BIBLIOGRAPHY

CALISOG,REYMEDIOS Y. APRIL 2010. <u>BSU- Secondary Laboratory School Teachers' Utilization and Perceptions on the Use of Computers in Teaching</u>. Benguet State University, La Trinidad Benguet.

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ABSTRACT

This study was conducted to determine the usage and perceptions of BSU-Secondary Laboratory School teachers regarding the use of computers in teaching.

Specifically, the study aimed to determine the socio-demographic profile of the respondents; determine how teachers use computers in teaching; determine the level of expertise of teachers in using computers; determine the perceptions of the respondents towards the use of computers in teaching; and determine the perceived advantages and disadvantages of computers in teaching.

A survey questionnaire was used to gather the needed data.

Most of the respondents belonged to the age bracket 31-40 years old, males, married, are relatively new in service (with 1-10 years), and were handling 1 to 2 subjects in different levels.

Majority (64.29%) used a computer only to prepare for their classes or in other school activities. They used the computer in computing grades, preparing for their lessons, sourcing out materials for their lessons and making information materials. Only a few (35.71%) used the computer during class hours either in the classroom or in the

computer laboratory. They used the computer in showing certain concepts, relationships, data, objects, etc. to their students, through presentations software, word processing and spreadsheet/data-based programs.

The respondents' level of expertise regarding computer hardware and other related components, word processing, spreadsheet and presentation were rated as average.

Teachers perceived computers as having the ability to be a good tool in aiding the teaching-learning process, however it should still be largely supported by interpersonal communication.

The computer has its advantages in terms of its capacity for entertainment, catching students' attention and facilitating submission of school requirements. On the other hand, the computer can be disadvantageous when used by students in ways that are not related to school work; when the equipment becomes susceptible to technical problems ; and when students become too dependent on the equipment.

Recommendations for additional training and procurement of additional computer units as well as for further study regarding the use and perception of computers in other schools are in order, based on the results of this study.

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INTRODUCTION

Rationale

  The generation today is said to be the "Computer Generation" because of the advanced technologies which provide faster access to information and learning. However, access to information is limited in terms of availability of machines like computer. Nothing epitomizes modern life better than the computer. For better or worse, computers have infiltrated every aspect of our society. However, how about in the field of teaching?

  Aquino, (1986) as cited by Macato (2008), said that teaching is the act of providing activities that facilitates learning. It is the process where gaining knowledge and learning takes place.

  In addition, Becker (2001) said that we often speak about computers in classrooms as if we and our audience have a common view of what they are and what function they serve. But the character of computers and their functionality have been very different at different points in time and remain quite different for teachers of different subjects, teachers who teach students of different ages and backgrounds, and teachers who have characteristically different pedagogies.

  These are just some of the facts to which the Commission on Information and Communications Technology (CICT) has based their iSchools project. Having realized that there is an urgency to provide effective training on the available up-to-date and appropriate information & communications technology, the CICT targeted the public high schools to provide them with much- needed ICT skills training to become globally competitive.

The project aims to strengthen classroom learning and instruction by providing a means of accessing the plethora of online information; build the information and computer literacy of public high school teachers such that they can integrate computer in teaching and learning; and ultimately to measure the impact of integrating computer in education.

The Benguet State University Secondary Laboratory School (BSU-SLS) is a recipient of the project in 2007. As such, the school was provided with a computer laboratory equipped with 20 units of computers, one laptop, an LCD projector and a one-year free Internet connection. Alongside these are human capability building programs that aimed at providing the teachers, as well as the students with the skills in manipulating the computers and in using these in the teaching-learning process.

It has been a year after all the necessary trainings and workshops have been given to the beneficiaries. It would be constructive for all concerned to see if the project is on the right track in terms of achieving its objectives specifically in terms of the progress of the teachers in integrating computer in their teaching.

Unfortunately, the result of having these initiatives may affect the environment of the teachers when it comes to teaching and learning. So it is in this view that this study will be conducted to determine the BSU-Secondary Laboratory School Teachers' Utilization and Perceptions on the use of computers in teaching.

Statement of the Problem

The technology today is one of the reasons that affect the person's perspective and utility. However, it depends upon the person on how to accept it and use it in terms of

learning. Therefore, this study seeks to determine the BSU-Secondary Laboratory School Teachers' utilization and perceptions on the use of computers in teaching.

Specifically the study aimed to answer the following questions:

1. What is the socio-demographic profile of the respondents?

2. How do teachers use computers in teaching?

3. What is the level of expertise of the teachers in using computers?

4. What are the perceptions of the respondents towards the use of computers in teaching?

5. What are the perceived advantages and disadvantages of computers in teaching?

Objectives of the Study

The study aimed to:

1. determine the socio-demographic profile of the respondents;

2. determine how teachers use computers in teaching;

3. determine the level of expertise of teachers in using computers;

4. determine the perceptions of the respondents towards the use of computers in teaching; and

5. determine the perceived advantages and disadvantages of computers in teaching

Importance of the Study

The rhetoric on computer use in teaching exhorts that to remain relevant in an increasingly networked economy and society, education providers need to integrate computer-based activities and resources into their curriculum offerings. The result of this study may lend insight to the project implementers to have an in-depth analysis of the experiences of educators in using computers. Such analysis may provide the background for additional capability-building or enhancement programs for the beneficiaries. It is also hoped that the study will inculcate among educators greater appreciation of computers.

In addition, this study can be beneficial to all researchers, instructors and students for it may serve as an additional source of information especially on a similar topic.

Scope and Limitation

The emphasis of the study was the BSU-Secondary Laboratory School Teachers' utilization and perceptions on the use of computers in teaching.

The study does not aim to evaluate the project as a whole.

REVIEW OF LITERATURE

<u>The Importance of Computer</u>

Before the computer became an everywhere tool in the home and workplace, these used to be the realm of computer engineers and experts. In the past, we could only find computers in laboratories and universities, and only programmers have the skill to use these. Today, computers are virtually everywhere—at homes, offices, and even outdoors, with portable computers being inexpensive and accessible (Alexander, 2009).

