Graduate Research Papers   **Student Work**

1999

The prospect of educational technology in Tibetan schools in India

Penpa Dorjee
University of Northern Iowa

Let us know how access to this document benefits you

Recommended Citation

The prospect of educational technology in Tibetan schools in India

Abstract

The purpose of this research paper was to determine the prospect of educational technology in Tibetan schools in India. In order to look at this, an attempt has been made to determine the present status of technology in Tibetan schools by collecting data through survey, telephone interview, electronic mail, on-line resources, and documents published by related organizations.

This paper also focuses on the present situation of the Tibetan schools, and looks at the primary problems of technology integration into the schools. Through survey and telephone interview, an attempt was made to determine the attitude and motivation of teachers, administrators, and students to integrate technology into the school infrastructure. Information on computer technology, Internet Service Providers and other relevant materials in India are gathered to help determine the goals and objectives of educational technology.

The Prospect of Educational Technology in Tibetan Schools in India

A Graduate Research Paper Submitted to the
Division of Educational Technology
Department of Curriculum and Instruction
In Partial Fulfillment of the
Requirements for the Degree
Master of Arts
University of Northern Iowa

By

Penpa Dorjee

29th April, 1999

This Research Paper by: Penpa Dorjee

Titled: The Prospect of Educational Technology in Tibetan Schools in India

Has been approved as meeting the research requirement for the
Degree of Master of Arts.

Sharon E. Smaldino

May 3, 1999
Date Approved

Graduate Faculty Reader

Lisa Hansen

_4.3.99_
Date Approved

Graduate Faculty Reader

William P. Callahan

_5-5-99_
Date Approved

Head, Department of Curriculum
and Instruction

Abstract

The purpose of this research paper was to determine the prospect of educational

technology in Tibetan schools in India. In order to look at this, an attempt has been made

to determine the present status of technology in Tibetan schools by collecting data

through survey, telephone interview, electronic mail, on-line resources, and documents

published by related organizations.

This paper also focuses on the present situation of the Tibetan schools, and looks

at the primary problems of technology integration into the schools. Through survey and

telephone interview, an attempt was made to determine the attitude and motivation of

teachers, administrators, and students to integrate technology into the school

infrastructure. Information on computer technology, Internet Service Providers and other

relevant materials in India are gathered to help determine the goals and objectives of

educational technology.

Table of Contents

Introduction

The Tibetan educational system originated in the 7th century AD when Tibetan king Songtsen Gampo sent Thonmi Sambhota and other young Tibetans to India to study. Since then the education system of Tibet has been based on a master-pupil pattern of the ancient Indian educational system. However this pattern has changed over time. After the Chinese invasion of Tibet in 1959, thousands of Tibetans fled to India as refugees and settled there and the traditional life-long learning system focusing on moral and intellectual pursuits changed to a more modern way of education.

His Holiness the Dalai Lama's (cited in DOE, 1998) vision of establishing Tibetan schools in India is that the children are the seeds of future Tibet:

> Our goal for now and the future should be to keep abreast with other people of the world in all aspects of educational progress and development. Therefore, after coming to India as refugees, our primary initiative has been the education of our children, the future seeds of Tibet who will carry out our national task, be it political or spiritual. (p.5)

Accordingly, efforts are being made to prepare the children to face the challenge of the modern world, grounded firmly in traditional values. The Department of Education, (DOE) under the Central Tibetan Administration, Tibetan Government in Exile, is monitoring Tibetan schools in India jointly with the Central Tibetan School Administration (CTSA). The role of the DOE is to focus on achieving their (DOE's) aims and objectives by providing support for the educational and welfare needs of Tibetan refugee students in India, Nepal and Bhutan (DOE, 1998).

Four decades after of the establishment of Tibetan schools in India, there has been a noticeable development in schools and literacy growth in the Tibetan community. However, the way of instruction has remained almost the same for the past forty years. This paper focuses on the status of technology in these schools and to see the possibilities of integrating educational technology through the perspectives of administration, school administration, teachers and students.

History of Tibetan Schools in India

The first Tibetan refugee school was established in 1960 with 50 students in Mussorrie, a small hill station in northern India (Chungdak,1999). In 1961, at the request of His Holiness the Dalai Lama, the government of India established the "Tibetan School Society" now called the Central Tibetan School Administration (CTSA). This is an autonomous body under the direct administration of the Ministry of Human Resource Development, the Government of India, which manages and assists Tibetan schools in India for education of Tibetan refugee children. Accordingly, the DOE has charted the goals and objectives for these schools:

- To oversee the educational and welfare needs of Tibetan refugee children in exile

- To provide primary education for every Tibetan refugee child in order to achieve 100 percent literacy among the Tibetan refugee community

- To provide modern scientific and technical education and skills, while preserving and promoting the Tibetan language and culture

- To inculcate values of personal integrity and universal responsibility

- To address the human resource requirement of the Tibetan community in exile and future Tibet. (DOE, 1994, 1998)

Since 1960, the increase in the number of Tibetan schools in India has been noticeable. According to the report published by the DOE in 1998, there are 71 Tibetan schools in India and 16 in Nepal and Bhutan combined. Total enrollment in these schools is 28,000 (see table 1). In the initial stage, the entire expenditure of Tibetan schools under CSTA was borne by the Government of India. However, in 1975, the Indian Government amended its policy. It no longer considers Tibetan children born after 1975 as refugees and started to charge fees for board and lodging (Shrimala, 1984). The schools under DOE are being run with assistance from the Government of India, aid organizations, and individuals around the world.

Table 1: *Number of schools in different school levels*

Organization	Primary	Middle	Secondary	Senior Secondary
CTSA	8	10	5	8
DOE	13	5	1	0
TCV	9	2	2	2
THF	1	-	-	1
Others	1	2	1	-
Total	29	19	9	11

Educational Structure

Tibetan students in India receive a modern education based on a structure that consists of two to three years of pre-school education (Kindergarten), 12 years of school education, and 6 years of post school education (DOE, 1994, 1998). In addition most of the Secondary Tibetan schools are affiliated with the Central Board of Secondary

Education (CBSE), New Delhi, which follows the 10+2 education pattern. Under this school pattern students are given 10 years general education and two years of diversified curriculum, preparing for a post school education in various professions. These twelve years of school education are divided into four levels:

1. Primary School (Grades 1-5)

2. Middle School (Grades 6-8)

3. Secondary School (Grades 9-10)

4. Senior Secondary School (Grades 11-12) (see table 2)

Table 2: Structure of Education

Age	School level	Grade
3-5	Pre-School	KG Stage 1,2,3
6-10	Primary School	Grade 1-5
11-13	Middle School	Grade 6-8
14-15	Secondary School	Grade 9-10
16-17	Senior Secondary School	Grade 11-12
18-20	Bachelor Program	
21-25	Master's Program	
Vocational Programs are provided after Secondary School, and Professional programs are provided after Senior Secondary School.		

