

## **Learning To Integrate ICT With Intel Teach**

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### **1. THE INTEL TEACH PROGRAM**

In 2003, I attended the Intel Teach Program. I was thrilled to learn up a computer-integrated teaching and learning strategy. Since then, I had promoted the program in the college. Hundreds of teacher trainees, in-service teachers, and lecturers were inducted into the program.

In February 2007, I was offered to teach a group of English Language teachers for the course component "ICT in Teaching and Learning". The Intel Teach Program with its project-based learning methodology fitted my objectives. This was an opportunity for me to attempt to convey to the course participants the concept of integrating ICT with constructivist strategies. The class was very small, only 11 teacher participants, so it enhanced student-centeredness. They readily agreed to sign up for the program. *"Excited and really looking forward to it, but at the same time a bit shaky because I am not quite competent in using computer. I really need a lot to learn"* (JR1, 12/01/07).

I applied to the Malaysian-based Intel Teach program coordinator for the course materials. The materials were issued free of charge. The learning modules were excellently designed. When, the Intel Teach Program modules were distributed to the participants (SR: 24/01/07). I explained the way the course was to be conducted. This was a complete self-learning module, ideal for independent learning. The participants were to learn by completing the tasks assigned in the 10 modules (Intel Teach, 2004).

The prescribed strategies for their independent learning were: Pair and Share, Pedagogical Practices, Hands-on Activities, Evaluation and Modifying Unit Plans (Intel Teach, 2004). Such strategies would allow the participants to set their own learning objectives, learning tasks and learning resources as well as develop their own learning programs. In this way, they were able to learn about topics that were relevant to them, expanding their learning aims beyond the curriculum. It would also allow me to adopt the role of facilitator, helping and supporting the participants while they work in groups or individually with a piece of software or other resource. The participants would develop cooperative and collaborative working style and hold dialogues with me whenever the need arose. Above all, they would use ICT as an enabling tool for learning: data collection, information processing and product development; communication and activities in the classroom.

### **2. EVOLVING THE ICT TEACHER**

As I proceeded to implement my action, I soon realized that I needed to prepare the participants, who possessed mixed ability ICT skills, for what was to come. This required me to employ teacher-centered strategies. In fact, JR3 (26/01/07) said, *"if without lecturer's explanation or guidance, I think I won't be able to understand it and use it to complete the task given."*

I found it hard at first to place the responsibility for learning in the hands of students. I was often tempted to correct the participants' work for them rather than let them learn from their mistakes. *"It would really save me time to just do the animation and transition settings for her (R5)."* But I was aware of the need to allow the participants to develop as independent learners. I was aware that the role of the teacher should become less that of an expert and more a facilitator, a guide to student exploration. Therefore, I made deliberate efforts to withdraw from my dominant space in front of the class. Initially, it was an unsettling experience. Evolving from the teacher role into the facilitator role took a lot of work. I turned to giving attention to groups or individuals, guiding each party to "discover" learning through his or her problem, no matter how ridiculously simple the problem might seem to me. I drew encouragement from the fact that even if I was just sitting around, my presence lent a certain sense of security to my participants – they knew that help was around when it was needed.

### **3. EMPOWERING THE ICT LEARNER**

Empowering the ICT learners first required that they be furnished with the requisite enabling tools, knowledge and skills, and the attitude to be independent learners. The traditional way of learning was ingrained in the participants' mindset. Time and effort was needed to nudge them out of their comfortable 'show me what to do' paradigm into the daunting 'do it on your own' paradigm. Patience was needed to convince them about the limitless possibilities of learning with ICT. In the end, the efforts and patience paid off.

The participants succeeded in acquiring the enabling skills of ICT. The Intel Teach program provided “*all the necessary skills that I need to use ICT in teaching and learning in my own class*” (R1, R6, R8, R10: 15/05/07), and allowed them to “*learn many things such as Microsoft Words, Excel, PowerPoint, Microsoft Publisher, Hot Potatoes, Mind Manager, VCD Cutter, and Web Stripper*” (R2, R5, R9: 15/05/07). R10 (15/05/07) said he was “*able to gather, process and publish information within a range of context across all learning areas*”.