According to Alexander (2009), with the younger generations practically being raised on computers, we would wonder why computer education is necessary at all. However, even if one would often expect students to learn computers by themselves, it's still a good idea to have them started with the basic and important concepts before they even start learning from video games and other less productive activities. Computer study in school often involves various subjects and applications.

Moreover, these are word processing, programming, and basic layout or design (Alexander, 2009).

- Word processing- Word processing is often one of the basic computer-related subjects taught in school curriculums. This is usually in conjunction with other literary-related subjects, such as language. Word processing also involves skills that students might find useful later on in their professional lives, such as correspondence, typing, and even other writing-related subjects, such as journalism and creative writing. This fosters not only the skill of typing and laying out words on screen and on

paper, but also the development of creativity in terms of content.

- Programming- Apart from encoding, basic programming can also be included in schools' computer-related programs of study. Different programming languages offer different functionalities and flexibility. But the main training that comes with this is logic and analytical thinking. Students are taught how to use programming languages to express logical arguments, and use these in creating meaningful applications, no matter how basic.

- Design- Great designers are usually individuals who have the artistic inclinations even before they touch a computer mouse and keyboard. However, being able to apply one's artistic talents on the computer would help boost one's creative tendencies. Schools usually let students dabble with simple design applications, such as photo-manipulation software like Photoshop. These skills can help develop a liking for design and the arts in general, and can help hone a student's skills in manipulating graphical and design elements on a computer.

- Research- Another important skill that students can learn through computers is research. The Internet is a rich resource of information. However, not all information that can be found online is valid and true. Therefore, schools can train students on the right methodologies of research and information-gathering, particularly those that are done online. Apart from this, students would also need to learn how to properly cite and quote research material found online.

- Higher learning- Apart from the basic skills that can be taught with the help of computers, schools and learning institutions can also offer courses and programs of study that cater to higher learning. Engineering and Computer Science departments, for example, can offer bachelor's or graduate degrees in programming, computer engineering, and the like. These academic programs can help develop future entrepreneurs, developers, engineers, and other professionals in the field of technology.

In addition, Alexander (2009), a computer study that is integrates part of any school's curriculum may these help develop basic skills that students will find useful in their professional life.

Use of Computer in High School

The education of the workforce for the first half of the twenty-first century is now underway in the high schools. For some, this may be the last formal education the individual may receive. The use of technology in the classroom as a teaching tool is becoming an ever important medium. While technology itself has undergone some major changes in the last ten years, the use of technology in the high school has also undergone some major changes. Setting goals for the future will help guide technology in the education setting (Geselbracht, 2000).

According to Geselbracht (2000), the computers in schools ten years ago were mostly Apple IIC's and Apple IIE's with one or two floppy disk drives, and no hard drives. They were stand alone models, memory many with only 125K or 256K of online memory. In high schools, computers are being used to learn keyboarding in place of

typing. They are also used for word processing and some spreadsheet work in order to write papers. Because of the limited memory among other things, though, few software programs were written and effective at the high school level. Teacher training in technology was almost non-existent. The computers were in laboratories and not in regular classrooms, so teachers and students had limited access to them. Up until recently each teacher's belief about instruction, personal knowledge of technology and prior attitudes of machines is determined by the students' use of computers.

Geselbracht (2000), also mentioned that few schools provided teachers with computers to practice with and seldom were technical support available immediately when computers broke down. There would be nothing worse than for a lesson to center around computer work and then the computer having a malfunction that the teacher couldn't figure out. Being prepared for a class before they enter is a necessity when working with teenagers.

Moreover, the technique for building high tech schools is to allow greater access to students each week. Except in a few cases, student access in high school is very short each week. We don't give a student a textbook only an hour or two a couple times a week. Some say one hour a day on the computer is what is needed for effective learning. A California plan calls for two hours a day computer access for students. We don't let a business have one computer for every sixteen workers which is the national average for computers to students in the classroom. Experts have said one computer for every six students would be the best situation in secondary schools. When the number of computers is sufficient, the result is positive student learning and large gains in education quality. Student attitude toward learning seems to be enhanced since the introduction of

computers into the classroom. Students are not afraid of the computer and explore without fear of hurting the equipment. With regular use of computers, early research seems to indicate improving grades and test scores for students (Geselbracht, 2000).

Geselbracht (2000), added that to use a computer effectively, good software must be available. There is a lot of educational software written now for secondary students. Right now a shift in programming software needs to happen. Up until now software was written for single users at the computer and now there is a need for software that can be used by groups of students. CD ROM technology has given access to reference tools not readily available in every classroom before even in book form. Also video disc technology has been very beneficial at providing educational programming in all subject areas. Multimedia computers and software can offer a wide range of media images, text, sound and video to convey subject material, all good for getting teenage student attention. An explosion of learning resources is available on the internet. The whole global community is available for education of a student, not just one classroom.

Importantly, technology is needed in the secondary schools today both for learning subject matter and for learning computer skills increasingly needed in the workplace. Ongoing teacher training in technology must become a priority in order for maximum potential to be realized with computers. Software must be of good quality and effective for groups of students, not just single users. And finally giving students quality access and quality time can improve interest in learning as well as provide many tools that can be used well into the future (Geselbracht, 2000).

Perceptions and Use of Computer in Teaching

According to Teo (2008), computers are increasingly widespread, influencing many aspects of our social and work lives, as well as many of our leisure activities. As more tasks involve human computer interaction, computer skills and knowledge have become more positively correlated with both occupational and personal success. In most cases, the teacher is key to effective implementation of the use of computers in the educational system and given that teachers have tremendous potential to transmit beliefs and values to students, it is important to understand the biases and stereotypes that teachers may hold about the use of computers and the factors that act as facilitators to teachers' positive computer usage.

Teachers often view the computer as a tool to accomplish housekeeping tasks, manage their students more efficiently, and to communicate with parents more easily. The success of student learning with computer technology will depend largely on the perception of teachers and their willingness to embrace the technology. Gaining an appreciation of the teachers' perceptions towards computer use may provide useful insights into technology integration and acceptance and usage of technology in teaching and learning (Teo, 2006).