At the senior secondary level (Grade 11-12) in Tibetan Schools, four fields of study are offered, which will determine students' post school education level: (1) arts (2) science (3) commerce (4) vocational education. All students at schools affiliated to CBSE, New Delhi, have to take national level examination at grades 10 and 12.

<u>Enrollment and Drop-outs</u>

According to the 1995 DOE survey report, there are 30,000 Tibetan children of

school age (6-17) (DOE, 1995). Among them 70% are enrolled in the Tibetan Schools

and 30% are enrolled in monastic institutions and non-Tibetan schools in India (see table

3 & chart 1). However, it is estimated that the average annual rate of students dropping

Table 3 Total Enrollment

Grades Level	Total Enrollment
Pre-School	4,442
Primary	12,738
Middle	6,458
Secondary	2,547
Senior Secondary	1,400
Totals	27,585

Chart1: Total Enrollment Percentage

Enrollment Percentage

9%   5%   16%   23%   47%

- Preschool
- Primary
- Middle
- Secondary
- Senior Secondary
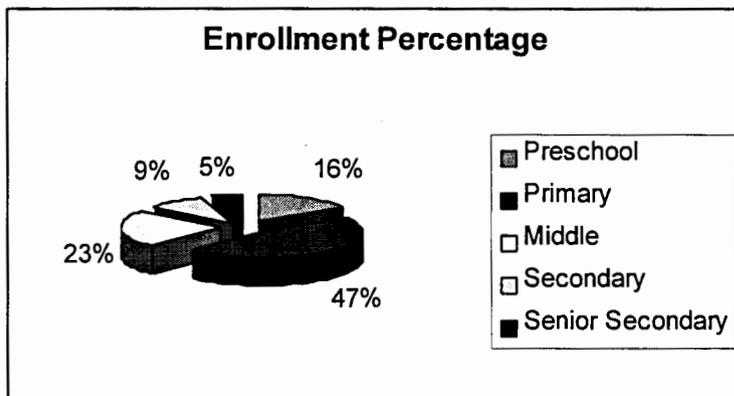
out of schools is 9 percent. The highest drop-out rate of students are in the ages between 11-13 with 4% from the total drop-out rate, followed by 3% from secondary level, 2% from senior secondary level (Chart 2 & 3) (DOE, 1995).

Chart 2: Dropout Percentage from total enrollment

Dropout Percentage from total grade level enrollment

0%
1%
19%
44%
36%

Pre-school
Primary
Middle
Secondary
Senior Secondary
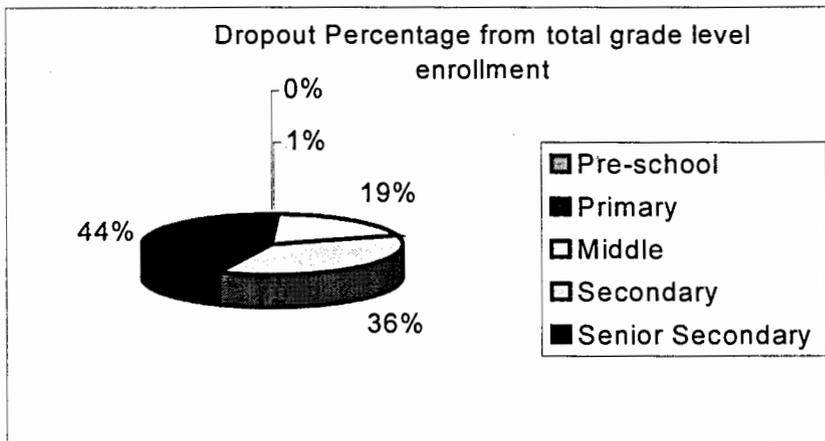
Chart 3: Dropout Percentage form total grade level enrollment

Dropout Percentage from total enrollment

0%
0%
2%
4%
3%

Pre-school
Primary
Middle
Secondary
Senior Secondary
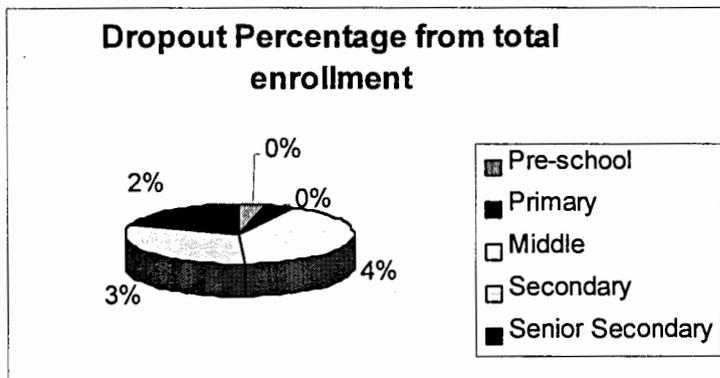
In contrast to the previous levels, the senior secondary level has the highest dropout rate of students from total grade level enrollment - 44% followed by 36% from secondary level and 19% from middle school level, which is a matter of great concern.

<u>Curriculum</u>

Tibetan Schools in India follow a school curriculum approved by the Board of

Education recognized by the Government of India. All the Tibetan Schools affiliated with

the CBSE, New Delhi use uniform text books in English, published by the National

Council for Educational Research and Training (NCERT), New Delhi, based on the

curriculum prescribed by CBSE, New Delhi. However, Tibetan language, Tibetan

History and Culture are a major part of the curriculum in all Tibetan Schools. The DOE

prescribes the textbooks on Tibetan language, Tibetan History and Culture for all school

grades. Since 1994, the DOE has approved the implementation of Tibetan language as the

medium of instruction at the primary level (Grade 1-5) in all Tibetan Schools in India,

which is a step toward making Tibetan language a medium of instruction in all grade

levels in the future (DOE, 1995, 1998).

