PHILIPPINES

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INFORMATION AND COMMUNICATION TECHNOLOGY FOR PERSONS WITH DISABILITIES IN THE PHILIPPINES

INTRODUCTION

Unknown to many, access technology is now available to enable persons with disabilities to reap the benefits of the information revolutions. Recent development in special education has pointed out that persons with disabilities can use computers effectively to gain knowledge, enhance understanding of ideas, concepts and principles.

Technology has multifarious applications in the education of persons with disabilities. Firstly, the use of appropriate technology reduces the handicapping conditions of the individual in the study and work environment and secondly, application of the enabling technology enhances the learning potentials of persons with disabilities. Furthermore, competence in computer technology will provide persons with disabilities greater opportunities for future job placements.

BRIEF HISTORY OF ICT IN THE PHILIPPINES

Information and Communication Technology (ICT) in the country was implemented through the collaborative efforts of Government Organization (GOs) and Non-Government Organizations (NGOs).

Access to computer technology was started after the training of Mr. Antonio Punzalan - a blind student of the Philippine National School for the Blind sent for training at the Overbrook School for the Blind, Philadelphia, USA. The one-year computer scholarship served as the entry of Computer Literacy Education for persons with disabilities in the Philippines.

Computer Training Program was started in 1993 at the HALIKA Computer Center for Disabled Persons (HCCDP) managed by the Handog Lingap ng Maykapansanan Foundation Inc. (HALIKA). Trainees were SPED teachers from the Philippine National School for the Blind (PNSB), Philippine School for the Deaf (PSD), National School for Crippled Children (NSCC) and the Braille Textbook Production Staff of the Philippine Printing House for the Blind (PPHB). Mr. Antonio Punzalan served as the instructor. Later, the program served as the basis of Computer Curriculum of these schools. Computer subjects are now taught at the elementary and secondary levels of these

mentioned schools.

The Bureau of Elementary Education (BEE) Computer Education Program

In response to the educational developments, the Department of Education (DepEd) through the Bureau of Elementary Education (BEE) envisioned a project called "Computer Education Program for Children with Special Needs (CSNs) in the Elementary School Special Education (SPED) Centers".

To gather baseline data for the implementation of the information technology in the public elementary school SPED Centers, the Bureau of Elementary Education, Department of Education conducted on initial survey. There were 12 regions, 53 school divisions and 80 school SPED centers with 433 teachers involved in the survey.

The survey yielded the following results:

- ❖ Out of 80 schools involved only 36 schools have computers, nineteen (19) of these schools are utilizing their computers for instruction purposes while the computers in the seventeen (17) schools are for office use;
- ❖ Among the 433 teacher-respondents, only 51 teachers were trained on computer literacy and only 15 of the trained teachers are competent in the use of the computers; and
- ❖ The most important problem cited by the respondents was the unavailability of computers.

It is in this context, that the Bureau of Elementary Education envisioned this project, "Computer Education Program for Children with Special Needs (CSNs) in the Elementary School Special Education (SPED) Centers".

Goal and Objective:

1. develop the capability of selected SPED teachers and administrators from identified schools as trainers on the use of computer;
2. Coordinate with the Department of Education in the Regions and Division offices, Local Government Units (LGUs), Non-Government Organizations (NGOs) on the possible procurement/acquisition of computer units; and
3. implement the Computer Education Curriculum for Grades I-VI and the use of CAIMs in Science, English and Mathematics to selected pilot schools as tools in the teaching-learning process.

Project Description

This project focuses on the training of trainers on the use of computers and computer-assisted instructional materials in the teaching learning process. This training will ultimately pave the way for the pilot implementation of the computer education curriculum in Grades I to VI and the utilization of CAIMs in appropriate learning areas.

Strategies:

1. Training of SPED Teachers and Administrators on Computer Education in the Elementary Schools.

2. Training and Development of Computer-Assisted Instructional Materials in Science, Mathematics and English, Grades IV-VI.
3. Finalization of Computer-Assisted Instructional Materials.