The success of any initiatives to implement technology in an educational program depends strongly upon the support and perceptions of teachers involved. It has been suggested that if teachers believed or perceived proposed computer programs as fulfilling neither their own or their students' needs, they are not likely to attempt to introduce technology into their teaching and learning. Among the factors that affect the successful

use of computers in the classroom are teachers' perceptions towards computers (Huang and Liaw, 2005).

Teacher's Use of Computers

The use of computers by high school teachers, as Larry Cuban (2001) argues, still very much a rare phenomenon. Outside of word processing, very few teachers have their students make frequent use of computers during class. Students in lower-ability classes are often given computer games and drills related to the subject area of their class, but it is primarily those rare classes of other students and other teachers who use more sophisticated computer software as resources and tools for doing productive and constructive academic work.

The teachers' philosophy of education certainly plays a role in determining whether she will use computers and how they will be used, but there are even stronger factors at work in determining whether teachers will make use of computers during class time for constructivist learning approaches. Specifically, those stronger factors are the teacher's own technical expertise and professional experience in using computer applications, the number of computers in their own classroom, and their personal involvement in their profession, both within their school building and beyond. Each of those factors, explored only in a small way in this paper, appear to be stronger determinants of constructivist uses of computers during class than the teacher's philosophy itself (Cuban, 2001).

The iSchools Project – "Internet
for Public High Schools"

The iSchools Project is one of the education support efforts being carried out under the Commission on Information and Communication Technology – Human Capital Development Group (CICT – HCDG). The iSchools Project supports the efforts of the Philippine Government, and the Department of Education to integrate computer and internet education in Public High Schools (iSchools, 2007).

According to iSchools (2007) under the iSchools-CeC Project, schools will be provided with twenty one (21) computers (server and workstations), network related peripherals, internet connections (including fixed line or wireless connectivity if necessary) as well as relevant educator training in the use of ICT in the education process.

Moreover, the iSchools-CeC Project focuses on strengthening classroom learning and instruction by expanding access to various sources of information. In so doing, the Project aims to increase the ability of public high school students throughout the Philippines to be globally competitive in accessing employment and higher education opportunities.

In addition, the CICT-HCDG will implement the iSchools-CeC Project in collaboration with the Department of Education (DepEd), House of Representatives, other government agencies, Local Government Units (LGUs), non-government organizations (NGOs) and other stakeholders (iSchools, 2007). Project component:

Network Infrastructure- The following are the hardware requirements for an iSchools:

1. *Provision of Internet laboratory*:

Installation of Local Area Network (LAN) one (1) server and twenty (20) workstations.

2. *Internet connectivity*:

Digital Service Line (DSL) or Wireless Broadband Internet Access (Microwave Access) with free unlimited internet access for one year.

Educators' Training- Various training programs will be conducted to develop the ICT competencies of teachers in client schools.

The following training programs are:

1. *Laboratory Management Training Program (40 hours)*

This is designed for would be Lab Managers and technicians who will be selected by their respective School Heads. The first part of the module will require the presence of lab managers during the installation period to get training on actual networking procedures and software installation. The second part will train the participants on networking concepts and proper maintenance procedures.

2. *Teacher's Training on ICT Literacy Program (40 hours)*

This is designed to train the high school's faculty members on basic ICT literacy skills so that they will be able to effectively use ICT technology in their classes, lesson preparation, and record updates. The course will be designed in accordance with the National ICT Competency Standards (NICS) Basic and advanced based on internationally accepted standards.

3. *CeC and Project Sustainability Training Program (24 hours)*

This is designed to further gain stakeholders' commitment to the project. It

will train them on how to sustain the project by their own means, when they upgrade laboratory units or provide additional laboratories. Training on business planning on potential income-generating projects will be conducted that will include SWOT analysis, forecasting, marketing, and financial projections.

METHODOLOGY

Locale and Time of Study

The study was conducted in Benguet Sate University- Secondary Laboratory School. The school was chosen because the school is one of the CICT iSchools Project beneficiary.

The Benguet State University- Secondary Laboratory School (Figure 1.) is located in the heart of La Trinidad Benguet.

La Trinidad is the capital town of the Benguet Province, the erstwhile "Salad Bowl" of the Philippines. It is about 1,300 meters above the sea level, 6 km north of Baguio City and 90 km South of Mountain Province.

The place can be accessed by air and land transportation through the road going to La Trinidad Benguet.

The study was conducted from December to February 2010.

Respondents of the Study

The respondents of the study were the 28 teachers of Benguet Sate University- Secondary Laboratory School. These teachers should also be using computers either in preparing for lessons or during their class.