<div align="center">Methodology</div>

The methodology employed in this paper includes a survey and study of the

documents.

<u>Survey</u>

Surveys were conducted in the form of questionnaires, telephone interviews and

through electronic mail (Appendix A). Questionnaires consisted of a series of questions

that would lead the author to determine the prospect of educational technology in the

Tibetan schools in India. The findings from the survey would indicate the present status

of educational technology and the motivation of the school infrastructure to integrate

educational technology into the schools. Interviews would give this author the opinions

and views of the different levels of schools on technology.

Study of Documents

Studying of documents would allow this author to determine the growth of the schools, their present situation and the status of educational technology of the schools. It would also help the author to look into the purpose of the integrated educational technology and the skills of the teachers and the students of the schools. This would help the author to determine the prospect of educational technology in the Tibetan schools in India and to set the goals and the objectives of technology in these schools.

Technology Status in Tibetan Schools in India

In order to determine the technology status of the Tibetan schools in India, it is necessary to divide the schools into three categories: schools governed by DOE & CTSA, autonomous schools and higher studies schools.

According to the survey, it was found that these three different institutions have different administration structures and different facilities for the students and the teachers in terms of educational technology (see table 4). For instance, Tibetan Children's Village in Dharamasala, India, an autonomous school organization, has implemented integrating computer technology into their school with the help of western aid and organizations, and individuals. However, authorities of this school have mentioned that the PC lab is primarily aimed at developing computer literacy among the students. No further scopes has been determined except learning how to use the computer. Their main focus is on teaching the students word processing, desktop publishing and Windows. The main reason for not using computer in an extended way, such as information acquisition, is due to lack of availability of Internet service providers and financial inadequacy. A special

emphasis is being made to create an alternate model to the traditional educational system and to enhance the learning attitude of students with a different learning environment. In addition, the school administration has concentrated more on acquiring technologies for a science laboratory.

Table 4: Available Technology in the Tibetan Schools

Org/School	Computer	TV/VCR	Audio/Visual	Others
DOE/CTSA	X	X	X	X
Autonomous	X	X	X	X
Higher Studies	X	X	X	X

Teachers of Tibetan Children's Village school have limited access to computers. Even though computers are being installed for the use of teachers, it is more or less a record keeping machine and used for desktop publication of the school magazine and other periodicals.

Other technologies used in the schools, including TV/VCR and audio, are used for teaching and learning. These devices are provided when exclusively related to the curriculum of the class. Teachers can show a movie or a videotape strictly related to class work.

The Tibetan schools administrated by DOE & CTSA are far more limited in their access to modern technologies. Despite the claim made by DOE, the environment of these schools is more traditional. The impact of educational technology on the students of these schools is hardly noticeable. However, students have experience great impact from commercial television outside the class. According to the responses to the survey, DOE

claims that schools have access to the audio primarily for learning language, especially English. But limitation of access is always a substantial problem.

Other than schools run by autonomous bodies and DOE & CTSA, there are schools for higher Tibetan studies; such as the Central Institute of Higher Tibetan Studies. This institution is far more advanced in technologies, subject to need. In 1988, the Central Institute of Higher Tibetan Studies, fully financed by Department of Culture, Government of India, was deemed to be a university by the University Grant Commission of India. Since then, the institute has taken a great leap toward integrating technology into the curriculum. The institute has established separate cells for technologies under different departments. Computer facilities are the main types of equipment allocated to different departments, considering the needs to achieve the set goals for these departments. Among them, the library is the main focus of providing technology facilities. The library is the only place where students can have access to educational technology. It is the primary place of the institute which is fully equipped with modern technologies such as computer, microfilm reader-printer, microfiche readers, photocopy machines, and a number of audio collections. The audio collection of the library is excellent; it covers all aspects of the curriculum of the institute. However, the videotape collection is finite- the reason is the non-availability of software that matches the school curricula. Efforts are still on going to create a rich video collection. According to the Librarian, (1999), students and research scholars have access to the facilities like TV/video and audio/visual related to the curriculum of the institute. In his view this is the most used section in the library by the students and research scholars as well.

Samten (1999) has said that the library is working on total automation of the library. In order to achieve this, the institute has sanctioned the purchase of 20 more (IBM) computers, a high number compared to the size of the library. Prior to this, an effort was made in library automation using Apple Macintosh computers. But that could not continue because of software problems. The library has aimed to develop a multi-lingual (English, Tibetan, and Hindi) interface cataloging system, which can provide the users with their choice of language. On this matter, the institute has come up with a deal with an Indian software firm to develop software that corresponds with the requirement of the institute library. After a few years of struggle, appropriate software "Slim" has been developed which has this multi-lingual capability. The success of library automation and the rate of user service can only be determined with the success of this new software. The librarian has stated that so far the results of Slim are encouraging. He is of the opinion that if Slim continues to meet the library needs, the library can provide better user service and even online service in the future. According to the users, computers in the library are not accessible to them. Instead, the library staff must do it for them, for example, a book search.

The research department of the institute is fully equipped with computers. According to the research staff of the institute, computers provided for their use are basically meant for desktop publishing. The computers in this department are exclusively accessible to the research scholars of this department. Research scholars use the computers to input their research data for publication. The department is not connected with the Internet yet. This prevents them from on-line information gathering and even publishing their works on-line. So, it is obvious that use of computers in this department

is more or less as word processing or desk-top-publishing. However, all the scholars agree that introduction of computer technology has changed the complexion of their out put. They are of the opinion that the computer has made their work a lot more easier and enhanced work quality.

Findings

The Tibetan schools in India are administrated by different organizations such as the Department of Education, the Central Tibetan School Administration, Autonomous organizations and the Department of Culture; the Government of India. Accordingly, the administration and educational environment in these schools are obviously different. Except for the Central Institute of Higher Tibetan Studies, which has the status of university, all are k-12 schools. (See table 5)

Table:5 Number of schools and grade level

School Organization	Total Schools	Grade Level
DOE/CTSA	46	K-12
Autonomous Org.	24	K-12
Higher Tibetan Study	1	University

Even though the DOE has made its claim of integrating modern technology into the school environment, almost all of these schools still follow more traditional media for instruction and learning (Chungdak, 1999). The computers acquired in the schools being run by DOE/CTSA are used for record keeping and official correspondence, which is far behind from the concept of integrating educational technology in to the classroom. It is obvious that teachers and students in these schools have no access to modern technology,

except in science labs. The main reason for inaccessibility of technology in these schools is due to the shortage of funds (DOE, 1995/96). According to the report, the annual scholarship awarded to the students on science and technology is only 20% of the whole of the scholarship budgeted.

