

**A Journey Towards Building a 21st Century School:
The San Isidro National High School Experience
by Divinelinda E. dela Cruz and Eden Samadan**

Rapid advances in technology have changed the way people live and gain information. Technology in this era continues to revolutionize teaching practices and management in schools. It is therefore, a challenge for schools in the 21st century to make their institutions ready for the demands of the times. UNESCO has presented a model for ICT development in institutions that shows a continuum of approaches to ICT development. This involves the emerging, applying, infusing and transforming stages:

Emerging

Institutions at the initial stages of ICT development demonstrate the emerging approach. Such institutions have just started their journey in the ICT field with a skeleton computing infrastructure. To start with, administrators and teachers just begin to explore the possibilities and consequences if using ICT for institutional management and adding ICT to the curriculum. Institutions at this emerging phase are still firmly grounded in traditional, teacher-centered practice. The curriculum reflects an increase in learning how to acquire ICT basic skills such as office automation, e-mail and basic operation of computers, so that it prepares the ground for moving to the applying stage.

Applying

Those institutions, in which a new understanding of contribution of ICT to learning has developed, exemplify the applying approach. In this secondary phase, administrators and teachers use ICT for tasks already carried out in the institutional management and the curriculum. Teachers largely dominate the learning environment. Institutions at the applying approach phase adapt the curriculum in order to increase the use of ICT in various subject areas with specific tools and software such as drawing, designing, modeling and application of specific tools. This curriculum assists movement to the next stage, if so desired.

Infusing

At the third stage, the infusing approach involves integrating or embedding ICT across the curriculum, and is seen in those institutions that now employ a range of computer-based technologies in laboratories, classrooms and administrative offices. Teachers explore new ways in which ICT changes their personal productivity and professional practice. The curriculum begins to merge subject areas to reflect real-world applications.

Transforming

Institutions that use ICT to rethink and renew institutional organizations in creative ways are at the transforming approach. ICT becomes an integral, though invisible, part of daily personal productivity and professional practice. The focus of the curriculum is now learner-centered that integrates subject areas in real- world applications. Institutions have become centers of learning for their communities. Teachers and other staff members regard ICT as a natural part of the everyday life of the institutions that they begin to look at the process of teaching and learning in new ways. The emphasis changes from teacher-centered to learner-centered. Teachers, together with students, expect a continuously changing teaching methodology designed to meet individual learning objectives.

UNESCO, 2005

San Isidro National High School, an educational institution located in the gateway of Makati, has always believed in providing the best education to the Filipino youth to enable them to be productive and globally-competent citizens. Since 2004, the school has taken initiatives for the improvement of management and pedagogical practices. These initiatives involve various aspects like infrastructure building, curriculum design, data management, faculty professional development and student development. All these initiatives are anchored on the vision and mission of the school.

This paper narrates experiences of San Isidro National High School in its journey towards building a 21st Century school.

Looking at the Horizon

All journeys begin with a vision—a mental picture of what is expected to see in the final destination. For intuitions, visions must be shared by all members because synchronous efforts are essential in attaining its goal. In the past SINHS patterned its vision after the division of Makati's vision:

We in DEp-Ed Makati envision learners who are intellectually equipped, upright, morally, physically fit, technologically competent, adaptable and disciplined to meet the demands of highly-urbanized community, truly concerned in preserving ecological balance.

To compliment this vision, we provide a school system whose personnel are competent, committed, self-directed, innovative, empowered and accountable to the public it serves.

Vision of DepEd Makati

Since SINHS has gained independence in 2001, it didn't have a clear and personal vision until November of 2005 when the administrators, faculty, PTA, LGU representatives, SSG, and other stakeholders gathered in a series of forums to draft the shared vision of the school. Several factors were considered in the formulation the school vision. The prime factors are the nature and needs of the learners. Another factor is the needs of the community. Since our community is a business community, learners should be educated in a way they would be prepared to contribute to the community. This vision was further supported by its mission:

By year 2010, San Isidro National High School is envisioned to be the prime center of development for communication, technology and academics. It shall be a student centered institution that provides learners opportunities to discover, to realize and to develop their full potentials as productive and responsible members of the local and global community.

New Vision of SINHS, 2005

To provide a sustainable ICT -enabled learning environment geared towards the holistic development of learners to be critical thinkers, effective communicators, skillful individuals and morally upright members of society imbued with a strong love for God, country and fellowmen.

