



Leading The Way To Success.

Case Study



**Kolej Tun Datu
Tuanku Haji Bujang,
Miri, Sarawak.**

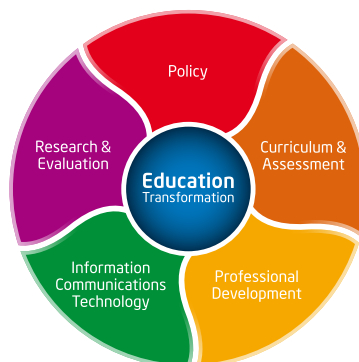
Intel® Teach Program

Supporting Education Transformation through Professional Development (Intel® Teach Program)

The Intel Education Transformation Model

Intel Corporation has developed an education transformation model that is designed to help governments and education institutions improve the quality of their education systems in order to enable greater economic and social opportunities for their students. The Intel Education Transformation model is based on educational research and focuses on five critical and interrelated components that must be addressed in order to achieve real and sustainable education improvements.

The education transformation model includes advocacy for Policy Support, Curriculum Standards and Assessment, sustained Professional Development efforts, Information and Communications Technology (ICT), and support for Research and Evaluation to help countries create an effective and holistic approach to delivering 21st century education.



Intel Corporation believes that transforming the education process requires a systemic approach that addresses each of these critical components. The case study that follows is primarily focused on the Intel® Teach Essentials Course, a central part of the company's Professional Development efforts, but the other elements of the education transformation model are also present in this example and contribute to the overall success of the program.

The Intel® Teach Program

The Intel Teach Program is a professional development program that provides teachers with instruction on how to promote Project Based Learning (PBL) through problem-solving, critical thinking, and collaboration skills, in addition to helping teachers effectively integrate technology into their lessons. The program has trained more than 9 million teachers in over 60 countries and is the largest and most successful program of its kind.

(For more information, visit : www.intel.com/education/my)



Teamwork : The Key To Success

Kolej Tun Datu Tuanku Haji Bujang, a secondary school and pre-university institution in Miri,¹ Sarawak, Malaysia has been implementing the Malaysian Smart School Curriculum (SSC) for more than ten years. The SCC program is technology intensive, however, Principal Hasimah Abang Zen was not satisfied with the progress the school had made because the teaching and learning approach was still mainly teacher-centered. Hasimah said, "The skills that were evaluated in students were confined to presentation skills. Preparation of slides involved a lot of cut and paste, without citing sources, and their delivery lacked meaningful learning. Students did the work just because the teachers asked them to." Hasimah recognized the need for an alternative, coherent approach to transform the school environment and maximize the potential of teachers and students. What Hasimah envisaged was an approach that would transform the classroom into a 21st century classroom where both teachers and students practice 21st century skills² in the teaching and learning process. "Our most important investment is to prepare students to face the real world in the classroom through an exciting and total involvement experience," she said.

Challenge

- Hardware was available but the integration of ICT into teaching and learning was not widespread
- Need for a more comprehensive pedagogical approach that would benefit teachers and students in order to elevate the quality of education provided by the school
- Need for full integration of ICT to support and enhance the teaching and learning processes

Approach

- Embrace project-based learning (PBL) approaches in the school vision and incorporate project-based approaches in the school curriculum. Create opportunities for teachers and principal to partner with students in the learning process
- Provide avenues for students and teachers to share the experiences and successes of PBL projects
- Enhancement of 21st century skills such as problem solving, critical thinking, and collaboration among students and teachers

Benefits

- Improved student learning outcome through use of PBL and ICT integration strategies in teaching and learning activities
- Increased usage of ICT in classrooms
- Increased interactions between teachers and teachers, students and students, and teachers and students
- Increased collaboration and team work amongst students

¹ Miri is a city in Sarawak state, which is located in East Malaysia. ² The 21st century skills are also referred to generally as soft skills in the Malaysian context.

Adopting new approaches

Hasimah found that the issues faced by the school could be addressed through implementation of the Intel® Teach Essentials Course which is a proven teacher professional development program designed to help teachers utilize project based learning methodologies with their students to develop critical thinking, collaboration, and communication skills, as well as effectively integrate technology in the classroom to support the learning process. With the support of Intel Malaysia, Hasimah and Liew Tho Lip, the ICT coordinator of the school, conducted two training sessions of 5 days each for teachers at the school. Nine months after the introduction of the course, 70 percent of the teachers who were trained in the Intel Teach Essentials Course are still actively using PBL strategy in the classroom. "Our aim is to train 100 percent of the teachers on the Intel Teach Essentials Course," said Mr. Liew. He continued, "The full integration of ICT in teaching and learning and PBL strategies will help enrich the experience of both teachers and students."