Since the mid 1970s, a considerable decline in the quality of education has been noticed (DOE, 1995/96). Apparently, this decline can be attributed to the lack of innovative teaching techniques and teaching aids. This has also resulted in the high dropout rate of students from the schools, especially from the middle schools, the students between 11-13 years of age. Parents have their own versions describing the cause-factor relationship in dropouts. According to their views, the impact of television programs and movies are overwhelming for these children outside of the school. They even skip school to watch these programs and movies. Paradoxically, they learn other languages and cultures from these programs, which in fact, indicate the need for changes in instructional and technique.

Compared to the DOE/CTSA schools, the dropout rate from the autonomous schools is apparently low (TCV, 1996). It is known that even though these schools do not adequately use modern technology for teaching and learning, the school administrations have concentrated on various activities in which students must participate. These activities includes cultural programs, sporting events and other educational related activities that refresh the students' attitude in the learning process.

The status of technology of TCV School, as discussed earlier, is much better than the DOE/CTSA schools. The computer lab of this school has approximately 25 PCs (IBM), a laser printer and two dot matrix printers. The main purpose of this lab was

designed to make the students computer literate. The students are taught how to use the computer in terms of word processing, Windows and Ms Dos. However, access is limited to the students in grades 7 and above. In the words of a teacher in this school, teachers do not have access to the computer facilities, except for those teachers who are engaged in record keeping and publication of the school newsletter (Namdol, T., Personal Communication Feb. 25, 1999). Instead the administration has given priority to purchasing science lab equipment.

Compared to the K-12 Tibetan Schools, the Central Institute of Higher Tibetan Studies is the only Tibetan institution which is well equipped with modern educational technology (see Table 6)(Chungdak, Dakpa, Samten, Chosphel 1999). One of the reasons for this can be attributed to the institute's exchange programs with a few western colleges and universities. The Library, in the words of the librarian, is the main resource center for the students and the teachers for both on-line and traditional print materials (Samten, 1999). The library has modern facilities like the computer, TV/VCR, audio collections and other print media i.e. microfiche reader printers. The Library is fully automated and an on-line catalog service is being provided to the users. This searchable on-line catalog is ready for Internet connections and will allow browsing through the Internet in the near future. In addition, students and the teachers have access to the audio and video collection of the library, which covers the curriculum prescribed by the institute. According to the librarian, administration and the head of the publication unit of the research department (Samten, Dakpa, Chosphel, 1999), the institute has installed IBM in most of its departments, except in the publication and dictionary unit. The reason behind this fact is due to affordability and ready availability of IBM as compared to Apple Macintosh units.

Table.6 Comparison of technology between the schools and their primary use

Organization	Technology	Primarily used for
DOE/CTSA	Computer	Record keeping and documentation
	TV/VCR	Presentation and entertainment
	Audio	Language learning
TCV	Computer	To teach the students how to use computer, record keeping, DTP and Word Processing
	TV/VCR	Presentation in the class and entertainment
	Audio	Language learning
CIHTS	Computer	Library automation, on-line library information service, Research, DTP, word processing, record keeping, teach the students how to use computer, documentation
	TV/VCR	Access to the student and research scholars for learning
	Audio	For learning subjects related to the curriculum.

Prospects

The word educational technology means technology applied for improving human factors related to education (Eisele & Eisele., 1990). Hackbarth (1996) has described it as a multidimensional concept:

- It is a systematic process involving application of knowledge in the search for replicable solutions to problems inherent in teaching and learning.

- It includes the products of this process, such as programmed text to program computer software, and enter course instruction.

- It is a profession composed of various job categories.

- As a formal study of the above aspects, educational technology qualifies as a academic specialty within the larger discipline of education.(p.11)

According to these concepts, educational technology is designed to provide new and challenging teaching and learning experiences. It is also aimed at cost-effectiveness and to achieve higher-level education. Technology also conquers time and space. The computer has focused increased attention on educational technology, but should not be viewed as the only technology influencing learning today (Thompson, Simonson, & Hargrave 1992). Everybody agrees that students have their own learning styles and preferences, and traditional classroom instruction does not address this basic fact (Kearsley, 1998). The principal role of educational technology is to help improve the overall efficiency of the teaching/learning process (Ellington, Percival, & Race, 1993).

The Need

A change in the educational infrastructure in Tibetan schools in India is essential. The scope of this change is within reach of the schools because the environment of information technology in India is getting better day by day. However, the majority of Tibetan schools in India are not prepared for this change. It is obvious that the impact of media technology that we see on the young Tibetan children indicates the need for a change in the educational environment. However, lack of a technology strategic plan creates a situation in where it is more difficult to integrate technology in the classroom.

Although the DOE has set up goals and objectives for these schools to impart education in a modern educational system, many factors, such as absence of planning and lack of funds, prevent them from exposing the children to modern educational technology (DOE, 1995/96). It has become clear from the survey and interviews that the failure of

ongoing integration of technology is due to an unclear plan. As Fries and Monahan

(1998) said, short term planning is no longer valid in this rapidly changing world of

technology. Certainly, emphasis on long-range planing is necessary.

According to the survey and the interviews with the authorities of the Tibetan

schools in India, the schools can be divided into two categories: K-12 and higher

institutions that need to prepare a better and concrete technology strategic plan (see

Appendix B). Accordingly, goals and objectives could be set that meet the needs of these

schools and are balanced with the available funds. The success of integrating technology

into the classroom has brightened to some extent with the change of the informational

action plan by the Government of India. In its Information Technology Action Plan the

Government of India has indicated that Internet Service Providers (ISPs) will be provided

a license free of charge for the first five years. After five years a nominal license fee of

one rupee (about 3 pennies) will be charged (Indian News,1998). However, the ISPs are

charging high fees to their customers, which prevents them from getting access to the

Internet. According to a recent report in the on-line newspaper, ISPs are charging

customers at the following rate:

Block of time	Existing Rates	New Rate	In US$
100 hrs	Rs. 3,000.00	Rs. 2,400.00	$ 60.00
250 hrs	Rs. 6,500.00	Rs. 5,200.00	$ 130.00
500 hrs	Rs.10,000.00	Rs. 8,000.00	$ 200.00

(Arvind, 1999)

The Vision

When schools' infrastructures were examined, as well as the status of educational technology within the different school organizations, and the willingness of the school administration and the attitude of the students, it appread that the time for integrating technology has arrived. It has also become necessary to determine goals and objectives for the use of educational technology of these schools.

