



3. Microsoft Partners in Learning Programme in Five ASEAN Countries

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Introduction

This case study describes the Microsoft Partners in Learning (PiL) initiatives in the area of training teachers to utilize information and communication technologies (ICT), in five Association of South East Asian Nations (ASEAN) countries: Indonesia, Malaysia, the Philippines, Thailand and Viet Nam. The case study also examines the impact of the PiL programme on education communities, and its contributions in driving the integration of ICT into education in these five countries. The study further illustrates the value of sustainable corporate-community partnerships in enhancing ICT in Education initiatives.

Background

The difference between communities with and without access to the latest technology (the “digital divide”) is both significant and troubling, manifested in both quality of life and economic development. In an attempt to narrow this digital divide, Microsoft has devoted US\$253 million to its Partners in Learning (PiL) initiative. Under this initiative, Microsoft establishes partnerships with Ministries of Education, national and local Government bodies, and other stakeholders to develop ICT capacity among educators around the world. This multi-faceted approach aims to increase access to information and improve digital literacy.

This case study presents examples from the PiL Learning Grants teacher training schemes in five ASEAN countries, illustrating successes as well as areas for improvement – information potentially applicable to other teacher training initiatives in the Asia-Pacific region.

PiL goals are two-fold: skills development and pedagogical transformation. In each of the countries it has been implemented in, the PiL Learning Grants framework is adapted to suit specific needs.

PiL Teacher Development Project

The focus of this study is the “teacher development” project of the PiL Learning Grants framework, the most popular of the projects developed in each country. Basic Skills and Advanced Skills training courses for teachers have been held in each of the five ASEAN countries. In addition, online community portals, designed to facilitate sharing of lesson plans and teaching materials among teachers and school leaders have been set up in each country. Furthermore, because professional development for school leaders is a significant component of effective integration of ICT into education, PiL “Leadership in the 21st Century” modules have been offered in four of the five countries.

The implementation of PiL in the ASEAN countries is relatively recent; most countries officially launched their initiatives from late 2003 to mid 2005. PiL has nevertheless made significant inroads in improving teaching and learning using ICT in schools. Its areas of impact include curricula, professional development of school staff, improved school ICT culture, teacher use of ICT for teaching, and student use of ICT for learning.

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PiL has been notably successful in improving Basic ICT Skills, reaching large numbers of teachers who then teach others. Peer Coaching has also been effective in every country in this study. The impact of PiL is also evident in changing pedagogical methods, but will require a long-term commitment to effect lasting transformation in education.

Although the approaches for implementing the PiL initiative vary among the five countries, and the levels of ICT use in teaching and learning differ, there are similarities in the experiences of implementation. The areas in common are as listed below.

- ICT integration is a key component of national education goals in most countries. However, in many cases, there is little availability of instruction in ICT skills for students.
- Lack of funding continues to be an obstacle in every country, and rural and remote communities continue to be plagued by weak infrastructure.
- In many countries, there remains an ongoing need for ICT learning resources in local languages.
- In many public school classrooms, the prevailing pedagogical practice is best characterized by rote learning and a teacher-centred approach. ICT learning is student-centric and community-based; thus conventional, ingrained pedagogical habits need to be dislodged—with cultural sensitivity—for ICT training to be effective.

The country-specific sections of this study identify the unique features of the PiL programme in that country and the impact of the teacher training programmes, and offer lessons that are potentially applicable to others.

There is growing recognition of the importance of public-private partnerships for sustainable development. Governments increasingly recognize the need to engage local and multinational companies in their efforts to transform the daily lives of their citizens. Yet if such engagements are to have long-term sustainability, long-term partnerships, rather than patchwork solutions, are called for.

Innovation is the central theme that governs the PiL programme in terms of scope and implementation. Firstly, although the Partners in Learning initiative is a global programme, it has been designed to incorporate local requirements and needs in the way projects are designed and in terms of scope. This is a critical step to ensuring that the projects are relevant to local community needs. Secondly, there is evidence from the various country implementations that suggest that the Partners in Learning initiative facilitates important cross-group collaboration, not only between different divisions of the Ministry of Education in each country, but also between other stakeholders in each country's education communities. Thirdly, while we believe that the provision of teacher training is an essential component of the initiative, nevertheless, it is important to move beyond a "training mentality" and embrace a longer term professional development approach through the establishment of a coaching/mentoring environment in schools, or even at the district or national levels.