"Our most important investment is to prepare students to face the real world outside the classroom through an exciting and total involvement experience."

Hasimah Abang Zen
The Principal
Kolej Tun Datu Tuanku
Haji Bujang

Kolej Tun Datu Tuanku Haji Bujang was established in 1957 as the first government secondary school and the first school in Miri, Malaysia to provide pre-university and teacher education. It has since progressed into a secondary and pre-university institution for high achievers from throughout the state of Sarawak. The school has become a training ground for many leaders and prominent public figures who have gone on to serve in various government ministries and private corporations.

The majority of trained teachers eagerly implemented the PBL strategy in their lessons and they were quickly recognized for their efforts. Within the short span of one year from the start of the implementation, teachers at Kolej Tuanku Bujang were already winning awards. Teachers Sawaran Jit Kaur and Chang Siaw Hui won the Grand Prize for the 2009 Unit Portfolio Contest jointly organized by Intel and the Ministry of Education, Malaysia, for their project, 'Health is Wealth', where student-centered, collaboration and hands-on activities were dominant. Higher order thinking skills, multiple intelligence and creative skills were incorporated through the project. The Unit Portfolios were judged by independent judges - educators from the Ministry of Education as well as university lecturers.

Another teacher, Enny Christina won the Innovative Award for the 2010 Sarawak state level teacher competition for her English language project that used blogs, email and a virtual classroom to enhance student learning, which resulted in improved public examination results and enhanced ICT skills.

The following year, Nurwahidah Binti Zolkiflee and Husmaisarah Binti Che Hussien were selected as winners for the monthly PBL contest, where prizes were awarded to those who submitted the best action plans suitable for classroom application. To top off an award-filled year, Sawaran, Liew and Chang won the top three prizes, i.e. Gold, Silver and Bronze prize respectively, for the 2010 Intel Exemplary Teacher Award, which recognized teachers and educators for their innovative practices in the classroom, using projects to cultivate students' ICT and 21st century skills through the use of interactive web tools in their English language subject. As part of the teaching and learning strategy, students communicated their findings and activities through their class blog as well as a speaker's corner.³

Leading the way to success

The success of this initiative can be attributed in part to the leadership and commitment of Hasimah. "My role is to turn possibilities into reality," she emphasized. Hasimah understood that to get teachers involved in practicing what they learned as new pedagogy in the Intel Teach Essentials Course such as PBL, she would need to model that behavior. Hasimah taught her chemistry class using PBL strategy and was able to implement it successfully without affecting the existing syllabus. Her enthusiasm for PBL motivated other teachers to supplement their methods of teaching with the new strategy and tools.

³ Speaker's corner is an activity in which public speaking, debate and discussion are carried out in an open area, similar to speaker's corner in Hyde Park, London, UK.

Teachers and students also acknowledged Hasimah's leadership and contribution as a significant factor in the transformation. Sawaran, who was one of the 2010 Exemplary Teacher Award winners, noted that students were very excited because the principal frequently showed interest in their work. "Hasimah has been very supportive. For example, when the students displayed their projects for the Earth Day program, she was there talking to them, listening to their explanations and providing encouragement and motivation," said Sawaran. "She willingly agreed to be interviewed by the Form 3 students and answered their questions on garbage enzymes. She even joined the Form 1 students when they hugged the trees! Support from our principal has been tremendous and that helped us carry out the projects." Hasimah also made sure the school is ready to implement the technology aspects of the SCC program by providing wireless facilities and allowing teachers and students to use the computers at the Self Access Center, even after school hours. Initially, some parents were skeptical about their children staying at school after the normal hours. The school enlisted the parents' support for the projects by sending them letters to explain the children's desire for extra hours in the computer lab.

Impact of the Intel® Teach Program

Students have flourished since the introduction of PBL strategy in their teaching and learning activity. There is no better proof than the results the school achieved for the 2010 PMR⁴ examination. The school achieved an overall pass of 100 percent, but even more impressive was the 143 percent increase in the number of students who achieved straight A's (68 students) compared to the previous year (28 students). The data revealed that all the high achievers had gone through PBL in classroom for three years. "It is validation that implementing project-based approach does not compromise on grades. In fact, it enhances students' academic performance," said a delighted Hasimah. She also pointed out that what is more valuable is that through project-based approach, students have gained such self-belief and confidence. "Once a child has that level of confidence, he or she will be motivated to excel," she said.

