on the issues in the forum. Those who have been actively participate in the forums did open my eyes and mind to think outside of the box. I become more critical by reading all the discussion and also contribute my ideas on certain issues. The fruitful and thoughtful discussion help me to be more cretaive and critical in thinking.
- teamwork- I always believe that there is no 'i' in teamwork. Thus, dealing with the presentation, the IWB project with my team members aallow me to learn how to work well with others in making things successful as a team. We exchange ideas, give suggestion and assist one another when completing all the tasks.
- leadership- I was the leader for my group which is Authentic Educators. Thus, this opportunity offers me a room to develop certain good leader qualities. I try to get all the members to work together and make sure that everyone id doing the task together. Besides, I always refer back to my group members on

any decision that need to be decided for the groups. Letting all the members to give their on views on any suggestion probably is one of the way of being a good leader.

- Ethnics and professional values- I somehow wonder how to explain this soft skill. Maybe, I start to learn to contribute to the group, complete the task on the time and work cooperatively with my teammates.
- entrepreneurship- being a teacher is just the same as a salesman. we need to be able to convince the other that our products of learning materials are good and can help the students to learn better in their learning process. The IWB project really develop this soft skill in me. I learn how to make sure my product of the project is useful for the students. I take into account all the factors that need to be considered in order to produce a high quality standard of lesson that integrates the use of smart board.
- life long learning- I start to realize that technology is very important nowadays. Students out there need something new in order to maintain their high interest in language learning process. Thus, I believe that this skill has been instilled in me and I will never stop to explore this new trend in teaching approach for my future students' sake and for my personal professional development.

### **Transformation**

From the above replies to soft skills questions, the blogs and the discussions in the forums, students were transformed from novice users of technology to practioners who were engaged and immersed in the use of technology and at the same time they learned to sharpen their soft skills. The learning outcomes were achieved whereby students were able to develop the products, in the form of IWB courseware, which required learning of new tools, message design, instructional design, project management, social networking tools and the learning management systems. The future teachers are empowered with their newly acquired technology skills and soft skills giving them the confidence to engage their future students with technology.

### **CONCLUSION**

As a world of one size fits all gives way to a world of personalisation, education will need to follow to survive (Heppel, 2008). This paper is an attempt to share my experience of training undergraduate teacher trainees to embrace technology in teaching and learning and to prepare them for such world of personalization through the practice of personalized learning and student engagement (PLEaSE). By modelling the use of ICT in teaching and learning, students were immersed in the technology-based learning environment and empowered with tools and techniques to solve real world problems. The technology in education course was designed to provide students with opportunities to personalize learning, to reflect on their journey individually and in groups, to learn face-to-face and online. Students used Web 2.0 tools to communicate, collaborate, socialize and managed their learning. Learning transformation was observed from the quality of interactions in the course forums, webbloggings and the products submitted at the end of the semester. I have learnt that: 1) to please students I have to have faith in them and to support their learning through coaching and mentoring; 2) to succeed in changing teaching and learning, I have to model the philosophy, the use of the strategies and the use of the supporting technology; 3) to engage students in learning requires careful learning design, taking into consideration students readiness, prior ICT skills, time management and appropriate reward system; 4) to support online learning requires scaffolding, regular feedbacks and monitoring of student learning.

Most importantly my students have learnt through reflection, knowledge construction and social interaction which are life long learning skills, will make them teachers who are 21st century ready, who should be able to influence and bring about change in the world of education.

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