The concluding section of the study identifies successful elements shared by the various country programmes, as well as weaknesses, and discusses obstacles and challenges. The hope is that this case study, illustrating a series of innovative corporate-community partnerships toward productive educational change through the integration of ICT in the teaching and learning process, will be useful

for the many stakeholders in community development and education in the Asia-Pacific region who can learn from the PiL projects and implement similar initiatives.

Indonesia

Background

The Government of Indonesia is concerned about the low use of ICT in teaching and learning in schools. Although ICT is an essential component of the 2004 national curriculum, not all schools are able to use ICT. This is because of the lack of sufficient hardware and software in Indonesian schools. Furthermore, schools lack ICT-literate teachers and the ability to develop ICT-based learning materials.²⁹

In the financial year of 2005, the projected and achieved targets of four key projects were as follows:

- 75,075 teachers and school leaders were trained;
- 574,000 students were reached by the curriculum;
- 37,580 (far exceeding the proposed 20,000) assessments and certifications were completed;
- 5,000 schools implemented a student help desk programme.

The PiL Indonesia programme

On 1 November 2003, Microsoft signed a memorandum of understanding (MOU) with the Indonesian Ministry of Education (MoE), valid for a period of five years. The PiL partnership with the MoE focuses on increasing ICT proficiency throughout Indonesia, and narrowing the technological gap between Indonesia and its neighbours.

Goals and practices focus on working with and supporting the Government of Indonesia, as well as industries, communities, NGOs, policy makers, partners and media to:

- develop the nation's ICT capacity;
- provide schools with affordable PCs equipped with licensed software;
- formulate strategies for achieving higher levels of ICT proficiency;
- accelerate the process of improving ICT proficiency;
- assist teachers by developing course materials that use ICT in the classroom.

PiL works closely with the national government with respect to its ICT Masterplan in Education, and from this close working relationship, significant goals have emerged. These include:

- Professional development of teachers, from basic ICT competency to advanced competency;
- Design of a national curriculum of ICT-literacy for K-12 students.

In order to ensure that the MoE was not favouring any one product, Microsoft products were not mentioned in the curriculum and standards. To support the delivery of the curriculum, PiL also co-developed (with the MoE, teachers, teacher educators and private sector) a set of materials to be used to meet curriculum objectives. All these activities were initiated and overseen by the working group in the MoE.

Microsoft Indonesia has created strong and sustainable partnerships with universities and teacher education institutions in Indonesia. Microsoft Indonesia also has valuable partnerships with non-governmental organizations (NGOs).

²⁹ Lim, 2006, p.5

Overview of pedagogical issues

In many public school classrooms, rote learning and deference to the teacher's authority best describe the prevailing pedagogical practices. Also, a tendency persists to teach ICT as a separate course, rather than as an integrated feature of education.

Further, the country's diverse ethnic mix necessitates localized curricula to supplement the national curriculum. Most of the teaching and learning resources were translated from English, and the materials were localized to make them more familiar to Indonesian students.

Issues and challenges

Problems identified locally, but which have widespread application include:

- Lack of access to computers in schools or at home for many teachers, therefore computers are not yet part of their lifestyle;
- Difficulty in encouraging informal dialogue among teachers to teach one another; and in devising means of making ICT-use routine, such as requiring lesson plan submission via email;
- Many of the older teachers tend to shy away from ICT (the average age of the teachers in some schools is about 50 years).

Additional issues raised by teachers include the lack of a physical office or virtual space to meet, suggesting that Microsoft Indonesia may need to provide a common meeting place. Finally, the lack of a big picture of the PiL project and knowledge of the activities of other agencies hampers planning. Better coordination is needed between agencies to exchange information and to avoid wasting resources.

Innovative practices used in the PiL programme

The Peer Coaching programme trains master teachers to integrate ICT into the curricula and to train and mentor other teachers at their school. Described by one participant as a "bottom-up" approach, teachers are empowered to participate in their school's education policy. The programme acknowledges that teachers are best-qualified to tailor ICT planning in terms of their specific school needs.