The ICT skills empowered them. They were able to create new products by using the computer tools provided. “*I have learnt a lot from the INTEL how to make my teaching more effective and attractive. It can be a powerful teaching tool to me in the future*” (JR10:09/05/07).

The skills and knowledge gave them confidence. They became less leery of using the computer and began to explore its possibilities. R7 was “*able to improve on my computer skills and become more confident to use computer*” (JR7: 09/05/07)

*After following this project, I have more confidence to use ICT in my teaching and be able to vary my activity by using different programs for different activity. For example, now I have the knowledge to create a web page, which I can use in my teaching by getting my student to create their own web page on certain topic such as ‘Place of Interest’ (R6:15/05/07).*

The experience revealed to them a new paradigm of learning, that is, learning by doing; independent learning. This made a positive contribution to their attitude by enhancing their self-confidence and pride in their work, their autonomy and their commitment, their depth of thought and also to their communication and cooperation with others. As their self-efficacy developed, so too did the magnitude of their efforts to learn more. R6 wrote, “*spend more time with me to give me guidance in order to get more learning*” (JR6: 09/03/07). R3 wrote, “*give us more chances to explore the internet*” (JR3:03/03/07) and R1 wanted more input on “*how to use useful programmes that are relevant to the teaching*” (JR1: 26/03/07).

#### **4. SMART PARTNERSHIP: INTEGRATING ICT IN TEACHING AND LEARNING WITH INTEL TEACH**

The Intel Teach Program impacted the participants’ learning in three different ways: new contents; abilities defined as cross-curricular and ICT related skills. “*Yes, I feel that the project is helpful and gave me more knowledge on ICT and boost my confidence to use it in the school soon*”.(JR3:21/03/07)

I also observed that my participants gained a perspective of ICT in teaching and learning. R10 (15/05/07) said, “*ICT make a significant contribution to teaching and learning across all subjects and provide opportunities to engage and motivate children with their learning needs. ICT also help to make learning more differentiated and customized to individual needs and deliver a more engaging, exciting and enjoyable learning process that encourages better learning outcomes*”. Similarly, R4 (15/05/07) said, “*INTEL Teach to the Future Project provides the necessary skills to use ICT and learning in the class as learners had to design their own presentations to suit the given topic. Learners could also refer to the resource samples whenever they need to.*”

The participants were motivated learners. Because of the participants’ motivation, I became motivated as well (SR:04/05/07). In general terms I helped them with technical problems, explaining some concepts and the activities they should develop. Technology gradually turned into an enabling tool for them. This included searching the Internet, and accessing relevant learning courseware and data collection. After this process, the participants used the productivity tools (presentation, word processor, publishing) to develop their projects.

The participants’ feedback (Table 1) from the Intel Teach CF09 form indicated that the participants agreed the Intel Teach Program, to a great extent, focused on integration of technology into the curriculum, provided teaching strategies to apply with their students and provided opportunities to collaborate with other teachers during training. It illustrated effective uses of technology with students to a moderate extent.

**Table 1: Participants’ Feedback About the Intel Teach Program**

To what extent do the following statements describe the Intel Teach to the Future training you participated in?	Mean
a) Focused on integration of technology into the curriculum	3.9

b) Provided teaching strategies to apply with your students	3.7
c) Illustrated effective uses of technology with students	3.4
d) Provided opportunities to collaborate with other teachers during training	3.7
1=Not at all      2=Small extent      3=Moderate extent      4=Great extent	

The quality of the Intel Teach modules contributed to its effectiveness. *“I like using this module since it is arranged systematically and easy to follow by all of us. The samples given were helping and encouraging to produce a good activity in a classroom. It is really useful and interesting”* (JR2,02/03/07)

The most telling proof that the participants benefited from the Intel Teach was their feedback (Table 2) regarding the perception of their preparedness before and after the course. If before they were not prepared to implement methods of teaching that emphasize independent work by students and to evaluate technology-based work their students produce, after Intel Teach, they felt well able to perform those tasks. *“The Intel course helps me to teach better and more interestingly because it enables my pupils to explore the ICT independently”* (JR3: 09/05/07). If before they were only somewhat prepared to integrate educational technology into the grade or subject taught and to support their students in using technology in their schoolwork, after Intel Teach, they felt well able to perform those tasks.