New Mission of SINHS, 2005

Having a time element in the vision provides focus for its realization. The vision is set in a five-year time since learners needs change as time changes. A 5-year ICT strategic plan which includes goals and strategies was crafted to attain this vision. These goals include various aspects like curriculum and pedagogy, infrastructure building, faculty development, student development, and data management:

1. Seamlessly integrate ICT in teaching and learning process
2. Structure classrooms and facilities to fit requisite of an ICT-enabled learning environment
3. Equip teachers with ICT skills needed to improve the quality of classroom instruction
4. To improve access, collection, analysis and dissemination of information by developing an efficient internal data management system

Paving the Way

Infrastructure building plays the most essential role in building the school for the 21st century. Thus efforts have been made to make ICT available and accessible in the school. Through the support of the LGU, PTA and other donors, the school has acquired various ICT facilities. Currently,

the school houses 59 computers, 11 printers, 1 LCD projector, 8 televisions, 4 cassette players, 6 tv coders, 1 hub, 2 routers, 1 wi-fi (WAP), 1 scanner, 2 webcams, 6 flash disks and 1 video camera.

In addition to the audio visual room and computer room which are both equipped with ICT facilities, another room was designed for ICT-integration classes. On its first year of opening (2004), the e-lab had 20 computers, 10 of which were donated by DTI and the other 10 were low-end computers given by the local government. The room served as a hub for students in creating their projects and doing researches using Encarta CD-ROM.

Within the school year of 2004-2005, the school was able to connect 10 computers to the internet. The e-lab, aside from being a library extension also served as a classroom for a few teachers who integrate ICT use in teaching. That same year, the computer bandwidth of the school was increased. In Makati, the LGU through the SEF pays for the monthly internet use. Likewise, new computers arrived (from the LGU) replacing the old ones.

In SY 2005-2006, 50 computers were networked and connected to the net. Old computers were again replaced by new computers. Now, all offices which include the principal's, coordinators', faculty room, library, property custodian's, guidance, clinic, drafting room, science lab, home economics room, and canteen have computers. Only the 12 classrooms do not have computers.

This schoolyear 2006-2007, the school was able to acquire 2 laptops. These laptops are being used by teachers in their work and in presenting

lessons. Classrooms are being prepared for conversion to e-classrooms. 4 televisions are ready to be set up in the classrooms. The wireless (WAP) connection in the school would enable access to the internet anytime and anywhere.

Finally, designating an ICT Coordinator to oversee ICT programs is deemed very important for the success of implementation. The Coordinator is tasked to create, monitor and assess programs. A team of teachers works with the coordinator in assisting teachers implement ICT-enhanced lessons.

No Teacher, Student and Parent Left Behind

In this journey towards building a 21st century school, all members of the organization must be equipped with ICT knowledge and skills. Thus, various projects are undertaken to ensure the development these skills.

A. Teacher Professional Development

Intel Teach to the Future Program – this program, sponsored by Intel, Philippines started in SINHS in 2001 and continued in 2004 until the present. With one teacher trained in 2001 (division level), and another teacher in 2004 (regional level), the program expanded to another batch of trainees in 2005 (national level). Last summer, 45 teachers were trained in the school level.

This 10-day seminar workshop answers the need for teachers to be educated on the why and how technology can best be used to improve teaching and learning.

MOS Training – this program sponsored by Microsoft aims to train teachers on computer operation specifically on using MS Office, Excel and Powerpoint. 20 teachers who needed training attended this one-week training at Mapua IT in the summer of 2005. Now, the program continues thru the Digital Literacy e-learning material. Two teachers are currently undergoing the program. This module is installed in all computers in the school so that anyone who needed assistance in computer operation may learn thru the module.

Fusion – this 3-day writeshop aims to develop a matrix as guide for ICT use in the classroom through the alignment of ICT competencies with BEC competencies. Currently, the teachers are developing ICT matrix to be used for the entire school year 1st-4th grading periods in all year levels. However, these matrixes are tried only in three subject areas: English, Science and Math.

Think.com – this half-day training conducted last July, 2006 was held to orient and train the teachers on creating supplementary learning materials to be uploaded in Think.com. Teachers were trained to create a website.

TechMentoring (PedSupport) – this program provides assistance to teachers on how they can best use technology in teaching. This peer to peer coaching is an effective way for teachers to develop lessons using ICT and implement them in

the classroom. A group of teachers called techMentors conduct coaching during the designing of lesson plans, help teacher prepare needed materials and facilities, conduct classroom observations to assess effectiveness of the implemented lesson and document proceedings for future assessment of the program.