The success of Peer Coaching is partly attributable to the selection of subject-area specialists, as teachers are "more likely to buy into the use of ICT in teaching and learning when they can see the use of ICT within their own subject areas". Peer Coaching can be credited with generating the "cascade effect" of ICT use in schools in Indonesia.

Examples of best practice

Despite his extensive subject-area knowledge and pedagogical skills, Teacher A, a high school biology teacher, was nevertheless almost completely lacking in ICT skills. He was identified by a Microsoft PiL Advisory Committee member to attend the Peer Coaching programme. There, he was completely won over by the concept of Peer Coaching and the need for ICT use in the classroom. When he returned to his school after the training programme he immediately set about transforming the science curriculum, training fellow teachers and students, and integrating ICT into all facets of the school culture.

A best practice example of the cascade effect can be found in School A. In this school, peer teaching is prominent; ICT is used for school work and after-school activities, administration, and in daily life. The ICT team has constant dialogue with the teachers to shape the ICT vision of the school. The increasing use of ICT by the students has also changed the learning culture of the school, as teachers are no longer viewed as the sole source of knowledge and expertise.

Conclusion

PiL Indonesia has been most effective in three areas:

- Promoting the development of an ICT curriculum in the schools;
- Professional development of staff;
- Increasing presence of ICT in school culture – including collegial exchanges of knowledge and active student learning.

The findings in this country study suggest the positive impact of the PiL initiative and the lessons that can be applied elsewhere. However, challenges remain. PiL should continue to facilitate dialogue among major stakeholders; should undertake tracking and monitoring of teachers who have undergone the professional development programme, to measure success; and should provide post-training support, as teachers need on-going technical, administrative, and pedagogical support.

Malaysia

Background

No official ICT Integration Masterplan exists for Malaysian schools. However, a 1997 Smart Schools blueprint is regarded by some as a de facto ICT Integration Plan, as it emphasizes the centrality of ICT in future learning environments.³⁰

The Ministry of Education (MoE) of Malaysia reports that 50 percent of schools are equipped with computer labs (99,000 computers and 4,600 servers) and 95 percent have broadband connection. In addition, the MoE has provided selected schools with 97,000 laptops and 70,000 LCD projectors, and have provided English-language courseware in the subjects of Science and Mathematics, for Forms 1 to 4, in all schools throughout Malaysia. Eighty-eight schools in Malaysia are taking part, as pilot schools, in the “Smart Schools” initiative, which seeks to promote ICT use in schools. Many Chinese primary schools have acquired their own hardware and software through the financial support of their Parent-Teacher Associations and the community...

In 2005, the PiL project had achieved the following:

- 6,324 teachers and school leaders were trained;
- 950 students were “reached” by the curriculum;
- five partners were engaged;
- 100 assessments were completed;
- 18 Innovative Teachers were registered.

But these numbers do not tell the whole story. Since August 2004, 46,000 teachers have been trained under the Bimbingan Perguruan Profesional dalam Teknologi (BPPT) partnership programme.

³⁰ Gan, 2006, p.3

Furthermore, 18,000 teachers have been trained to use laptops as part of the Teaching of Mathematics and Science in English (PPSMI) Laptop Roll-Out project.

The PiL Malaysia programme

On 20 June 2004 an MOU was signed with the Malaysia MoE, outlining ten broad project areas. The PiL activities in Malaysia focus on programmes endorsed by the Government of Malaysia.

The PiL programme works with the national education authorities to provide software to schools at a discount, and collaborates with ministry officials to organize training programmes for teachers. PiL provides training curricula and materials, while the MoE identifies participating schools and teachers, and organizes workshops. PiL facilitates meetings between the Curriculum Development Centre, MoE and international organizations.

Several types of professional development programmes for teachers are available, including the Student ICT Help Desk programme, the Peer Coaching programme, MyGuru Portal, and the Laptop Roll-out programmes. Problem-Based Learning (PBL) and *empowerICT* are programmes designed to promote new pedagogical practices using ICT (30).

PiL has contributed significantly to the success of several MoE projects. Successful programmes include Student ICT Help Desk Project, ICT Innovation Program for Chinese schools, BPPT Partnership Project and the PPSMI Roll-out Project. The impact of other projects, while not apparent now, will be tested in the near future. These include: the Curriculum Project, the Peer Coaching Project, Smart Education Partnership Project (MyGuru Portal) and the impending Leadership Development Project.

