# Crossing the Digital Divide at Gainza High School through the Community of Practice (CoP)

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# Crossing the Digital Divide in Gainza National High School through the Community of Practice (CoP)

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This paper describes the impact of fostering external stakeholders' participation in promoting and supporting efforts of the school in the optimum use of ICT. It draws strength upon the main advocacy of establishing partnership with a nearby university to complement and supplement the inadequacies of teachers in terms of functional knowledge and skills in introducing ICT-based learning activities particularly the use of internet among fourth year high school students.

It highlights the engagement of Physical Therapy students of the Universidad de Sta. Isabel in Naga City as BIG BUDDIES in the ICT program of the school through the E-Sci Wired for Learning project .

E-Sci Wired for Learning is an innovative project that is anchored on the flagship program of the school dubbed as Learning Management Program (LMP). It is a continuing project that aims to promote computer literacy among students thereby improving their study skills and academic performance as outlined in the School Improvement Plan (SIP). It then incorporates the positive effects of the intervention experienced in the previous year as recommended by SIP review and monitoring team.

The experience described in this paper focuses on the peer tutorial scheme as a mechanism used to actualize partnership and hands-on online learning. This is anchored

on the concept of the Community of Practice as espoused by *Peter and Trudy Johnson-Lenz* and the principle of the *learning organization* as defined by *Senge, 1990.*

The previous year's experience revealed that: First, the lack of technical knowledge of teachers in introducing ICT-based learning activities could be complemented by partnering with external stakeholders; second, students who are guided and aided on exploring the web could do well in enhancing their study skill and strengthen their understanding of Science concepts, processes and trends and development in Science studies; third, the lack of computers in the school and the absence of internet connection are not obstacles to exploring the information highway; finally, organizing students' Communities of Practice between and among high school and college students is a useful and effective strategy in crossing the digital divide in the school.

This paper concludes with the recommendation of extending the Communities of Practice (CoPs) to other year level students to produce more encouraging results.

Introduction

The heightened concern for higher learning outcomes is an increasingly challenging role of the school heads corollary to the full implementation of the School-Based Management (SBM). The School Improvement Plan (SIP) embodies the principles espoused by SBM.

One of the challenges posed by this improvement plan is the way by which school heads institute programs in the school to capacitate teachers so that they could provide opportunities to improve teaching and learning processes thereby improving learning outcomes.

These opportunities include all aspects of learning including a more focused effort on the maximum use of ICT.

Secretary Lapus in his message during the 2nd ICT Congress emphasized the need *to create a dynamic school environment that will provide its learners the opportunities to explore potentials of information and communications technology and acquire the competencies required in the 21st Century.*

This is a fact with the this school as it noted an increasing number of its graduates enrolling in computer-related courses as revealed in the Guidance Office records.

School Background

Gainza High School is the only secondary school in Gainza- the smallest municipality in Camarines Sur comprising only of eight barangays. It only has a meager 1,884 sq. meters school size. It has a total school population of 691 students with only thirteen regular permanent teachers.

Facilities found in the school include only the thirteen instructional rooms and one computer room where the Principal shares space. No other structures, ancillary facilities and services are available because of the very small land size.

Despite these inadequacies, the school has been performing high in the Division, Regional and National Achievement Tests. It also boosts of national award for two consecutive years in the yearly Brigada Eskwela best implementer search.

These successes have been attributed to the innovations in the form of programs and projects instituted in the school of which the Community of Practice is at the forefront.

The school is a recipient of 10 computer units under the PCPS third series in 2006. Prior to this year, only one computer was available in the school. With the computer sets students preferably fourth year were introduced to computer programs and do hands-on depending on the availability of in-charge of the computer lab while the students in the lower years were not engaged in computer hands-on.

Hence, the school faces the greater responsibility of directing efforts towards harnessing the use of computers to serve their purpose.

Rationale

The project E-Sci Wired for Learning takes cognizant with various programs introduced from the national, regional to division levels.

Project BIG BUDDIES is suggested by the Regional Office as one effective strategy in teaching Science. It is complemented in the division level through the Project REPS (Remedial and Enrichment Program in Science) introduced by Science Supervisor.

In the school it is captured in the Learning Management Program (LMP) established in the school for two years now.

The LMP with its built-in mechanism Community of Practice (CoP) features the different intervention projects in all subjects. The Science CoP is actualized in the Project E-Sci Wired for Learning now dubbed as Project TURO (Teach, Understand and Reach Out to Others).

The National Competency-Based Teacher Standards framework which contains fourteen competencies related to ICT was also one of the bases of this undertaking.