Data Collection

A survey questionnaire was used to collect the information and empirical data. The researcher was personally conducted the survey. Some parts of the survey
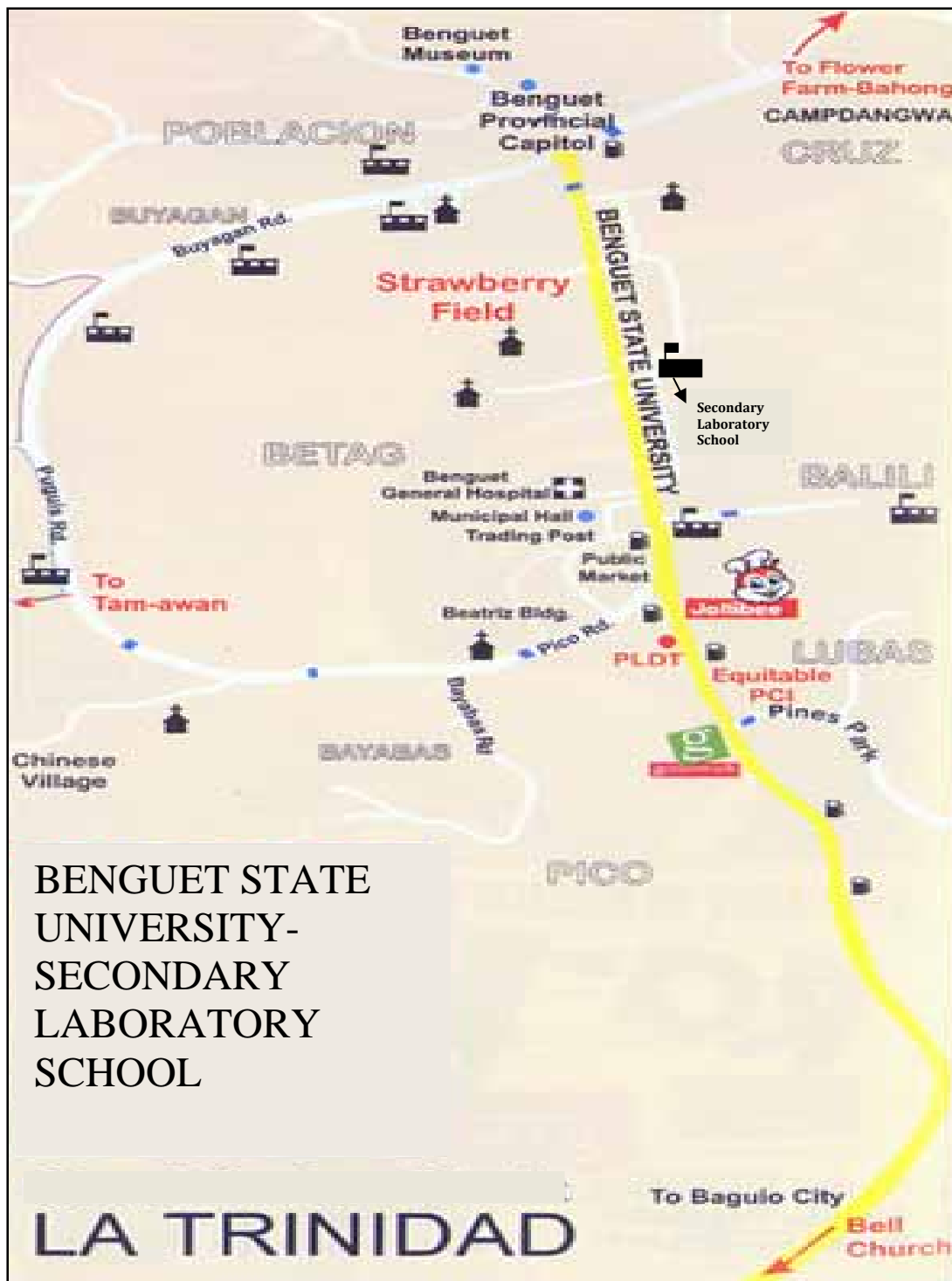
Figure1. Map of BSU-Secondary Laboratory School

have been adopted from an instrument used in a study on "How Are Teachers Using Computers in Instruction?" by Henry J. Becker, <u>Center for Research on Information Technology & Organizations</u> University of California, Irvine on April 2001 and Commission On Information And Communications Technology Human Capital Development Group, Pre-assessment Evaluation Sheet on ICT Skills Survey based on the National ICT Competency Standards.

Data Gathered

The data was the respondent's profile; teachers' level of expertise in using computers in teaching; perceptions of the respondents towards computer and their use of computers in teaching; and the perceived advantages and disadvantages of computers in their teaching.

Data Analysis

The data was collected using survey questionnaire. It was tabulated; consolidated and analyzed using descriptive statistics such as frequency count, average and percentage. Quantitative data was categorized and described in narrative form.

RESULTS AND DISCUSSION

Profile of the Respondents

Table 1 shows the profile of the respondents with regards to their age, gender, civil status, year of service, and subject taught and year level.

The oldest was 65 years old while the youngest was 26 years old. Majority of them (39.28 %) were from the age range of 31-40 years old. Younger teachers (31-40 years old) employed in the high school were greater in number than those aged above 40 years old. More than half (53.57 %) of them were male and almost half (46.86 %) were female. Most of them (64.28 %) were married and only few (32.14 %) were single.

In terms of years in service, 50% of the respondents has served in high school for 1-10 years, and 25 % has served for 21-30 years, 17.86% has served for 11-20 years and only three (10.71%) has served for 31-40 years. This result implies that most of the teachers are relatively new in service.

With regards to subject taught, out of 28 teachers, there were 8 (25%) who taught Makabayan in different levels. Four (14%) of the respondents taught science in different levels; three teachers taught English, Math and MAPEH subject in different levels; and two teachers taught Filipino and Agricultural Science. Only one teacher taught the subjects VO-AG, Research, TLE-Entrepreneurship and Computer.

Table 1. Profile of the respondents

CHARACTERISTICS	FREQUENCY N=28	PERCENTAGE
Age		
21-30	7	25
31-40	11	39.28
41-50	4	14.28
51-60	3	10.71
TOTAL	28	100
Gender		
Male	15	53.57
Female	13	46.28
TOTAL	28	100
Civil Status		
Single	9	32.14
Married	18	64.29
Widower	1	3.57
TOTAL	28	100
Years of Service		
1-10	14	50
11-20	5	17.86
21-30	7	25
31-40	3	10.71
TOTAL	28	100
Subject Taught		
Makabayan	8	28.57
Science	4	14.28
English	3	10.71
MAPEH	3	10.71
Math	3	10.71
Filipino	2	7.14
Agri Science	2	7.14
Vo-Ag	1	3.57
Research	1	3.57
TLE-Entrepreneurship	1	3.57
Computer	1	3.57

Computer Utilization of Teachers in Teaching

Table 2 shows how teachers use the computer. Majority (64.29%) of the respondents used a computer only to prepare for their classes or in other school activities. Further details regarding these activities are shown in Table 3. Only 10 (35.71%) of the respondents used a computer during their class hours. There is a relatively low percentage of teachers who used computers during class. However, it is to be noted that all of them have the basic knowledge and skills in operating a computer.

Table 3 shows in detail how the respondents use the computer in preparing for their classes and in other academic-related activities. All 28 (100%) respondents record and calculate their students' grades through the computer. Majority (85.71%) used a computer to make handouts for their students while 82.14% of them used a computer to get information or pictures from the internet to use in their lessons.

On the other hand, 20 (71.43%) of the respondents use the computer to write their lesson plan or related notes to remind them on what they will do or what topic they want to discuss on the next day.