Issues and challenges

No ICT curricula are available, nor are national standards for student's ICT competency available. However, despite the lack of policy changes, pedagogical changes are taking place; student self-assessment, for example, has been introduced in the Chinese schools, whose teachers are being trained in PBL.

Examples of best practice

Teacher B, winner of the 2005 Microsoft Innovative Teachers Competition, attended a Problem-Based Learning (PBL) training workshop. Following the workshop, Teacher B helped to integrate PBL experiences into co-curricular activities for students in her school. Her award-winning project involved a team of six teachers and 400 students in a PBL activity. Press coverage of her award helped generate positive buy-in from other teachers for a PBL training workshop.

School B, an overcrowded Chinese school in suburban Kuala Lumpur offers two best practices examples. The school is a self-made Smart School. It engaged the services of a private company to set up computer labs (each with 27 computers, LCD projector and Internet access) and equipped each of its 25 classrooms with a PC and a TV or an LCD projector. The community and the Parent-Teacher Association contributed funds for this purpose. Each family pays a nominal monthly fee for purchases and services. The school provides fee-waivers for students whose parents cannot afford to pay to help ensure that no student is denied the opportunity to use ICT in school. Other schools have sent teams to visit and learn from School B, which acts as a catalyst in the community for ICT-enhanced teaching and learning.

However, in spite of its success in obtaining equipment, School B is not entirely successful in integrating ICT use into teaching and learning. In particular, while both the principal and the teachers in this school recognize the value of PBL, and the school consistently sends its teachers to training workshops, parents do not recognize the value of PBL and generally perceive it as a time-consuming activity that detracts from the more important goal of “completing the syllabus. Teachers are under pressure from parents to deliver good examination scores, and therefore most teachers rarely integrate PBL into their teaching.

A suggested solution to this issue is to make PBL a part of the weekly compulsory after school co-curricular activity. In this way, all students in the school will have a chance to benefit. These co-curricular classes are team-taught, thus permitting teachers who have not had formal PBL training have the opportunity to learn from their peers who have received training.

Conclusion

The PiL project in Malaysia has found that:

- Good leadership is vital for developing and sustaining a positive and supportive ICT culture in schools, and leadership development is urgently needed for many school leaders.
- Support from all stakeholders is an important factor in sustaining an ICT culture in schools.
- Sound planning, timing, and sequencing for professional development programmes will make training more effective.
- PiL should make available the software, quality courseware, and other resources that support and meet curriculum needs.

The Philippines

Background

Integrating ICT into basic education is a stated national education goal of the Government of the Philippines. An ICT Integration Masterplan in basic education lays the groundwork for shifting to learner-centered pedagogy. In the Philippines, PiL objectives are to assist the Government in building a 21st-century education system, featuring a systematic, sustainable ICT-based learning environment.³¹

In 2005, the PiL project had achieved the following:

- PiL has partnerships with 164 universities and colleges;
- 3,051 teachers and school leaders have been trained;
- an estimated 347,000 students and 13 of 17 regions have been reached through the cascade effect;
- Ten teacher training and support programmes have been created.

The PiL Philippines programme

In 2003 an MOU was signed with the Department of Education (DepEd). PiL Philippines projects involve dynamic, productive partnerships with the national and local governments, and PiL works closely with DepEd in implementing most of its projects. In addition, Microsoft Philippines has productive relationships with several private organizations and NGOs.

³¹ Quimbo, 2006, p.5

The DepEd permits teachers to use their official time to participate in PiL projects, thereby encouraging professional development. The DepEd also permits travel expenses to be charged, and local community groups such as PTAs often pay for meals and supplies and materials, indicating an important dimension of community involvement in teacher training.

Stakeholders have recommended more systematic involvement from the DepEd, including formal recognition for teachers who attend ICT-related courses. Furthermore, it was recommended that the DepEd should introduce ICT systematically into school curricula, and appoint full-time ICT coordinators in schools.

Issues and challenges

As in other countries, older teachers showed some reluctant to “leave their comfort zones”. To compound this problem, younger teachers are often uncomfortable mentoring their elders.

