

TECC's First Project - 2004 Gansu Summer Institute on Technology and Education

TECC's First Project – the 2004 Gansu Summer Institute – delivered viable curricula in both English and technology based on free print and web-based materials to 27 middle school teachers from the Gansu Province, the second poorest in China. The project took place as a 2-week program involving 11 student officers from the US and China, and emphasized a program of technology usage and innovative/web-based teaching methods. With the support of local government and school officials, TECC successfully implemented this project in line with its mission of bringing together American and Chinese students in order to carry out social projects involving technology and education. More importantly, Gansu 2004 established strong ties with many of the teachers involved in the training program. These teachers have expressed a sustained interest in TECC's Program in communications following the Institute, and are prepared to help in delivering a follow-up program in the summer of 2005.

Sustained Impact:

This 2-week program was intended to jumpstart a long-term technology curriculum for students in the Gansu region. The materials provided to the Gansu teachers will be used to enhance school courses and college preparation at each middle school, and the focus remains on incorporating technology into the classroom. The centerpiece of communication with the teachers and students will be an online Course Management System (CMS) that provides access to calendars, forums, grade tracking, HW assignments, quizzes and many more features. The program will leverage the existing computer classrooms at these schools to teach computer material and allow the teachers to better utilize this infrastructure. Key to successful implementation is continued communication through TECC's site course with past participants. Each TECC course center will have access to a website for teachers to post questions, download curriculum, and communicate with TECC teachers at other middle schools.

Incorporating Technology:

The design and implementation of TECC's education modules relied heavily on existing software and materials from the Internet, while the actual delivery placed heavy emphasis on using technology in education. On the Technology side, teachers studied the structure of LAN, as well as learning to program in Java, HTML, and MySQL. On the English side, teachers focused on developing English (conversation, writing, and reading comprehension) and teaching skills, but also spent a significant amount of time on computers learning to use PowerPoint (to design their own dynamic lessons), and sites such as Google and Sina (to conduct Internet research).

During the months between TECC's summer institutes, students will be able to access education modules and organized learning resources through TECC's Curriculum Development System, *Moodle*. In addition, the website will host students' websites and projects, and monitor progress through regular online assignments. These students will also be enrolled in the TECC course offered at their school, along with any other interested students. At the beginning and conclusion

of the online assignments period (five months), the students will take a final exam, which will measure their progress through the TECC curriculum and demonstrate what they have learned. At the conclusion of the TECC course, the student's will graduated as the TECC class of 2005.

The TECC website will also serve as a platform to bring together students for further projects and given the institute's framework, it is hoped that students will be driven to succeed in the program and create new projects involving technology and education. The TECC Institute in Gansu will be organized by students and funded by industries from the United States, Western & Eastern China, and Hong Kong.

A. Description of the need we are addressing:

In recent years, China has emerged as a driving force in the world economy and large cities along the eastern coast, such as Beijing and Shanghai, have fueled the prosperity. However, inland agricultural regions, which are home to approximately 70 percent of the population, have missed out on this economic growth and some regions still suffer from grave poverty. For example, an agricultural village in the Guizhou Province has a per capita GNP of only 2,463 Yuan (\$298), while industrial coastal cities, such as Shanghai and Beijing, have per capita GNP's 12.5 and eight times greater, respectively. This economic disparity represents a dramatic need for change and our project focuses on bridging this gap and improving the livelihood of the citizens in the Gansu province. By educating teachers, we will impact students and catalyze the importance of education in today's society.

B. Target population:

The summer institute was organized by TECC student's teams in the United States, Beijing and Hong Kong, and carried out by 11 TECC student instructors and coordinators from these teams. The institute graduated 27 middle school teachers and involved over 25 middle school students in classroom activities, at the same time building the foundation for self-sustaining TECC classes to be taught at member middle schools. The TECC target middle schools have had Internet classrooms installed, and their students have at minimum some understanding of computer operation.

The location of Gansu 2004 – Yellow Sheep River Middle School in Yellow Sheep River, Gansu – was selected on the basis of a strong computer infrastructure and close contacts with local government officials. However, the Institute recruited and educated qualified teachers from surrounding middle and high schools in Gansu's Gulan County.