Many students at the school acknowledged that the use of new pedagogy had helped them develop other skills. Student Angela Juan was grateful that the use of project based approaches by her teacher developed her leadership skills. "As a group leader in one of my projects, I learnt how to delegate the work fairly and help guide my team members," she explained, adding that the approach had also improved her communication and presentation skills. Another student, Mohamad Najib compared classes with and without projects. He observed, "Projects help us remember and understand what is taught and they also make learning more meaningful."

Through the Intel Teach Essentials Course, teachers and students alike have enhanced their ICT skills as well as other 21st century skills. In turn, this instilled confidence to integrate ICT in classroom learning and teaching. Sawaran describes PBL strategy as being excellent for hands-on and collaborative activities with students. "It takes a little more effort to plan and carry out, but it is fulfilling in the long run," she said. Sawaran also noted that students were working together more frequently and helping each other while sharing their ideas.

Planning for the future

Hasimah believes that the benefits of the Intel® Teach Program should not be limited to their school. To share the success of PBL practice and implementation, the school organized the Twenty-First Century Skills Project-Based Learning Colloquium. Lecturers from the Teacher Education Institute, as well as principals, teachers and students from other schools in Miri attended the colloquium. Students were the stars at the colloquium, as they played major roles in presenting their real experiences and outcomes from PBL used by their teachers.

The colloquium showcased the success of PBL strategy in Kolej Tun Datu Tuanku Haji Bujang to the Miri teaching fraternity and encouraged more schools to adopt PBL. Hasimah and her school are ready to take on the challenge to help train more teachers in the district in the Intel Teach Essentials Course. "I believe that if teachers want to retain what they have learnt, they need to train their peers," said Hasimah. To prepare for this challenge, Hasimah, who is herself an experienced Senior Trainer, also encourages more teachers to be active Master Facilitators in the Intel Teach Essentials Course. The second colloquium has already been planned for July 2011, and this time it will involve participation of teachers and students from other schools in Miri and other districts as well.

⁴ PMR is Lower Secondary Assessment in the Malaysian education system administered at Form 3 or equivalent 15-year old school children.

Hasimah is confident that the PBL strategy as a new teaching and learning strategy is sustainable in the school as it is aligned with the school's vision and mission. She also plans to engage parents in the student projects and to involve them in the assessment of projects through the use of rubrics.

Intel® Teach Program in Malaysia

Since its introduction in Malaysia in 2000, the Intel® Teach Program has trained more than 70,000 teachers. This has been made possible with the support of the Ministry of Education through collaborative engagement with the teacher education institutions, schools, as well as universities via the faculties of education.

The Intel Teach Essentials Course equips in-service teachers with skills for integrating technology into teaching and learning, enabling teachers to guide students to undertake research projects with the help of technology. Students also gain 21st century skills such as critical thinking, collaboration, and communication skills in addition to research and ICT skills. Since its adoption by the school, the Intel Teach Essentials Course has helped transform the learning experience by giving teachers a boost in confidence in the use of ICT in the classroom and the skills they needed to increase the relevance and “meaning” of their lessons through the use of the innovative pedagogy. Hasimah sees a continuous role for this program in assisting teachers to help students prepare for the challenges of the future.

“The students of today and tomorrow have a vast playground, which can include cyberspace. Schools should be preparing students for the real world,” she said. “If teachers refuse to be creative and innovative, the students will be left behind. Hence, the Intel Teach Program has a transforming role in addressing these challenges.”

Best Practice

Adopt a broad, integrated approach

The policy support provided by the school administration, the teacher professional development efforts, the changes in curriculum and assessment methodologies, and the use of ICT all contributed to the success of the program in Miri.

Create a local, sustainable support network

The Miri example illustrates how the school worked to involve all the teachers in the program to create a systemic change in the way they approached the teaching and learning process. The support from the school administration, the efforts to share their experiences with other schools in the region, and the efforts to engage the parents in understanding and supporting the schools efforts are all vital.

Teachers are the magic

Sustained change in the classroom depends on professional development that can help teachers learn how structure lessons to promote 21st century skills and to integrate technology into their instruction plans.

Intel® Education Initiative

The Intel Education Initiative is Intel's sustained commitment to prepare all students, anywhere, with the skills required to thrive in the knowledge economy by improving teaching and learning through the effective use of technology and advancing math, science, and engineering education and research. Through a sustained public-private partnership with educators and governments in more than 60 countries, Intel works with international organizations and governments at an international, national and local level and invests approximately USD100 million per year in education programs adapted to address the needs of each country to advocate for 21 century educational excellence through policy work and awareness efforts.

- For more information on the Intel Education Initiative, please visit : www.intel.com/education
- For more information on the Intel Teach Program, please visit : www.intel.com/education/teach

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