Table 2. Computer use among the respondents

USAGE	NO. OF RESPONDENTS (N=28)	PERCENTAGE
I use computer only to prepare for classes or in other school activities	18	64.29
I use computer during class hours	10	35.71

Table 3. Respondents' use of computer in preparing for classes or in other school
activities

THEY USE COMPUTER TO:	NO. OF RESPONDENTS (N=28)	PERCENTAGE
Record or calculate students grades	28	100
Make handouts for the students	24	85.71
Get information or picture from the internet for use in lessons	23	82.14
Write lesson plans or related notes	20	71.43
Use scanners to prepare for class	15	53.57
Communicate with parents	9	32.14
Exchange computer files with other teachers	7	25
Post students work, suggestions for resources, or ideas and opinions on the world wide web	3	10.71

*Multiple responses

There were 15 (53.57%) of them who used scanners to prepare for their class. This is when they have pictures in books or magazines that they need to scan to be able to come up with a bigger picture to show to their students. Nine (32.14) of the respondents used a computer to communicate with the parents of the students, by means of letter. Instead of writing these letters manually, teachers preferred to make use of the computer and some word processing application. Also there are templates in these applications wherein they can just fill in the needed information.

Only seven (25%) of the respondents exchanged files with the other teachers when needed. According to the respondents, the files that they exchanged with colleagues were those that are related to school matters.

Few (10.71%) of the respondents post students work, suggestions for resources, ideas and opinions on the World Wide Web. According to some, they kept their students suggestions, ideas and opinions confidential. In addition, students' works, assignments and requirements were checked immediately and were returned as soon as the scores have been recorded.

Table 4, on the other hand, shows that only few (10) of the respondents use computer during their class. Many of the respondents (32. 14%) used softwares for making presentations (e.g. PowerPoint) during their class. According to the respondents, using presentation during their class helps to prevent boredom and facilitates discussions.

They also added that there was a certain degree of increase in attention among the students when they used interesting presentations. Seven (25 %) make use of word processing (MS Word/ Writer) in class. This is when they need to show students some concepts or to demonstrate to them some things regarding students' requirements. At times, they have documents that they need to show to their students and these documents are in formats readable in word processing applications.

Four (14.28%) used spreadsheet (Excel/Calc) or data based programs. There were times that the teachers need to show their students the relationships of certain data and the spreadsheet is a good application for this. Graphs and charts may also be shown for each data input.

Table 4.Types of software used by the respondents during class

TYPES OF SOFTWARE	NO. OF RESPONDENTS (n=10)	PERCENTAGE
Software for making presentation (e.g PowerPoint)	9	32.14
Word processing (MS Word/ Writer)	7	25
Spreadsheet or date based (Excel/ Calc) programs	4	14.28
World Wide Web	3	10.71
Encyclopedias and other references on CD-ROM	2	7.14
Electronic mail	2	7.14
Graphics oriented printing (e.g. Print shop)	1	3.57
Games for practicing skills	1	3.57

*Multiple answers

According to some of them, some use spreadsheets when they show the grades of the students and how they computed their students grades. They used it also to file some important documents.

The World Wide Web, Electronic mail, encyclopedias and other references on CD-ROM, were some peripherals. They rarely used of these, only when the topic or subject calls for it and to break the monotony of class discussions. At times, they also used of these to initiate participation from the students, especially in drills and games.

This is the same as Larry Cuban's (2001) study wherein students in lower-ability classes were often given computer games and drills related to the subject area of their class.

For those respondents who used computer to teach, they use it in the classroom or at the computer lab, according to them, they used computer one to three times in a day, and in every subject that they were teaching. They reflected that the number of computers was not enough for the number of students, which maybe a factor why majority of the teachers did not use the computer during their class hours. According to them, there was also a limited number of available LCD projectors and teachers had to wait for their turn in order to use the projector for class presentations.

Level of Expertise of the Respondents in using Computer

Table 5 reflects the level of expertise of the respondents regarding computer hardware and software. With regards to hardware and other related components the respondents have used or done the function or operation occasionally but they need further practice for them to become confident in using it. Especially to those who were new users of computer, they are poor in identifying the different hardware and other related components.

In terms of word processing, the respondents can manage documents, format text, format documents, insert tables, insert pictures and images, create letter using mail message and print documents is leveled as average. They were also very good in moving and copying text, inserting text and previewing a document.

Although the respondents always used spreadsheet to record students' grade, the respondents rated it as average, thus they still need to practice their skills in using it. Some of the respondents are poor in formatting table cells and managing workbooks.

On the other hand, their expertise in using presentation was rated average. One of

Table 5. Level of expertise of the respondents in using computer

SOFWARES AND PROGRAMS	TOTAL AVERAGE	LEVEL OF EXPERTISE
Hardware and other related components	2.70	Average
Word Processing	2.70	Average
Spreadsheets	3.10	Average
Presentation	3.04	Average

*Legend

1 (Didn't Use)	2 (Poor)	3 (Average)	4 (Very Good)	5 (Excellent)
0.15-1.50	1.60-2.50	2.60-3.50	3.60-4.50	4.60-5.50

the respondents said that most of the English and Science teachers use the presentation software. A lot of their topics require showing of actual pictures of events and things.

More details regarding the level of expertise of the respondents in using computer is shown in Appendix C.

Perceptions of the Respondents Towards
the use of Computers in Teaching

Generally, the respondents had a positive view about the use of computer in teaching. Table 6 shows that the respondents agree that computers can provide remediation of skills not learned well (1.04 μ). It can be a tool to aid the teacher to supplement the lessons in the classroom. The respondents also agreed that computers can aid in expressing one's self in writing and encoding (1.07μ). The computer offers various applications that can facilitate different school activities. For the student, projects, write-ups, essays and other school requirements were made with ease using the computer.

Further, and for the respondents' average who agreed that computer can aid in expressing one's self in writing/encoding.

Further, respondents view the computer as having the ability to enhance students' skills, knowledge and capacities; and as a good tool for facilitating communication.