From the point of view of accessibility and affordability of technology in the Indian market, audio/visual and TV/Video are the best possible technologies that could be integrated into K-12 schools. As Sampat, Pannerselvam, and Santhanam (1984) state, the use of audio and video technology is not only cost effective, but also accessible for a larger audience at the same time. Use of these materials can provide effective substitutes for direct contact of students with environment social and physical issues. Lorge (cited in Thompson, Simonson, & Hargave, 1992) reported that the use of language laboratories could increase students' performance in foreign language classes. The results indicated that those students who used the audio language laboratory were superior in foreign language speech fluency, intonation, and comprehension (at slow and fast speeds) compared to those who did not use the laboratory. Using audio materials for learning has the similarity with the traditional classroom to some extent, but the advantage of replay and reusing the tape shows its value and significance for learning. Unlike early 60s and 70s, even 80s, the quality in development in audio technology in India is very high. The prices of these materials make them within the reach of a limited school budget. Therefore, it is rational to acquire audio media in the K-12 schools.

Unlike audio, use of video and TV in the classrooms has shown its own impact and significance. Although, it is a one-way instructional media, students can still learn from it. The University Grant Commission of India telecasts a series of instructional television programs on different subjects on a schedule that does not correspond with the classroom schedule. Classrooms do not have television sets. Thus, the programs could not gain the level of popularity as was intended. Students watch these programs in their homes, where commercial television is the first choice of the viewers.

A study that this author conducted in a communication class at the University of Northern Iowa showed that students still prefer instructional video for teaching and learning, despite the abundance of highly sophisticated computer technology on campus. Students strongly agree with the idea of making video programs. A few of them expressed their desire to have a discussion session after the video presentation in the class, which allows the students to interact with their instructor. Some of them made comments like "It is an additional effective way of learning," and "Technology gives people the opportunity to see and hear and learn faster. They do not need to travel to other countries to learn about the cultures," so on and so forth. Two way video and two-way audio systems (like Iowa Communication Network) are expensive for the Tibetan schools in India.

Last year's release of two new Hollywood movies on Tibet ("Seven Years in Tibet" and "Kundun") has helped change the attitude of the Tibetan community as it related to technology. Influenced by these developments, the Institute of Tibetan Performing Arts, Dharamsala, India has dubbed a Hindi movie, featuring India's

independent struggle, in to the Tibetan language. The dubbed film gained immense attention among the Tibetan community among all age groups.

Except for the Tibetan Children's Village school and a few other autonomous K-12 schools, many of them could not afford expensive computer technology. In a recent report published in an on-line newspaper, iMacs (Apple G3) are sold at the price of Rs. 85,000.00 (eighty five thousand Indian rupees), which is about $2,125.00 US dollars. This compares to a sale price of about $1000 in the United States. Existing computer labs in these schools are IBM, which is far more inexpensive then the Apple Macintoshes. However, the multimedia instructional software has not been introduced in these labs yet, because of the unavailability of required funds. For the time being, it is most appropriate for these schools to continue with their present objective which provides the students with computer literacy.

On the other hand, the success of technology in CIHTS is primarily due to the institute's relationship with other western universities and colleges, and to the vision of the institute's authority. However, progress in technology that is expected by this institute after several years of struggle in integration has not reached the height that was contemplated. During an interview with an authority of this institute, the author was told that the research department has acquired seven more IBM PCs. When asked whether these acquired hardware and software are according to the needs of the research department, the reply was unclear. So it is obvious that either the technology plan is vague or there is no technology plan. It was also observed that the institute was unable to take full advantage of these technologies due to unavailability of a staff development plan.

Dexter (1998) has emphasized technology plans in two approaches, "Technology, then uses" or "Uses, then technology." Both of these approaches are relevant. However, the "Technology then uses" planning approach could be risky because of the non-utilization of this equipment. Non-availability of a staff development program may increase the risk of under-utilization of the equipment. The second approach, "Uses, then technology" could be the more appropriate planning approach for these schools, if the potential users of the technologies were given training prior to the acquisition of technology. This could help determine the purpose of technology prior to its integration into the curriculum. This will also help to ensure a staff development program which is more relevant, appropriate and finally successful.

During this author's research, it was found that the Central Institute of Higher Tibetan Studies has an abundance of content experts in Tibetology and Buddhist studies. An abundance of these resources are laying unexplored and can be put into multimedia and other media forms for better instruction and learning. From every aspect, CIHTS is the most fitting organization to undertake this work. For this, as Wedman, Laffey, Andrew, Musser, Diggs and Diel (1998) suggest the infrastructure needs to support individual faculty or scholars interested in developing new teaching and learning products. It is also necessary for the infrastructure to support faculty and scholars in establishing a partnership with the schools interested in supporting educational reforms. Thus, the infrastructure needs to support learning communities unbounded by time and distances. This infrastructure would include innovative technology products developed under the new media priority.

The Vision to Reality

Considering every aspect of infrastructure of Tibetan schools in India, this author would conclude that the most appropriate technology that could integrate into Tibetan schools at this time could be determined in a variety of ways (see table 8).