Innovative ICT practices used in the PiL programme

“Tech-mentors” train fellow teachers in ICT basics, as well as in the effective use of ICT in teaching. Of the projects conducted in the Philippines, the most successful have been those planning and implementing ICT-related activities involving tech-mentoring.

In many cases, both teachers and students find technology-enhanced education more stimulating than conventional education. Teachers observe that technology enhances their work, re-kindling their interest in engaging their students. Teachers also observe that ICT enhances the learning process for students, increases student-interest in lessons, and encourages self-directed learning. Students may acquire greater satisfaction from experiential learning, and enjoy their technology-enhanced projects more.

As a result of receiving training in ICT skills, teachers and students have become animated about learning, citing an open-minded outlook as one of the by-products of the training. Learning is no longer thought of as confined to classroom. Sharing information with other students, researching on the Internet, and taking part in ICT-based collaborative projects with students from other countries allows students to broaden their academic horizons and learn from other cultures. Use of ICT in the classroom also promotes creativity, critical thinking, and ownership of the learning process.

Examples of best practice

Teacher C, the ICT Coordinator at her school and recipient of an Innovative Teachers Leadership Award, attended a Peer Coaching seminar. Following the seminar, in her capacity as the tech-mentor for her school, she designed a curriculum to help train ten colleagues in ICT-integration, generating a great deal of enthusiasm for ICT among fellow teachers.

Teacher D, teaching in mountain province general comprehensive high school, assisted her students in creating a website showcasing the local Igorot cultural achievements. She reports feeling humbled by what the students achieved in utilizing ICT to help spread knowledge about this dwindling ethnic group.

Conclusion

These are the recommendations for the PiL programme in the Philippines:

- The PiL programme should continue beyond the five-year commitment. Five years is believed to be too short to create a lasting impact in the education system.
- To sustain ICT use in schools, PiL recipient schools could serve as flagship schools for nearby schools with zero or limited use of ICT in teaching and learning. Trained teachers could train or mentor teachers in the other schools.
- Greater exposure of master trainers to information about how other countries are implementing the PiL programme can help them in performing their training roles. A conference in which master trainers can come together to share their experiences of PiL implementation would be a useful experience for teachers.
- Longitudinal studies into the use of ICT in classroom practice in relation to student performance are needed. Tools are also needed to assess application of ICT in subject areas.
- There may be a need to foster closer working collaborations between PiL and DepEd at the school division level for greater recognition of PiL initiatives and how these activities create an impact on the teachers and the schools.

Thailand

Background

The first National ICT Masterplan for Thailand was implemented in 2000. The second, IT-2010, focuses on sustaining the first Masterplan's achievements. The Ministry of Education (MOE) has a number of programmes in place designed to support the Masterplan, which calls for the networking of all education institutions by 2010, and for ICT integration to have increased by 30 percent over current levels.³²

PiL's efforts in Thailand have focused on skills-building for teachers and students, in particular in advancing teachers' ICT knowledge so that they can teach ICT skills more effectively; using education opportunities to stimulate development of a local software economy; and building awareness of intellectual property rights.

Since December 2003 the PiL project had achieved the following:

- 22,682 teachers and school leaders have been trained in various aspects of ICT literacy, from basic skills (16,575) to training in Peer Coaching (820); as master teachers (336) and in the school leadership programme (18).
- The PiL programme provides participants with the necessary hardware, software, trainers, and documents, and operates in 84 training centres in five regions of the country.
- The Peer Coaching programme, implemented in 2004, has over 800 teachers (64).

The PiL Thailand programme

On 17 September 2003 an MOU was signed with the Thai Ministry of Education for a five-year programme to impart ICT skills in schools nationwide. PiL Thailand works closely with the national and local education authorities to identify training needs, localize curricula, and identify teachers for training. PiL also works closely with several intergovernmental and non-governmental organizations (NGOs) in

³² Lertchalolarn and Suwannatthachote, 2006, pp. 5-6

Thailand. With UNESCO, PiL collaborates on several ICT activities, including the successful *SchoolNet* and *Next Generation of Teachers* projects. PiL worked with ECPAT International to add the topic of “Child Online Safety” to the training programme for the annual Microsoft IT Youth Challenge Camp. PiL also supports Her Royal Highness Princess Maha Chakri Sirindhorn’s IT projects, including “IT for education in rural areas”. PiL has also collaborated with the Southeast Asian Ministers of Education Organisation (SEAMEO); and works with the Intel Teach to the Future programme. In April 2006, the joint programme trained 600 teachers in Peer Coaching.