Identically, Toe's (2008) study claimed that the success of students learning with computer technology will depend largely on the perception of teachers and their willingness to embrace the technology.

Table 6. Perceptions of the respondents towards the use of computer in teaching

PERCEPTIONS	AVERAGE	RESPONSE
Computers can help in mastering skills just taught	1.14	yes
Computer are necessary to facilitate communication, especially since electronic communication has become a necessity	1.14	yes
Computers can provide additional ideas and information	1.11	yes
Computers are a good tool in presenting information to an audience	1.11	yes
Computer can help students and teachers to learn collaboratively	1.11	yes
Computer can help students and teachers to learn independently	1.11	yes
Computer can aid in expressing one's self in writing/ encoding	1.07	yes
Computers can provide remediation of skills not learned well	1.04	yes
TOTAL AVERAGE	1.10	yes

*Legend: 1- Yes   YES   NO
       2- No   0.15- 1.50   1.60- 2.50

Perceived Advantages and Disadvantages
of Computers in Teaching

Table 7 shows the advantages of computer in teaching. All of the listed advantages were perceived as such only that they differ in gravity or measure of advantages. Majority of the advantages listed were rated true, modest advantage.

Some of the respondents claimed, however, that the computer has a tendency to make students lazy. They said that at times, they would discover that the students' submitted assignments were done by using "copy and paste" method. They said that since most of the information that the students need are available online, they no longer process the information, instead they just copy what they see and paste it on the work area of whichever application they are using.

According to one of the respondents, sometimes the traditional way of teaching is still effective than using computer in teaching. The computer may act as a supplementary tool in teaching but not the main source or method for learning.

The perceived advantages of using the computer relate to its capacity to entertain while informing and its ability to minimize the time in creating projects or other outputs.

Table 8 shows the perceived disadvantages of computer in teaching. Majority of the disadvantages were answered as true, modest advantage. The use of computers can be disadvantageous when it comes to it being used for other purposes other than learning; it being an expensive and fragile equipment; it as capable of encouraging laziness in students; it being susceptible to damages; and it as having the capacity to diminish the role of the instructor in the teaching-learning process.

Table 7. Advantages of using computer in teaching

ADVANTAGES	AVERAGE	DESCRIPTION
Computers provide a welcome break for students from more routine learning activities	3.39	True, a modest advantage
Students create better-looking products than they could do with just writing and other traditional media	3.21	True, a modest advantage
Students help one another more while doing computer work	3.07	True, a modest advantage
Students take more initiative outside of class time-doing extra research or polishing their work	2.75	True, a modest advantage
Students are more willing to do second drafts 'Average' students are communicating and producing in ways only 'gifted' ones did before	2.68	True, a modest advantage
Students work harder at their assignments when they use computers	2.32	Somewhat true, a mild advantage
Students' writing quality is better when they use word processing	2.21	Somewhat true, a mild advantage
TOTAL AVERAGE	2.80	True, a modest advantage

*Average:

1	2	3	4	5
0.15-1.50	1.60-2.50	2.60-3.50	3.60-4.50	4.60-5.50

*Legend:
   1- Not true, not a advantage
   2- Somewhat true, a mild advantage
   3- True, a modest advantage
   4- True, a strong advantage
   5- Don't know

Table 8. Disadvantages of computer in teaching

DISADVANTAGES	AVERAGE	DESCRIPTION
Many students use computers in order to avoid doing more important school work	3.14	True, a modest disadvantage
Many students are not careful enough with this expensive equipment.	3.14	True, a modest disadvantage
Students can cheat easier copying work and turning it in as their own	3	True, a modest disadvantage
Computers are too unpredictable they "crash" or software doesn't work right	2.96	True, a modest disadvantage
A teacher has to give up too much instructional responsibility to the computer software- I feel I'm not "teaching"	2.85	True, a modest disadvantage
Students often get so wound up, I can't get them to settle down afterwards	2.25	Somewhat true, a mild disadvantage
Computers are hard to figure out how to use	2.18	Somewhat true, a mild disadvantage
TOTAL AVERAGE	2.68	True, a modest disadvantage

*Legend:
     1- Not true, not a disadvantage
     2- Somewhat true, a mild disadvantage
     3- True, a modest disadvantage
     4- True, a strong disadvantage
     5- Don't know

1	2	3	4	5
0.15-1.50	1.60-2.50	2.60-3.50	3.60-4.50	4.60-5.50

Generally, the respondents said that, sometimes the traditional way of teaching is still more effective than using technology like computer in teaching. They added that, although, the computer can be used during class, it should be noted that more guidance and more interpersonal communication between and among teachers and students should be taken into consideration.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

Summary

The study wanted to analyze the use of computers in teaching among BSU-Secondary Laboratory School Teachers.

The study aimed to determine the socio-demographic profile of the respondents; determine how teachers use computers in teaching; determine the level of expertise of teachers in using computers; determine the perceptions of the respondents towards the use of computers in teaching; and determine the perceived advantages and disadvantages of computers in teaching.

The study was conducted in Benguet Sate University- Secondary Laboratory School La Trinidad Benguet from December 2009 to February 2010. The data was collected using survey questionnaire and was tabulated, consolidated and analyzed using descriptive statistics such as frequency count, average and percentage. Quantitative data was categorized and described in narrative form.

The study shows that there are more younger teachers (31-40 years old) employed in the High School than those aged above 40 years old. Majority of the respondents were males (53.57 %) and were married (64.28 %). Half of the respondents had served the High School for 1-10 years, each of them teaching one to two subjects in different year levels.

Majority (64.29%) use a computer only to prepare for their classes or in other school activities. They make use of the computer in computing grades, preparing for their lessons, sourcing out materials for their lessons and making information materials. Only a

few (35.71%) use the computer during class hours either in the classroom or in the computer laboratory. They make use of the computer in showing certain concepts, relationships, data, objects, etc. to their students.

Few (10) of the respondents use computer during their class. Most of them make use of presentation software (32.14%), word processing (25%) and spreadsheet or data based (Excel/Calc) programs (14.28%). The World Wide Web, Electronic mail, encyclopedias and other references on CD-ROM, are some peripherals.