Table: 8 Future prospect of educational technology

Organization	Educational Technology	Uses/Purpose
K-12 schools	Audio/Video/TV	Teaching and learning
	Computer	How to use computer
CIHTS	Audio/Video/TV	Teaching and learning Developing teaching aids
	Computer	On-line reader services, teaching and learning, on-line information collection, development of instructional software

In order to make the vision a reality, it is necessary to draw a concrete technology plan for both of these categories. To prepare the technology plan a committee should be formed including an educational technology support team consisting of:

1. An educational technologist

2. An information specialist

3. A content expert

The committee for the K-12 Tibetan schools should be represented by:

1. The DOE, Central Tibetan Administration (Tibetan Government in Exile)

2. The Central Tibetan School Administration

3. The Tibetan Children's Village School

4. The Tibetan Home Foundation

5. The principals of three senior secondary schools

6. Educational technologist

7. Informational specialist

8. Content experts

The committee for the CIHTS can be formed from the representation of the following authorities and departments:

1. Director

2. Registrar

3. Librarian

4. Editors of the research department

5. Faculty representative

6. Student representative

7. Educational technologist

8. Informational technologist

9. Content expert

Conclusion

The purpose of this research paper has aimed to look into the prospect of educational technology in the Tibetan schools in India. An attempt has been made to determine the present status of educational technology in these schools and the prospects of educational technology in the future. Data were collected through a survey, telephone interview, electronic mail, and documents published by the organizations.

During the research, this author found that most K-12 Tibetan schools have limited access to modern educational technology. There are currently only a handful of schools with considerable access to the technology. Although it has been observed that the impact of technology has influenced their learning attitude, it is very disappointing to see that the majority of students do not have access to modern educational technology. However, the enthusiasm shown by the teachers and the administrator on integrating technology into education, and their agreement about technology as an effective media for teaching and learning is a good indication of a brighter future for educational technology. The most tangible and indispensable issue for consideration is to constitute a technology-planning committee and prepare a staff development program for a successful integration of educational technology. This allows minimizing the futility of acquired technology and allows the teachers to devote their strength to integrating technology into the classroom and to better facilitate student learning.

References

Arvind, A (1999 March 15) Economy /Development pulseofindia@listserve.
allindia.com [14, March 1999]

Chungdak, K., (1999, Feb 1) [Survey]

Dakpa, T., Chosphel, S. (1999) Survey. Dorjeep7774@uni.edu [6, March 1999]

Department of Education (1998) Education in exile: Building our future through
education. Dharamsala HP: Department of Education

Dexter, S. (1998) District technology plans: Technology then uses or uses then
technology (pp.61). In Berge Z.L., Collin,M. (Ed.) Wired together: The online classroom
in K-12. Cresskill, NJ: Hampton Press Inc.

Eisele J.E., & Elsele M.E., (1990), Educational technology: A planning and
resource guide supporting curriculum.(pp..) New York: Garland Publishing Inc.

Ellington,H, Percival F., & Race P., (1993) Handbook of educational technology.
East Brunswick, NJ: Nicholas Publishing Co.

Fries B., Monahan B.,(1998 Jan-Feb) School district technology planning in an
era of rapid change. In Educational Technology.Vol.38 No.1. Englewood Cliff, NJ:
Educational Technology Publication

Hackbart S. (1996) The educational technology handbook: A comprehensive
guide. Englewood Cliffs, NJ: Educational Technology Publication

India News June-July 1998. Information technology action plan (pp.2)
Washington, DC: Embassy of India

Kearsley G. (1998 March-April) Educational technology: A critique. In Educational Technology.Vol.38 No.2. Engelwood Cliff, NJ: Educational Technology Publication.

Sampat, K., Panneerselvam,A.,Santhanam, S. (1984) Introduction to educational technology New Delhi: Sterling Publication Pvt.

Samten, J. (1999, Feb 26) Survey. Khangpa@hotmail.com [26, March 1999]

Shrimali,K.L. (1984) Modern education and refugee. In Samphel (Ed.) Tibet-84 25 years of Struggle and Reconstruction. New Delhi: Janvikas Press

TCV: (1st edition) [Brochure] (1996), New Delhi: Archana Press

The Government of Tibet in Exile (1995-96) Department of Education [on-line] Available: http://www.tibet.com

Thompson A.D., Simonson, & M.R., Hargave C.P. (1992) Educational technology: A review of the research Washington, DC: Association for Educational Communications and Technology.

Wedman,J.,Laffey, J., Andrew,R., Musser, D. Diggs, L. and Diel, L., (1998 Sept.-Oct.) Building technology infrastructure in a college education: Increasing performance capacity In Educational Technology.Vol.38 No.5. Englewood Cliff, NJ: Educational Technology Publication.

Appendix "A"

Survey questionnaires

Technology Survey in Tibetan Schools in India

I am doing a survey on Technology in Tibetan Schools in India for my graduate research paper on "Prospect of Technology in Tibetan Schools in India". Your answer will definitely help me to prepare an accurate report on technology position and planing integrating technology into the schools. I shall highly appreciate your cooperation. Thanks. Penpa Dorjee form University of Northern Iowa, USA.

1.   What technology do you have in your school?

        1. Computer   2. T.V.   3. Video   4. Audio   5. Others

2.   If yes, for which purpose do you use them?

        ....

        ....

3.   If no, why?

        ....

        ....

4.   What kind of computer do you have?

        (IBM).......   (Mac)........... (Others)..................

5.   What software do you use?

        (Microsoft office).......   (Dos)........   (Database).........
                 (Others)............

6.   For what purpose do you use them?

        1. To teach the students
        2. Documentation
        3. Correspondent
        4. Any other purposes, such as.................

7.   If you use computer to teach the students, which of the followings you are using for?

        1. How to use computer
        2. Learn things by using computer

3. To collect information on different subjects

8. Do you use T.V./Video to teach the student?

Yes…………..   No……………

9. If yes, for which subject do you use the most?

   1. History and Culture
   2. Politics
   3. Social Science
   4. Math
   5. Language Teaching
   6. Others

10. If no, why?

……………………………………………………………………………………

……………………………………………………………………………………

11. Any other technology do you use to teach the students?

   1. If yes, what kind of technology?

……………………………………………………………………………………
……………………………………………………………………………………

   2. If no, why?

……………………………………………………………………………………

……………………………………………………………………………………..

12. In your opinion, which of the technology do you think most effective to teaching and learning?

   1. Computer
   2. TV/VCR
   3. Audio
   4. Other if any

13.   Explain why it is effective and why it is not?

....

....

....

....

14.   What is your opinion on the prospect of technology in Tibetan Schools? Please explain.

....

....

....

....

Name...............Designation (Administrator/teacher/student) ....