Success Indicator

The implementation of this project started in the year 2000 until at present. Despite of budgetary constraints, we piloted schools throughout the 9 Regions consisting of 27 divisions all over the country. For the last three years of implementation, the following activities were done successfully:

- ❖ Trained 88 teachers and school administrators representing 33 schools/SPED centers on computer basic literacy;
- ❖ Conducted training on the development of Computer-Assisted Instructional Materials (CAIMs) in Science, English and Mathematics subjects attended by 17 teachers and supervisors representing 6 regions;
- ❖ 15 CAIMs developed by teachers and administrators;
- ❖ 1 region conducted an echo-training on computer basic literacy attended by 55 teachers and school administrators representing 17 schools; and
- ❖ developed Learning Competencies and Enrichment Materials for Grades I-III on Computer Education.

Some trained teachers and school administrators have already organized Computer Education classes in their respective schools. Some cannot fully implement the said project because of the absence/lack of computer units in their respective schools.

Much to our desire to implement this project to their respective schools, we suggested them to have a networking with GOs, NGOs, PTCA, Local School Board in the procurement of computer units and other facilities.

Finally, we are doing our best for the sustainability and/or expansion of the ICT program, specifically on the integration of using computer technology in the public elementary schools.

Computer Training Program at the Resources for the Blind, Inc. (RBI)

Resources for the Blind, Inc. (RBI) is a non-government organization helping the visually impaired persons becomes productive citizens through Computer Training Program. RBI also conducted an annual Summer Training for Teachers of the Blind in partnership with the Department of Education and the Philippine Normal University. This program has resulted in the increase of enrollment of blind children in public schools nationwide.

In 1998, RBI conducted a national survey among 100 blind and low vision youth and adults to determine whom among the blind have background in computer. Only 27 respondents have knowledge in computer. Based on this result, the Computer Training Program was conceived. The program started with the organization of a Steering Committee with members from the Department of Education (DepEd), Philippine Blind Union (PBU), Resources for the Blind, Inc. (RBI) and other agencies working for the blind. RBI was chosen as the main implementor of the program with support from the Nippon-Foundation of Japan and the Overbrook School for the Blind, USA (ON-NET) in term of training, technical assistance and provision of equipment

and materials.

The program has the following objectives and strategies:

Objectives:

1) To equip SPED teachers with skills to produce the required Braille reading materials through computerized Braille embosser; and
2) To establish a computer training and computer resource center at selected high school where blind students are enrolled.

Strategies:

1) Training of SPED teachers on basic computer and on access technology;
2) Provision of necessary equipment; Braille computers with voice synthesizer and Braille embossers;
3) Addition of computer training to the regular curriculum for the blind secondary students
4) Access for individual use of computers by the blind students

In August 1999, RBI conducted the First Trainers Training on Access Technology. Five (5) selected trainers from 5 centers attended the training. After the training, Computer Centers were established in their place of work. Various other trainings were conducted in order to upgrade the knowledge of SPED teachers and blind students. These trainings were Trainors Training on Internet, Advance Training in Computer Braille Production for the SPED teachers and National Computer Workshop for Blind student dubbed as "Computer-Eyes" sponsored by IBM Philippines, Overbrook-Nippon Foundation (ON-NET).

To this date, the total number trained is 104 broken down as follows:

Trainers (both blind and sighted teachers and Rehabilitation workers)	-	14
Secondary & College Blind Students	-	72
SPED Teachers	-	18
Total	-	104

Currently, there are eight (8) school-based resource and training centers. The Library for the Blind Division of the National Library located in the City of Manila is the latest beneficiary of the program. Other Centers are located in seven cities and provinces, namely; Metro Manila, Baguio, Isabela and Pangasinan for Luzon; Cebu and Bacolod for the Visayas; and Davao from Mindanao. These Centers are catering to over two hundred (200) blind students in these areas.