**Table 2: Teachers’ Preparedness to Teach with ICT**

How well prepared did/do you feel to do the following activities with your students, prior to and after the training?	before	after
a) Implement methods of teaching that emphasize independent work by students	1.3	3.4
b) Integrate educational technology into the grade or subject I teach	2.2	3.5
c) Support my students in using technology in their schoolwork	2.4	3.8
d) Evaluate technology-based work my students produce	1.5	3.4
1=Not at all      2=Somewhat      3=Moderately      4=Very well		

The participants resoundingly agreed (Table 3) that the ideas and skills they learned from the Intel Teach to the Future training would help them successfully integrate technology into their students’ activities. They would also definitely recommend this training to a friend or a colleague.

Thus my expectation that the Intel Teach Program and ICT pedagogical practice would be a smart partnership that facilitates effective learning was fulfilled. JR4 (04/05/07) wrote, *“I feel very fortunate to be able to use and explore the Intel modules because throughout my 16 years of teaching career, I was quite blur and nervous when it comes to using modern technology during my teaching. Now I feel that we as teachers should upgrade our teaching skills in order to teach effectively.”*

**Table 3: Teachers’ Overall Evaluation of the Intel Teach Program**

	Mean
Will the ideas and skills you learned from the Intel Teach to the Future training help you successfully integrate technology into your students’ activities?	4
Would you recommend this training to a friend or a colleague?	4
1=Definitely not      2 = Probably not      3=Probably yes      4= Definitely yes	

## 5. REVELATIONS FROM THE INTEL TEACH PROJECT

I learnt that I needed time to evolve from a teacher into a facilitator. The participants needed time to acquire the requisite ICT skills and tools to be empowered with independent learning. I also learnt that I needed to confidently relinquish the control and power to learn into the hands of my learners, and they needed to possess the desire to change their attitude towards independent learning.

The learning journey was more meaningful than the destination. Having succeeded with constructivist strategies, I realized that it did not mean I should forsake the other teaching and learning strategies. In the beginning, a teacher-centered, teacher-directed strategy could be necessary for useful input. If a teacher withdraws completely from a

leading role in the classroom too early in the course, participants might become directionless; if the teacher keeps control throughout the course, participants might become passive and uninspired.

I also understood that there was only an infinitesimal difference between the independent learning strategy and the “teacher not doing anything” strategy. The former strategy allows the participant to investigate and test their own ideas and in the process, improve their learning and achievements. The latter, however, might stunt their achievement for the lack of sufficient guidance and leadership from the teacher. The difference is in the teacher letting the participants know in ways that matter that she is always, always interested in their progress, she is ready to assist when needed, but at the same time not giving in to the temptation to take charge and do things right for them the first and only time. Finally, I learnt that in helping the participants, even the most trifling problem should be accorded due serious attention so that the participants should not feel discouraged, belittled or inadequate.

## **6. ASPIRATIONS: THE LEARNED LEARNER**

My role as a facilitator might indeed have made a difference in their learning experiences, but I was realistic enough to understand that it was the excellent Intel Teach modules that contributed more to the success of my participants’ learning journey. By using the module, they had discovered the marvels a computer could generate, and were willing to spend more time learning on their own. I am gratified that by pointing them to the Intel Teach Program, I have contributed to their growth and development, as they have contributed to mine. They had begun to share my passion for the wonderful world of information technology, and may turn out to be masters in this field. I am sure that one day very soon, they will be able to teach me something new. And so the learner shall become the learned. That is as it should be, for all times, for all ages.

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