Dear sir/madam

My name is Penpa Dorjee. I am a Graduate student studying in University of Northern Iowa since august 1997. This is my last semester of study and anticipating to graduate in May 1999. I am planing to write my graduate research paper on "Prospect of Educational Technology in Tibetan Schools in India". In order to present a resourceful paper, I am need of some information regarding background history, aims and objectives of Tibetan Schools in India. Followings are some of the information I am looking for. Your kind help will definitely help me to prepare an accurate report and prospect of planing integrating technology in Tibetan Schools.

1. When and where did the first Tibetan School was established in India?
2. What is the aims and objectives of Tibetan Schools in India?
3. How many students are admitted at initial stage?
4. What is the growth of strength of student years that followed?
5. What is the demography of the schools?
6. What is the financial status of the schools?
7. How many schools do you run at present?
8. What grade level (classes) -- from Kinder garden to 12th grade or higher
9. Do you run schools for higher education? (general in Tibetan Community)
10. Does the schools have access to educational technology for teaching and learning?
11. What kind of technology do you have in the schools? (in general)
12. Do you have any plan to integrate technology in the schools in future?
13. If so, are they for teaching and learning, or for other purposes?
14. In your opinion, which technology do you prefer most in the schools?

Could you please explain little detail.

I shall be very grateful for your kind help. I know that how busy you are. I shall appreciate you for sparing help and time. Your help will definitely encourage me to pursue my study and fulfill my objectives of coming over here. Thanks
Penpa Dorjee
105 E. Street
University of Northern Iowa
Cedar Falls
IA-50613
USA
Phone: (319) 222-5901
e.mail dorjeep7774@uni.edu
Homepage: http://www.uni.edu/~dorjee73

Appendix "B"

Technology Plan of Central Institute of

Higher Tibetan Studies, Sarnath

Varanasi, India

Prepared by: Penpa Dorjee

Table of contents

Introduction

Central Institute of Higher Tibetan Studies, (Deemed University) was established in 1967, under the consideration of the His Holiness the Dalai Lama and India's then Prime Minister Pandit Jawaharlal Nehru, with the view to educating the youth of Tibet and students of Himalayan border who had lost the opportunity to study Buddhism after Chinese invasion of Tibet in 1959.

A more important reason for the establishment of this institute was to restore the past glory which lays ensconced in the precious Buddhist scripture on religion and philosophy, art and architecture, and science and technology --including astronomy and medicine.

Vision and Mission Statements

Vision Statement

Central Institute of Higher Tibetan Studies, shall be an Institution imparting education in Tibetan studies with predilection of the traditional Tibetan method of teaching within an innovative framework of modern universities comprising time-bound course of study and award of degree. The institute shall be committed with the continuous improvement , will result in CIHTS be recognized internationally an innovative and active center for Tibetan and Buddhist studies. CIHTS, will be known for producing qualified individuals capable of undertaking research and restoration in concurrence with the fundamental goals and objectives of the organization.

Mission Statement

The mission of the CIHTS is :

- preserve the Tibetan culture & tradition
- to preserve the ancient Indian science and literature preserved in the Tibetan language, but lost in original,

- to offer an alternate educational facility to students of Indian Himalayan border areas, who formally availed the opportunity of receiving higher education in Tibet; and
- to accomplish gains of teaching and scope of research in traditional subjects in a framework of the modern university system of education with the provision for awarding of degrees in Tibetan studies

Technology Goals and Objectives

Goal

The goal of integration of technology in CIHTS, is to develop resource software on Tibetan and Buddhist studies to the world.

Objectives

In order to achieve the goal, the institute will provide technology facilities to the students, staffs and faculty to:

- Integrate curriculum studies, such as history, Buddhist philosophy, language, culture and tradition
- Provide initial training (as needed) to teachers, research scholars, library staffs and students.
- Institute a group of research scholars to work on developing software on Tibetan and Buddhist studies to the students, scholars, and interested individuals
- Develop a database of Tibetology and Buddhist studies
- Take advantage of technology in preserving data and reproduce them as camera-ready copy for publication

Planning Committee Criteria

Planning Committee

The Technology Planning Committee is one of the most important divisions of the whole process to achieve the goals and objectives set by the institute. In order to accomplish it, a committee representing every department of the setup is necessary. Thus, following members from each of the department/faculty shall be designated to carry the

task of technology planning of the institute under the chairmanship of the Director of the institute.

The Committee consists of:

1. Director
2. Registrar
3. Librarian
4. Faculty representative
5. Editors of the research department
6. Student representative
7. Educational technologist
8. Informational technologist
9. Content expert

Need Assessment

A Technology integration plan should be prepared with the aim to develop educational software on Tibetan and Buddhist Studies by a unit of research scholar of the Central Institute of Higher Tibetan Studies, Sarnath-Varanasi, India. In order to identify the needs, a survey of existing technology was conducted to ascertain:

1. What is the present situation of technology of the institute.
2. For which purpose the technology is used.
3. What application software they have/use.
4. Whether the technology is accessible to the learner.
5. Which technology can be suitable and motivate the learner.

Questionnaires were send to the following departments of the institute community:

1. Department of Library
2. Research Department
3. Faculties
4. Publication Department
5. Student

As the status of the Technology is different from one department to another, the questionnaires for survey could be prepared separate for different department:

Survey of Library

1. What kind of computer you have?

   -----(IBM) -------- (MAC)----------Others

2. What is the operating system?

   Windows (........) MSDOS (........) MAC OS (........) Others...................

3. What application software do you use?

   (.......) MS Word (.......) Windows (.......) Word Perfect (......) file maker

   (..........) Mswork (.........) MsExcel (......) Spread sheet (...........) Others............

4. For what purpose(s) do you use these application software?

   1..

   2..

   3..

   4..

5. Are they effective to accomplish the set tasks?

   (.......) Yes (........) No

6. If yes, explain how?

....

7. If no to question # 5, explain why?

....

8. What kind of multi-media program you have?

(...........) Hypercard (............) Hyperstudio (........) Others

9. Do you provide video facilities to the learner?

(............) Yes   (...............) No

10. If yes what are the content of the video collections?

1. Related to the curriculum (........) 2. Others (..............)

11. What is the content of audio/visual collection of your library?

(a) ....

(b)...................................

(c) ....

(d) ....

12 How often are the audio/visual materials used by students?

....

....

13. Are audio/visual materials effective to motivate the learners?

14. If yes, how?

....

15. What do you think about improving technology of your library?

Name..   Designation...............................