ATRIEV Computer Training Program

Adaptive Technology for the Rehabilitation Integration and Empowerment of the Visually Impaired (ATRIEV) is a non-stock, non-governmental organization organized by a group of blind computer enthusiasts. The main purpose of ATRIEV is to bring information technology closer to the visually impaired through adaptive equipment and access technology.

ATRIEV Missions

1) To develop well-defined responsive and relevant ICT educational programs that will produce

skilled, value-oriented and highly motivated blind and visually impaired persons suited to the changing needs and demands of industries.

2) To establish a network committed local and foreign GOs and NGOs concerned with ICT education and employment.
3) To establish a resource center that will make ICT accessible to all blind and visually impaired
4) To promote and advocate the accessibility and use of modern adaptive technology for the blind and visually impaired persons.

Major Achievements of ATRIEV

In 1995, ATRIEV, in cooperation with the Pediatric Foundation of the University of Sto. Tomas Hospital conducted a basic computer literacy training course in Dos for the persons with visual impairment. Two of the graduates of the said training course are presently instructors of ATRIEVs latest project.

In 1996 ATRIEV held the First Information Technology Seminar/Workshop for the Visually Impaired at Las Palmas Hotel participated in by various government agencies, private interest groups and non-government organizations.

In 1999 ATRIEV assisted the Civil Service Commission in launching the first "computer-aided Civil Service Examination for the visually impaired".

From 1999 to the present, ATRIEV, the Systems Technology Institute (STI) and the Overbrook-Nippon Network on Educational Technology (ON-NET) instituted Project ATTRAC. ATTRAC is an acronym for the Adaptive Technology for Training, Resources and Access Center - the first comprehensive computer literacy training program for the blind and visually impaired in the Philippines.

Project ATTRAC's main thrust is to give a comprehension computer literacy training course to visually impaired high school graduates and young professionals. The training is conducted twice a year with ten (10) visually impaired trainees per batch. Each batch undergoes a thorough computer literacy training program for five (5) months.

The training program consists of lectures, hands-on computer manipulation, seatworks, homeworks and examinations. The trainees must pass a series of examinations throughout the course. Their performance is graded based on examination results and class participation.

The training course covers basic functions of the computer, basic commands of a screen access software program, functional knowledge of the Windows Operating System and MS office application programs including MS Word and MS Excel. Trainees are also taught how to use the fax modem, how to access the Internet and Electronic Mail. Other relevant subjects such as public speaking technical writing and transcription are also included in the curriculum.

At the end of each training session, students are graded and evaluated according to educational standards set by STI. Successful trainees will receive certificate of completion from STI, ATRIEV and ON-NET. Competent training graduates are recommended for on-the-job training to cooperating public and private institutions. Graduates aiming for higher education are integrated in selected STI regular course offerings as regular students.

As of this date, project ATTRAC has produced 67 computer literate visually impaired young adults, three of whom are now taking up regular computer-related certificate courses as scholars in two braches of STI. STI is the first computer education school in the region to accept visually impaired students into its regular program offerings.

FUTURE PLANS AND PROGRAMS

1. Development and offering of employment-oriented training programs using competency-based curriculum.
2. Full integration of visually impaired graduates into the regular computer-related course offerings of other computer schools.
3. Development and implementation of strategies and programs that would ensure the viability and sustainability of the Project.
4. Creation of a pool of capable trainors through the conduct of series of trainors' training.

With the above plans, persons with disabilities may choose to pursue three possible paths-upgrading and enhancement of present job/work, preparation for higher education and employment either as self-employed or wage employed.

CONCLUSION

The implementation of Computer Education Program in the Philippines yielded the following conclusions:

1) The establishment of computer resource centers and the training on computer technology among the students with disabilities afforded them opportunities to access information and enrich their learning in school.
2) Non-government organizations can greatly help government agencies specifically the Department of Education in promoting the use of computers in schools among students with disabilities. Networking and collaboration of agencies at the national and local levels are vital in the implementation of new programs and projects.