B. Student Development

Computer Literacy as Elective Class- since SY 2005, computer classes are offered as elective classes which means all students attend computer classes twice a week. This scheme was done to give students more hands-on. With a 1 computer: 2 students ration in the computer lab, all students will have more access to technology. This SY topics in computer classes are subdivided as follows:

- a. First year- Keyboarding, Word Processing, Presentation, Spreadsheet and Internet Surfing
- b. Second Year- Advanced Spreadsheet (Bookkeeping), Advanced Word Processing, Desktop Publishing, Advanced Presentation and Internet Surfing
- c. Third Year- Webpage Designing, Photo Editing, Basic Programming and Flow Charting, Basic Macromedia
- d. Fourth Year- Programming, Database Programming, Visual Basic and Java Programming

Research – with the provision of e-lab and 1 computer unit in the library, students are encouraged to do research using the internet facility in the school.

Think.com – students are required to manage their own website using the think.com portal

Student Training on Advance Skills – students' ICT skills are enhanced through a special training and one-on-one coaching. Trainings on web design, database and publishing are being held.

c. Parents

Computer Course for Parents – this 3-month (every Saturday) training is anchored on the premise that parents must be skilled on computer use to help their children in doing their school work. The first batch of training commenced on July 1 and will end on September 30, 2006.

Treading the Thorny Path

Our journey is not always smooth and easy. Roadblocks await our every step. One of the major obstacles the school encountered was the lack of space. When the 10 computers donated by DTI under their PCPS 2 project arrived, we had to vacate one room and convert it into an e-laboratory. Funds for the networking of computers had to be sourced from the MOOE and other school funds. The school had to tighten its belt to give way for the restructuring of the room.

Another problem is the teachers' attitude toward change. Many teachers at first were adamant to using technology. It took a while for the teachers to use technology in teaching, since this would entail longer preparation time. Through the TechMentoring system being employed by the school the teachers are gradually adapting to this change.

Stringent budget of work schedule can also cause a major roadblock to the implementation of ICT and pedagogy integration. Since conducting a Project-based Learning Approach may take several days, a lot of teachers find this time consuming and do not want to compromise their schedule. To augment time needed, teachers either do an interdisciplinary project or assign the Computer hands-on outside their class time.

Maintenance of facilities likewise poses a problem. Since some of the computers are no longer under warranty, the school has to spend for its repair in case of damage. Realizing the importance of maintenance, the school is sending one of its utility men to learn computer repair at STI College.

The Guiding Light

The school is part of a community and thereby cannot exist on its own. It acknowledges the role that external linkages play in the implementation and sustainability of programs. The unwavering support local government of Makati in providing ICT facilities to the school matters a lot in the structure of an ICT-enabled school. Most of the computers were provided by the LGU. Further, it also pays for the internet and electric consumption of the school.

Microsoft and Intel with their teacher training programs equip teachers with necessary ICT skills and integrating such in the teaching and learning process.

STI has also committed to extend support to the school. Several student trainings have been conducted in the nearby STI school. STI also makes free computer usage available for both teacher and students. Presently, STI has committed to give full scholarship to the school's machine operator and technician. Miscellaneous fee, however, is subsidized by the school and other sponsors.

The General Parent-Teacher Association aids in the procurement of other ICT facilities. Other teacher trainings are also subsidized by them.

Where are we now?

Using the UNESCO continuum as framework to assess ICT status, SINHS can be viewed as an institution whose ICT usage may be considered still in the applying stage.

Most of the teachers are still learning how to use ICT and are beginning to make use of them in different disciplines. However, some teachers have displayed understanding how and when to use ICT to achieve a particular purpose, such as completing a given project. These teachers are already in the infusing stage.

As with regards to pedagogical usages of ICT, some teachers find the use of ICT to support work performance which means they use productivity tools such as word processor, visual presentation software, spreadsheet, etc.

to support their daily work performance. These teachers are still in the emerging stage. Others have already reached the applying stage where ICT is used to enhance traditional teaching. A few teachers are already in the infusing stage where ICT is used to facilitate learning. Teachers use various types of instructional software to facilitate student learning.

Recognizing the diverse stages of teachers' ICT use, the school exerts efforts to bridge this gap and increase teachers' awareness of ICT use. The TechMentors team is tasked to assist teachers as they advance in the level of ICT use in teaching. The administrators see to it that ICT use is maximized and goals are attained. The various ICT programs and initiatives are regarded as stepping stones that lead to reaching the transformation stage, the highest level in the continuum.

The road to the attainment of the school's vision may be long and the journey may be tedious but with the collaborative efforts of the principal, teachers, students, parents, LGU, NGO's and stakeholders the vision for a 21st Century school will soon be realized.

Reference

Zhao, Nan-Zhao.2005. *Regional Guidelines on Teacher Development for Pedagogy-Technology Integration*.UNESCO Asia and Pacific Region Bureau of Education. Thailand