Issues and challenges

The two key areas of concern identified by the MOE and PiL are teacher computer literacy, and the failure to go beyond computer classes and integrate ICT into subject areas.

While basic computer literacy is required for all teachers, including the ability to develop new instructional media and integrate it into teaching and learning, many teachers lack such skills. Furthermore, teachers who possess basic skills need training in ICT integration.

A bureaucratic top-down approach is ineffective in the Thai context. Instead, working directly with each education service area and with teachers has proven effective (35 offices have participated thus far). For example, in 2004, problems were identified with the training sites. By working directly with local authorities, PiL solved the problems, and over 16,000 teachers were trained..

Schools with an average teacher age of over 40 years found it hard to train teachers in advanced ICT skills, in part because heavy teaching loads leave teachers with little time to practice new skills.

Cultural factors must be accounted for when designing training activities. The following issues were frequently encountered:

- The emphasis in Thai culture on harmonious relationships and on elders instructing younger people complicates ICT training. While younger teachers tend to be more open to learning new technologies and practices, they are uncomfortable in coaching teachers who are older than they are.
- Peer Coaching has proved useful in the Thai context, building on an established cultural practice of sharing among friends and families, but a “soft approach” is needed to convey training and feedback.

Examples of best practice

Teacher E, a primary school science teacher whose use of ICT in teaching had been limited to assigning students to search for information or images on the Internet, attended a basic computer training programme. The pedagogical shift was rapid. Following the training, the teacher integrated ICT into two-thirds of his science lessons. His students now request additional computer lab time during lunch and before school in order to work on their projects. So impressive are the learning benefits for students that the school opened a second computer lab, and Teacher E has been asked to train other teachers.

ICT is well-established at School C, a large secondary school in central Bangkok, which was selected as a pilot school in the *empowerICT* project. One teacher at this school became a trainer for Peer Coaching, was selected as a 2004 “Innovative Teacher” and has been trained in several projects under the PiL programme. Teachers at this school are now encouraged to increase their use of ICT in their administrative work and in classroom teaching.

School C has focused on generating group ICT projects by students, to build the school's electronic library. Student groups, with the assistance of teachers, worked on projects which, when finalized, were uploaded to the school's website. Through such collaborative projects, the students, already computer-literate, have cultivated new ICT skills, and are highly motivated to participate in ICT competitions. The school wins many awards and has national recognition, and has been selected for the APEC programme: ICT Model School,.

Conclusion

The key points to consider regarding PiL's activities in Thailand are as follows:

- PiL offers training at three levels, but large numbers of teachers still require training. Many teachers who are computer literate are still weak in ICT integration. PiL should address these needs.
- PiL training programmes have positively affected schools by promoting ICT culture. Students are enthusiastic about ICT, and one of the IT Youth Challenges received more than 1,000 submissions. More teachers are using ICT in their teaching, which has led to the development of higher order thinking skills for students.
- New strategies are needed for the public relations of the PiL programme. Teachers commented that the image of the PiL programme is not recognized as much as it should be. Media exposure is helpful, as teachers recognize the brand, generating buy-in.
- The PiL online portal functions as a static bulletin board, rather than as a dynamic community. More publicity for the portal is needed and more resources should be directed to it.
- PiL Thailand needs to work towards sustainability. It has been pointed out that the PiL programme has started many pilot projects. Rather than continuing to initiate new projects, it has been recommended that PiL should consolidate and continue to support its existing programmes.

Viet Nam

Background

The ICT Masterplan 2001-1005 developed by the Government of Viet Nam focuses on infrastructural needs and on developing technical expertise for computer-related activities (Wong, 2006, 5). As a developing country with limited ICT school resources, Viet Nam's PiL objectives are centered on the professional development of teachers and principals, including Basic Skills training for teachers, Peer Coaching, ICT integration, and leadership skills for school leaders (7). Since 2005, 100 teachers and school leaders have been trained in various aspects of ICT literacy; 60 teachers have been registered as innovative teachers, and five advisories have been established (3).