The respondents' level of expertise regarding computer hardware and other related components, word processing, spreadsheet and presentation were rated as average.

All of the listed perceptions towards the use of computer in teaching were positively viewed by the respondents.

The result shows all of the listed advantages were perceived as such only that they differ in gravity or measure of advantages. Majority of the advantages were answered as true, modest advantage. Most of the disadvantages were also measured as true, a modest disadvantage.

Conclusions

Based on the findings of the study the following conclusions were derived.

1. Respondents used of the computers mostly outside of the classroom to work on academic-related activities;

2. BSU High School teachers still need capability building programs or additional trainings on the use of various computer software or applications;

3. Teachers perceived computers as having the ability to be a good tool in aiding the teaching-learning process, however it should still be largely supported by interpersonal communication;

4. The computer has its advantages in terms of its capacity for entertainment, catching students' attention and facilitating submission of school requirements;

5. The computer can be disadvantageous when used by students in ways that are not related to school work; when the equipment becomes susceptible to technical problems; and when students become too dependent on the equipment.

Recommendations

Based on the findings and conclusions, the following recommendations were derived:

1. The teachers should undergo training to increase their knowledge and skills in computer use.

2. The school should try to collaborate with other agencies requiring the provision of more computer equipment.

3. Further studies should be conducted to y determine other teachers' perception and utilization of computer in teaching for comparison and validation.

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APPENDIX A

BENGUET STATE UNIVERSITY
2601 La Trinidad, Benguet
COLLEGE OF AGRICULTURE
Department of Development Communication

January 4, 2010

PROF. JOHN P. BOTENGAN JR.
Principal
BSU- Secondary Laboratory School

Warm greetings!

I am Reymedios Y. Calisog a fourth year student taking up Bachelor of Science in Development Communication major in Educational Communication at Benguet State University. I am conducting my undergraduate thesis entitled "BSU- Secondary Laboratory School Teachers' Utilization and Perceptions on the Use of Computers in Teaching."

In this connection, I would like to ask your permission to administer the questionnaires to your faculty members. This will facilitate the gathering of the data needed for my study. Rest assured that the data will be kept confidential and for research purpose only.

Thank you very much for your kind consideration.

Truly Yours,

REYMEDIOS Y. CALISOG
Student Researcher

NOTED BY:

MARIFE D. CARPIO
Adviser

APPENDIX B

Survey Questionnaire

BSU-SECONDARY LABORATORY SCHOOL TEACHERS' UTILIZATION AND PERCEPTIONS ON THE USE OF COMPUTERS IN TEACHING

Part I. Socio-demographic Profile of the Respondents

Name: _____

Age: _____   Gender: __ (Male) __ (Female)

Civil Status: __ (Single) __ (Married) __ (Widower)

Number of years in service: _____

Teaching, what subject? What year level? (Please check below)

___English	___First year	___Second year	___Third year	___Fourth year
___Math	___First year	___Second year	___Third year	___Fourth year
___Science	___First year	___Second year	___Third year	___Fourth year
___ Makabayan	___First year	___Second year	___Third year	___Fourth year
___Filipino	___First year	___Second year	___Third year	___Fourth year
___ MAPEH	___First year	___Second year	___Third year	___Fourth year

___ Others, please specify

_____

A0. When and where do you use computers?

___I use computer during class hours. (Please continue to A1)

___I use computer only to prepare for classes or in other professional activities. (Please proceed to A5)

A1. How many times in a day do you use a computer while you are teaching?

TIMES IN A DAY					
1 time	1-2 times	1-3 times	1-4 times	1-5 times	Other (pls. specify)

A2. In times when you and your student use computer during a subject, how many students operate in one computer at one time?

NO. OF STUDENTS IN ONE COMPUTER			
One student	In pairs (2)	In group of 3-4	Other (pls. specify)

A3. Where do you use computer when you are teaching?

PLACES			
Classroom	Computer lab	Media center	Other (pls. specify)

A4. Which of the following types of software are you applying in your class?

TYPES OF SOFTWARE	Please check below
a. Games for practicing skills	
b. Simulation or exploratory environments	
c. Encyclopedias and other references on CD-ROM	
d. Word Processing (MS Word/Writer)	
e. Software for making presentation (eg. PowerPoint)	
f. Graphics oriented printing (eg. Print shop)	
g. Spreadsheet or data based (Excel/Calc) programs	
h. Hyper Studio, Hyper Card, or other Multi Media authoring environment	
i. World Wide Web	
j. Electronic mail	
k. Other, please specify _____	

A5. In which of the following ways do you use computer in preparing for teaching class in:

I use computer to:	Please check below
a. Record or calculate students grades	
b. Make handouts for the students	
c. Corresponds with parents	
d. Write lesson plans or related notes	
e. Get information or pictures from the internet for use in lessons	
f. Use camcorders, digital cameras, or scanners to prepare for class	

g.	Exchange computer files with other teachers	
h.	Post students work, suggestions for resources, or ideas and opinions on the world wide web	
i.	Others, please specify _____	

A6. What is your level of expertise in using computer? (Based on the National ICT Competency Standards)

INSTRUCTION:

On a scale of 1 to 5, rate the items in each of the indices below. Put a check mark that best indicates your rating on each items.

SCALES:

1 – I am not aware of/not have tried this function/operation/tool.
2 – I am aware of this function/operation but have not experiences in using it.
3 – I have used/done this function/operation occasionally but need further practice to be confident.
4 – I am a regular and confident user of this function/operation.
5 – I am fully competent with this function and could confidently explain it to others.