It also puts forth the provision contained in Republic Act 9155 or the Governance of Basic Education Act of 2001 that puts premium on partnering and networking with internal and external stakeholders. As exemplified in this project,

It is worth exploring the idea and practice of partnerships espoused by college institutions and other groups especially non-government organizations. As exemplified in this project, the University's motto which says "The Charity of Christ Urges Us" is embedded in the various departments' outreach activities.

It should be noted that the project is a continuing one and it is now on its second year of implementation.

The main purpose of this project is to describe the experience of partnering with stakeholders and share the impact of the process.

Why Internet?

The obvious reason that Internet has now become a necessity particularly to learning gives a school and its internal stakeholders the challenge of providing opportunities to students in the use of the worldwide web.

Internet brings the world to the classroom. Students are introduced to people, places and ideas they might otherwise not be exposed to.

It enables students to learn by doing. Studies have confirmed that children who are actively engaged in learning learn more.

Networked programs and projects where students work with others and conduct their own research and analysis can transform students into committed and exhilarated learners.

It is expected that after the project the students would achieve certain proficiency in the basic technological skills needed to take their place in college or in the world of work right after graduation.

It is also the end goal of this program to lead students to become life-long learners simply because they can access, analyze, synthesize and make good use of the information from the rich and variety sources of information fed by the web.

The Respondents

The respondents in this paper are the 150 fourth year students of this school and the 17 Physical Therapy students of the Universidad de Sta. Isabel, Naga City. The students were formed into groups to take turns in the scheduled sessions.

Presentation Question

To understand the experience presented in this paper, the paper is organized and the following questions were basic to the understanding of the goal pursued in this paper:

- What ICT-related problems or needs are experienced by the school?
- What intervention program was introduced to address these needs?

- What activities or strategies were undertaken or used to operationalize this intervention program?
- How did it help students improve their learning activities/outcomes?
- Are there factors that facilitated or hindered the operationalization of the program?

Procedure

The initial phase of this study was done in School Year 2007-2008 with the final approval and acceptance of the revised School Improvement Plan (SIP). The authors prepared a proposal dubbed as E-Sci Wired for Learning Project to give the project a specific personality.

After the approval of the proposal, a letter requesting for an audience with the Dean of College of Arts and Sciences of the Universidad de Sta. Isabel (USI) was prepared and sent to that office. The proposal was discussed and agreements were put in place.

Then, two meetings with the parents of the fourth year students were conducted: first, to present the proposal and secure parents' commitment and second to orient them with the mechanics of the project.

The succeeding phase of the project was the orientation of fourth year students together with the prospective college student-tutors.

After schedules and agreements were set, the actual tutorial sessions started.

The main method used in organizing the experience was the use of open-ended questions and informal interviews to surface authentic and first-hand answers.

An informal interview was conducted from time to time to monitor the progress of their activities. Then, there was a face-to-face interaction of tutors and tutees to validate answers. The final interview lasted for two hours. An interview, as lifted from San Antonio's paper, (2006:12) enables individuals "to express how they regard situations from their own point of view" (Cohen et al. 2000: 267). All their responses were taken down and from time to time were read to the respondents for clarification and confirmation. The results were presented in the succeeding narrative text.

Findings and Discussion

Guided by the five questions, the following describe the experience:

The first question asked was: What ICT-related problems are experienced by the students?

Students' common answers were on the very limited knowledge and orientation on the basic computer operations. Another was their limitations in time and financial aspects to support ICT-related activities. The parents' lack of support also posed a major problem to students.

It was also noted that the teachers' limited knowledge, skills and orientation in computer operations was part of the problem.

The second question: What intervention program was introduced to address these needs?

As pointed out in the introduction, the Learning Management Program (LMP) was the intervention program established in the school to address student development needs including ICT-based learning.

It has its built-in mechanism called the Community of Practice (CoP) that simply espouses the principle of a learning organization as one in which people at all levels individually or collectively are continually increasing their capacity to produce results they truly care about (Senge 1990).

CoP here is a simple organization of students and benefactors engaging in common activities to bring about difference in learning. It is anchored on the CoP described as a group of professionals, informally bound to one another through exposure to a common class of problems, common pursuit of solutions, and thereby embodying a store of knowledge (Peter and Trudy Johnson-Lenz).

CoP is organized among teachers and students. In this particular instance, fourth year students formed CoPs according to their tutorial groups in the barangays they belong. This is also the same scheme adapted in the tutorial sessions for Science subjects.