Though 90 percent of high schools have PC access, in the lower secondary levels, only 30 percent of schools have computers. This figure is even lower in primary schools.

A PiL MOU was signed in June 2005 with the Ministry of Education and Training (MoET) for a five-year programme to organize training course for teachers, imparting ICT skills and teaching methods in 15 cities and provinces (8).

The PiL programme in Viet Nam

As the MoET lacks a professional ICT training programme, PiL fills this gap, offering Basic Skills training for teachers (21) and working closely with the MoET. The MoET identifies teachers for training, and recommended five teachers from each school, instead of the one as PiL requested. Targeting fewer schools more effectively has proven the better strategy as five teachers can provide one another peer support (21).

PiL works successfully with Hanoi National University of Education, the main teacher training university in the country, developing courses on new teacher training and incorporating ICT training into teacher training modules (22-24). This productive partnership positions PiL well for teacher buy-in. PiL Viet Nam has a strong and helpful Advisory Council that offers sound advice and strong leadership to the programme (45). No direct partnerships with NGOs currently exist in Viet Nam (22).

One of the first and most productive tasks accomplished by PiL Viet Nam was to translate all training materials from English, making the materials widely available. Though a young programme, PiL Viet Nam has been successful in getting schools to start using technology. Teachers who have attended the various training courses have applied what they have learned to their teaching, and schools have shown interest in the use of ICT. Principals are increasingly aware of the power of technology to help students and are more willing to support the teachers in this area. At the national level, officials are motivated to commit more funding and support the use of technology in schools.

An ICT culture is developing in Viet Nam's urban areas. Students learn computer skills outside of school, and are comfortable with various applications, including email messaging, chat, and games. Use of ICT is more active in high schools (where it is compulsory) than in primary schools.

Many teachers in Viet Nam have been enthusiastic about learning ICT skills. For example, 200 teachers attended a Basic Skills training session, even though the session was held during summer vacation. At the training session, they learned Internet skills, PowerPoint, and were introduced to the PiL Portal. Teachers with good aptitude were selected for Peer Coaching and ICT integration modules.

Issues and challenges

- As MoET controls the national curriculum, PiL materials cannot be used in schools; thus the PiL work in Viet Nam is exclusively focused on teachers.
- Many teachers remain unfamiliar with computers and the Internet. Lack of Internet access at schools is believed to be a major factor restricting teachers from gaining Internet skills.
- It is believed that use of ICT in primary school is unnecessary.
- Budgetary constraints limit ICT availability in the lower grades.
- Teachers use ICT for administrative purposes, but seldom for teaching. When ICT is used in teaching, it tends to support frontal teaching. However, there are signs that PiL is affecting pedagogy, as some project-based learning has been taking place.
- With only one computer per classroom in some schools, many teachers feel that ICT is not useful in teaching.
- As the language of instruction is Vietnamese, the training materials need to be customized accordingly.

- Working at the district level rather than at the national level proved easier to garner support from teachers and schools for training.
- The PiL Portal is a useful first step toward developing a teaching community. The portal was developed to support the e-Learning initiatives in Viet Nam and supports teachers by providing electronic content, best practice examples, and access to the Innovative Teachers' Network. However, difficulties remain:
 - ▶ the site remains unstable, and the network tends to be slow;
 - ▶ worldwide examples on the site are in English.

Examples of best practice

Teacher F, who attended ICT integration training and Peer Coaching training, is now a Master Trainer, and has peer coached other teachers in project-based teaching. She assists other teachers in Basic Skills training and her students are able to confidently prepare lively PowerPoint presentations.

Teacher G, a biology teacher, gave a lecture using the PowerPoint program and Flash animation to show transpiration in plants. Though the mode of instruction was teacher-directed and frontal, nevertheless the teacher was able to utilize ICT to present a lesson in an engaging way.

School D in Hanoi, is well-equipped with computers and projection systems. Its students are high-achievers, many of whom are preparing for foreign university exams. All students receive ICT instruction.