Item A. Hardware and other components	5	4	3	2	1
a. Identify the different hardware and software components of a computer and how they work together.					
b. Differentiate the different types of software					
c. Discuss networking/communications technology					
d. Operate a computer					
e. Arrange and customize the desktop					
f. Manage applications					
g. Manage files					
h. Manage a printer					
i. Troubleshooting the computer					
Item B. Word Processing	5	4	3	2	1
a. Manage documents					
b. Format text					
c. Format paragraph					
d. Format document					
e. Move and copy text, insert text, delete text					
f. Insert tables					
g. Insert pictures and images					
h. Create letter using mail merge					
i. Preview a document					
j. Print a document					

Item C. Spreadsheets	5	4	3	2	1
a. Manage workbooks					
b. Select cell, enter data in a cell, insert and delete cells, insert and delete rows and columns					
c. Handle worksheets					
d. Format data					
e. Format cells					
f. Format worksheet					
g. Create formulas and functions					
h. Create charts/graphs, format charts/graphs					
i. Preview a worksheet, print a worksheet					
Item D Presentation	5	4	3	2	1
a. Discuss basic presentation skills					
b. Apply appropriate visuals and design considerations					
c. Manage presentations using a presentation tool					
d. Create slides, use different slide views					
e. Apply slide layouts and templates					
f. Format text					
g. Insert pictures and images					
h. Insert drawn objects					
i. Create charts/graphs, format charts/graphs					
j. Create a slideshow, apply slide show effects					
k. Prepare outputs					
l. Print slides					

Part II. Perceptions of the Respondents toward the Use of Computer in Teaching

1. Computers can help in mastering skills just taught.

    ___ Yes   ___ No

2. Computers can provide remediation of skills not learned well.

    ___ Yes   ___ No

3. Computer can aid in expressing one's self in writing/ encoding.

    ___ Yes   ___ No

4. Computes are necessary to facilitate communication, especially since electronic communication has become a necessity.

    ___ Yes   ___ No

5. Computers can provide additional ideas and information.

    ___ Yes   ___ No

6. Computers are a good tool in presenting information to an audience.

    ___ Yes   ___ No

7. Computers can help students and teachers to learn how to work collaboratively.

    ___ Yes   ___ No

8. Computers can help students and teachers to learn how to work independently.

    ___ Yes   ___ No

9. Others, please specify:

    _____

    _____

    _____

    _____

Part III. Advantages and Disadvantages of Computer in Teaching

1. Which of these are advantages of using computers in teaching? *If you haven't had enough experience with computers to have an opinion, check the "don't know" box.*

ADVANTAGES	ANSWERS				
	Not true, not an advantage	Somewhat true, a mild advantage	True, a modest advantage	True, a strong advantage	Don't know
a. Students create better-looking products than they could do with just writing and other traditional media					
b. Computers provide a welcome break for students from more routine learning activities					
c. Students help one another more while doing computer work					
d. Students take more initiative outside of class time-doing extra research or polishing their work					
e. Students' writing quality is better when they use word processing					
f. Students work harder at their assignments when they use computers					
g. Students are more willing to do second drafts 'Average' students are communicating and producing in ways only 'gifted' ones did before					
h. Others, please specify _____ _____ _____ _____					

2. Which of these are disadvantages of using computers in teaching?

DISADVANTAGES	ANSWERS				
	Not true, not a disadvantage	Somewhat true, a mild disadvantage	True, a modest disadvantage	True, a strong disadvantage	Don't Know
a. Computers are too unpredictable they "crash," or the software doesn't work right					
b. Computers are hard to figure out how to use					
c. Many students use computers in order to avoid doing more important school work					
d. Many students are not careful enough with this expensive equipment.					
e. It is difficult to integrate computer activities into most of my regular lesson plans					
f. Often too many students need my help at the same time					
g. Students often get so wound up, I can't get them to settle down afterwards					
h. A teacher has to give up too much instructional responsibility to the computer software-I feel I'm not really "teaching"					
i. Students can cheat easier copying work and turning it in as their own					
j. Others, please specify _____ _____ _____ _____					

APPENDIX C

Level of Expertise of the Respondents in Using Computer

SOFWARES AND PROGRAMS	AVERAGE	LEVEL OF EXPERTISE
Hardware and other related components:		
Identify the different hardware and software components of a computer and how they work together.	2.43	Poor
Differentiate the different types of software	2.43	Poor
Discuss networking/communications technology	2.39	Poor
Operate a computer	3.32	Average
Arrange and customize the desktop	2.86	Average
Manage applications	2.75	Average
Manage files	3.04	Average
Manage a printer	3.21	Average
Troubleshooting the computer	1.86	DU
TOTAL AVERAGE	2.70	Average
Word Processing:		
Manage documents	3.26	Average
Format text	3.46	Average
Format paragraph	3.50	Average
Format document	3.46	Average
Move and copy text, insert text, delete text	3.57	Very Good
Insert tables	3.54	Average
Insert pictures and images	3.50	Average
Create letter using mail merge	3.25	Average
Preview a document	3.64	Very Good
Print a document	2.54	Average
TOTAL AVERAGE	2.70	Average

Spreadsheets:

Manage workbooks	2.93	
Select cell, enter data in a cell, insert and delete cells, insert and delete rows and columns	3.25	Average
Handle worksheets	3.25	Average
Format data	3.25	Average
Format cells	2.29	Poor
Format worksheet	3.25	Average
Create formulas and functions	3.07	Average
Create charts/graphs, format charts/graphs	3.21	Average
Preview a worksheet, print a worksheet	3.36	Average
TOTAL AVERAGE	3.10	Average

Presentation:

Discuss basic presentation skills	3.04	Average
Apply appropriate visuals and design considerations	2.89	Average
Manage presentations using a presentation tool	3.04	Average
Create slides, use different slide views	3.11	Average
Apply slide layouts and templates	3.04	Average
Format text	2.93	Average
Insert pictures and images	3.07	Average
Insert drawn objects	3.06	Average
Create charts/graphs, format charts/graphs	3.07	Average
Create a slideshow, apply slide show effects	3.07	Average
Prepare outputs	3.07	Average
Print slides	3.14	Average
TOTAL AVERAGE	3.04	Average

*Legend:

　　1- I am not aware of or not have tried this function

　　2- I am aware of this function but have not experiences in using it

　　2- I am aware of this function but need further practice to be confident

　　4- I am a regular and confident user of this function

　　5- I am fully competent with this function and could confidently explain it to

　　　others

1 (Didn't Used)	2 (Poor)	3 (Average)	4 (Very Good)	5 (Excellent)
0.15-1.50	1.60-2.50	2.60-3.50	3.60-4.50	4.60-5.50