Survey of Research Department

1. What brand of computer you have/use?

    (IBM) ....(MAC) ....Other Brands........

2. What application software do you have/use?

    (MS Word) ....(Quackexpress) .... (Pagemaker) ....

3. For what purpose you use this/these application software?

    (Publication Designing) .... (Research work) ....(Others) ....

4. Is the application software you use are effective to accomplish the works?

    (Yes) .... (No) ....

5. If yes, explain how?
    ....
    ....
    ....

6. If no to question # 4, explain the reason.
    ....
    ....

7 Which equipment do you use for you presentation?
    Computer (......)
    Video (.....)
    Audio/Visual (.....)
    Overhead Projector (.......)

Others if any (.......)

8 Which teaching aid do you think is most effective for presentation?

....

....

9 Do you think that integrating technologies like computer, video, audio/visual in your work have increased the quality and the productivity of your works?

(.......) Yes

(.......) No

10. If yes, explain how?

....

....

....

11. If no to question # 9, explain why?

....

....

12. How do you evaluate your overall experience with technologies like computer, video, TV, audio/visual etc.?

Survey of Publication Department

1. How many computer do you have?

   1-5 (   ) 6-10 (   ) 10-15 or more (   )

2. For which purpose(s) your department use the computers for?

   Publication Designing(.........)Others(.........)

3. What application software do you have/use?

   Ms Word (.......)Windows(......)Quackexpress (.........) Pagemaker (.......)

   Word perfect(........)

4. What is the reason for not using the rest available application software?

   ....

   ....

   ....

5. Which laser printer(s) do you have/use?

   Laser writer 300/dp (.......) Laser writer 600/4 dp (........) Laser writer

   600/8 dp (........) Laser writer 600/16 dp (........) HP Laserjet (......) Others(.......)

6. Which laser printer gives a better resolution?

   Laser writer 300/dp (.......) Laser writer 600/4 dp (........) Laser writer

600/8 dp (.......) Laser writer 600/16 dp (.......) HP Laserjet   (......) Others(.......)

7. Does your department hired a technology expert or coordinator?

    Yes (........) No(........)

8. If yes, what are his/her duties?

    1.

    2.

    3.

    4.

9. If no to question # 7, explain why?
    ....
    ....
    ....

10. Do you think that hiring a technology coordinator can improve your work?
    Yes (.......) No(.......)

11. If yes explain how?
    ....
    ....
    ....

12. If no to question # 10, explain why?
    ....

Name.................................   Designation..............................

Survey of Teachers

1. What equipment (s) do you use as your teaching aid?

   Computer (......)

   Video (.....)

   Audio/Visual (.....)

   Overhead Projector (.......)

   Others if any (.......)

2. Which software do you use for your presentation(s) in the class?

   Video Tapes (   )

   Audio (   )

   PowerPoint ( )

   Overhead Projector (   )

   Others (   )

3. Which is the best possible media do you think to assist students in learning?

   Video ( )

   Audio ( )

   Muliti-Media (   )

   Others (   )

4. Which equipment do you think is most effective for teaching and learning?

   1.   Computer   1   2   3   4   5

   2.   Video Tape   1   2   3   4   5

   3.   Audio Cassette   1   2   3   4   5

   4.   Visual Materials   1   2   3   4   5

   5.   Overhead Projector   1   2   3   4   5

5. What basic knowledge, do you think, that students should have to learn through technology assisted class?

1 ....

2 ....

Name..........................   Department.......................... Designation..............

Survey of Students

1. To which technology you are familiar with?

   Computer (.......)

   Video (.......)

   Audio/Visual (.......)

   Others (.......)

2. Which equipment you would choose for learning?

   Computer (.......)

   Video (.......)

   Audio/Visual (.......)

   Others (.......)

3. Why do you choose it, state reason?

   ....

   ....

   ....

4. Do you think that technology assist increased your comfort level of learning?

   Yes(.......)

   No(.......)

5. If yes, explain how?

   ....

   ....

   ....

6. If no to the question # 4, explain why?

   ....

7. Which technology do you think is most effective to motivate learning?

   Computer (.........)

   Video (...........)

   Audio/Visual (..........)

   Others (.........)

8. What improvement, do you think is needed to make technology assisted instruction more effective?

   ....

   ....

   ....

Name.............................. Undergraduate/Graduate......................... Major..............

Need Assessment Data Analysis

After completing the need assessment survey, the data should annualized to determine the need.

Need Assessment Final Report

After analyzing the need assessment data, a final report should be prepared to identify the need.

Classification of Tools

After the preparing the final report, it is important to classify the tools that found necessary to meet the need. Therefore, a final chart should be prepared for final classification of the required tools.

Connection of Curriculum and Tools

To implement the technology plan, and after identifying the need and classifying the tools, the determination of the connection of curriculum and tools is vital. This will not only lessen the futility of under-utilization of the equipment, but also enhance the quality and production as the technology is aimed for.

The chart could be prepared as below:

Tools	Objective	Candidate Tool(s)	Theoretically Best Tool	Final Selection
Computer, Video, TV	To develop Educational software on Tibetan and Buddhist Studies	Computer, Video	Computer	Computer
Application Software	--do--	Word Processors, Database, DTP, Multi-Media programs	Multi-Media Programs	Multi-Media Programs
Peripherals	--do--	VCR, Video tape, Audio tapes, TV monitor	VCR, TV monitor	VCR, TV monitor

Evaluation Plan

Since the integrating project is aimed to develop software on Tibetan and Buddhist studies, the evaluation can be done as follow:

Evaluation Instrument	Application
Portfolio	Evaluate the prepared content. The evaluation should be made on clarity and resource of the subject matter and the authenticity and clarity of the content.
Design Phase	Evaluate the effectiveness and attractiveness of the design of the product to gain attention of the learner. The graphics and other content should be related to the subject matter.
Presentation	Evaluate the way of presentation of the subject matter. The presentation should be attractive to gain attention of the learner and retain their motivation.
User's Friendly	Evaluate whether the developed product is user's friendly.
Meet the Needs	Evaluate the capability of the product to meet the goals and objectives. Is it able to enhance the learning attitude of the students, and is it able to change the learning culture.
Effectiveness	Evaluate the effectiveness of the technology used for instructional purpose. It is able to generate the feedback from the teachers and students.