Conclusion

The PiL project in Viet Nam recommends that:

- Although there is an ongoing need for Basic Skills training for teachers, PiL Viet Nam should shift from offering Basic Skills training to ICT integration training, as many teachers now have basic skills but are ill-equipped for applying their skills to teaching.
- PiL should better utilize available computing facilities in high schools, conducting in-house training using peer-coaching approaches.
- PiL should also offer regular short training courses during the term, rather than once-yearly training during the summer vacation.
- PiL should provide resources and assistance for schools for developing ICT strategic, implementation and training plans for schools.
- PiL should assist teachers in developing simple ICT-based learning materials in Vietnamese.

Summary and Conclusions

The impact of the PiL programme in the five ASEAN countries has been both positive and widespread, driving integration of ICT into education. Teachers in each of the five countries felt that the training was useful and officials, noting the success of these projects, are committing more funding and support for technology in schools. Feedback from most countries indicates that the PiL initiative has helped to achieve wider use of ICT in teaching and learning, and has encouraged other educational initiatives as well. Other positive outcomes of the PiL programmes include enhanced cooperation between businesses, government, NGOs, universities, and other local stakeholders.

For programmes to be sustainable, attention needs to be paid to the cultural context and teachers and parents should be recognized as key stakeholders. The flexible framework of the PiL Learning Grants initiative has served each country well in adapting to local needs and stakeholder concerns.

The importance of training teachers in integrating ICT into teaching cannot be over-emphasized. It is necessary to recognize teachers require skills and knowledge in a range of areas. Teacher training programmes therefore need to be developed accordingly.

For teachers who are new or just beginning to use ICT in their teaching, attention should be paid to assisting these teachers to acquire skills which enable them to explore and discover new ways of utilizing ICT in their classes. Although these teachers need to acquire certain fundamental ICT skills, the emphasis needs to be placed on how these skills can be applied in teaching. It is necessary to assist teachers to utilize their ICT skills to enhance education. Training programmes should therefore show teachers how to achieve specific educational objectives through the use of ICT.

In addition to the imparting skills and information to students, teachers often play a leadership role. This means that it is important to select the right teachers for peer-coaching workshops. The teachers who attend these training courses will serve as models for others.

ICT can transform both the learning and the teaching processes and facilitate autonomous learning. In general, ICT are most useful when they are used to support educational goals. It is therefore best to avoid isolating ICT as a separate subject.

Peer Coaching has proven to be an effective means of gaining acceptance of ICT among educators. However resistance to new technologies is pervasive. Factors contributing to resistance include – preconceptions about new technologies. For example, older teachers tend to be less accepting of new technologies, less willing to move out of their comfort zones and try new things, and less willing to take on extra work. Such obstacles can be overcome by demonstrating how simple it can be to use new technologies and assisting teachers to make the transition gradually.

Similarly, because the use of ICT requires teachers to give up a measure of control over information, some teachers may be unwilling to utilize it in the classroom. Likewise, cultural views can serve as obstacles to the uptake of ICT in education. For example, older teachers may resist learning from younger teachers, and younger teachers may be unwilling to teach older people for fear of showing disrespect. Care must be taken to take cultural views into consideration when planning ICT training, so as to find ways of overcoming obstacles.

Ongoing challenges include:

- The use of ICT remains low in many classrooms despite the increase in availability of hardware and software, because of insufficient teacher training. It is clear that additional forms of teacher training are required in order to integrate the use of ICT into classrooms. Professional development for teachers and school leaders must be ongoing and must cover a range of areas, including pedagogy.
- Rural and remote schools continue to function at a material disadvantage to their urban counterparts.
- Lack of sufficient learning resources in local languages serves as a disincentive to learn to utilize ICT.

The following are some recommended means of addressing such challenges:

- Design and develop a change management process, starting with policy and decision makers, to facilitate the connection between policies, practice and the people who are needed to make it happen.
- Facilitate the development of schools and school principals as change agents and provide the relevant professional development to the senior leadership of schools.
- Adopt new policies and award-programmes that recognize and reward teachers who excel in using ICT to enhance the quality of education.

While some of the above suggestions may take time to be implemented, optimism is nevertheless warranted, based on the enthusiasm of teacher and students in the five ASEAN countries studied. It is clear that while challenges remain, the Microsoft PiL initiative is helping ASEAN nations to bridge the digital divide.

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