The seventeen tutors, on the other hand, are grouped in three batches taking turns in tutoring four to fifteen students each tutorial session.

It is stressed out here the inadequacies in knowledge of computers and the use of the net demands a more innovative way of partnering with eternal stakeholders who can share expertise.

The third question was: What activities and strategies were used or undertaken to operationalize the program?

The activity simply started with weekend schedules of sessions with the students' BIG BUDDIES in available Internet cafes in the nearby Naga City. Since students did not have yet any orientation about computers, they were led to the basic start-up activities

that include: simple holding of the mouse to opening files, folders, documents to typing to encoding, saving, copying, pasting, editing and printing.

The succeeding tasks and activities include already creating e-mail addresses and researching assigned lessons and useful information for classroom instruction. What was stressed out in this phase of their activity was their skill in editing information gathered as the teacher emphasizes that Internet information are not as accurate as they would believe.

The following were the targeted outputs:

- Sending researched/browsed Science articles to jimguarnes@yahoo.com already edited and formatted based on BIG BUDDIES style
- Making their own individual e-mail accounts
- Exchanging e-mails during the sessions with BIG BUDDIES supervising the process. Surfed info will be shared among all participants on the same day
- Tutoring other classmates not directly reached out by the tutors

As they do this, they are reminded to observe the following:

- Choose a password to secure privacy
- Respect your BIG BUDDIES for tutoring process may not be as ideal
- Stand by your own words. Observe 'netequette'.
- Make sure to credit your sources. While e-mail is not considered an official publishing forum, it is still courteous to acknowledge to acknowledge sources of information

- Rubrics for information on hunt will be agreed upon but basically consists of: Overall design, Content, Purpose

The fourth question asked was: How did it help students improve their learning activities/outcomes?

Students' responses were mostly on the basic knowledge and orientation on the use of Internet. According to them, the project has allowed them to get in touch with technology and information not found in the classroom. The experience was described as awesome as it was not just a simple activity. The presence of the tutors who displayed utmost care for their learning, ignorance, innocence and excitement was an unforgettable and indispensable ingredients they will treasure for life.

This was the same answers echoed by the tutors. During the interview, they were resonantly saying the warm and satisfying feeling of taking good care of the tutees making at least a small difference in their journey to learning.

The final question was: Are there factors that helped or impeded the operationalization of the project?

From the students' answers to the questionnaires validated through the interviews, it was revealed time management, less exposure time, financial, and the acknowledged limited knowledge about basic computer operations were the factors that hindered the operationalization of the project.

On the other hand, the school's conferences with parents, proponents' financial and moral support, saving discipline, budgeting time and practice sessions in the school were the factors that facilitated the conduct of the project.

Finally, to improve the conduct of the project, tutors and tutees suggested that more students targets, more exposure time, more tutors and school's financial support were the primary suggestions. Linking with other groups and individuals was also a sincere recommendation.

## Conclusion

The experience shows that ICT-related needs of struggling schools could be addressed by establishing partnership with concerned individuals and institutions that share the same advocacies and objectives. Solutions to needs of schools like ICT use and teacher's and students' inadequate knowledge, skills and orientation and the absence of Internet connections could be solved not necessarily by means of in-house or school-based structures for learning but also by means of forging alliances with external stakeholders.

Students' find more worthwhile learning experiences through the web when properly guided and aided on its use. It was made evident that the web is a vast storehouse of information that could enrich, reinforce and remediate classroom lessons especially recent trends and development in respective subjects.

The Community of Practice is an effective mechanism to actualize learning teams and become sounding boards for more collaborative and unified efforts towards improving study skills, learning processes and learning outcomes.

Evidently, the results of the National Achievement Test and the Division Achievement Test showed a positive increase in performance level.

The continuous process of assessment, planning, implementation and monitoring and evaluation has given rise to more student development activities. The peer tutorial session installed this school year 2007-2008 was proven to be a useful mechanism to improve student performance.

The major part of the evaluation documents written by students (tutors and tutees) revealed that with the tutorial scheme, tutors and tutees developed shared responsibility, shared teaching and learning, leadership, confidence among themselves.

However, it was also clear that the program was not extended to more groups of students. Hence, it poses a strong challenge to the proponents to reach out to these clientele.

This suggests that with the positive results gained from the experience, the school should start institutionalizing the program by extending it to other groups of students. Furthermore, creating CoPs that would cut across boundaries involving different subject areas is worth exploring for further projects for a more encouraging results.

Finally, tapping other groups and well-spirited organizations and individuals would do well in complementing and supplementing the ICT needs of the school and in eventually institutionalizing the project.

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