C. Gansu Project objectives:

1. Educate teachers and students on computer and Internet usage.
2. Narrow the cultural divide between Gansu, and developed China and the US, through teaching materials specifically addressing this topic and continued communication.
3. Bring teachers to Beijing in order to increase exposure and cross-communication between Chinese capital and inland areas. Foster new relationships and friendships.
4. Require students who participated in TECC summer institute to post learning's and development to TECC website, as well as carry out regular online assignments.

5. Empower students to impact their surroundings.
6. Provide a platform for interaction between the coastal China, Hong Kong, inland China and the US.

D. Strategies used to achieve objectives:

1. Partnered with local Universities, nearby TECC team locations in order to ensure the support of the Chinese and US governments, as well as local governments.
2. Coordinated with industries in America, Hong Kong and China to obtain material donations and additional support.
3. Carried out a distance learning program through the TECC website to prepare the Gansu teachers for the summer institute.
4. Created specific curriculum modules for use during Gansu portion of the summer program. The program modules (four components for English and technology each) emphasized the instruction of useful skills, such as Internet research, English language, presentation skills, desktop programs, basic programming, and web page design.
5. Participant selection: Students instructors were selected based on Mandarin and English fluency, past experience in leading workshops, and interest in social causes.
6. Teacher selection: Through communications with school administrators and a thorough application process, we finalized a list of the 27 teacher participants and 25 student participants. Teachers were selected through essays and phone interviews based on their level of involvement with classes and readiness for computer and Internet training.
7. Middle School Selection: Yellow Sheep River Middle School was selected based on local proximity with other schools and prior construction of an Internet enabled computer cluster that will allow the students to continue to hone their skills.
8. Maintained and improved the project's main website to gain more attention and support worldwide.
9. Currently constructing an open-source communication platform to facilitate exchange between Gansu and TECC officers. The program (named Moodle) is designed for teachers to have easy access to a consolidated listing of curriculum materials and selected websites, as well as live communication with TECC through forum boards and e-mail.

E. The Gansu Team:

Members of the Gansu Team were selected on the basis of prior experience and language competency, and included both site directors and curriculum directors.

- Site Director
 - Hinsberg Hong
- Technology Curriculum Developers:
 - David Li – Technology Team Coordinator, Technology Educator (Database Design and MySQL)
 - Eric Deng – Technology Educator (Java)
 - Molly Lu – Technology Educator (HTML and CSS)
 - Kathy Liu – Technology Educator (Java)

- English Curriculum
 - Stephanie Gan – English Team Co-coordinator, English Educator (Writing, Critical Thinking)
 - Tina Wang – English Team Co-Coordinator, English Educator (Western Culture)
 - Ming Guo – English Educator (Dialogue & Listening)
 - Rong Xu – English Educator (Dialogue & Listening)
 - Kevin Natenstedt – English Educator (Reading Comprehension)
 - Raymond Yu - English Educator (Presentation Skills)
 - Kelly Chen - English Educator (Grammar)

F. Timetable & Resources:

- February – June 2004: Gathered additional funding and support for summer institute. Planned institute contents and finalized participants through interview and application process.
- April – July: Conducted distance-learning program by sending information packets and preparatory materials to teachers and students in the summer institute in August.
- June-July 2004: Finalized development of program modules for institute.
- July 18th – 30th: Carry out 2-week technology and education institute in Gansu province. While the primary focus was on education, TECC also planned for exchanges between officers and local residents, formal introductions, and media relations.
- July 30th – August 4: Nine TECC officers participated in a voluntary sightseeing trip through the Silk Road.
- August 29th – 30th: Carried out TECC Beijing Summit.
- October 5th - 9th: Hosted three selected Gansu teachers at Beijing conference. Engaged educators on both sides in key dialogues on teaching.
- September-December 2004: Evaluate and integrate learning modules into Gansu classrooms through creation of a central website structured around both TECC courses. Active recruitment at 3 TECC University sites, pursue financial strategies and collaborative relationships.
- Begin preparations for subsequent summer's program(s).

G. Evaluation of Results from 2004 Gansu Summer Institute:

Our main objective in carrying out this project was to increase computer and Internet usage and English skills among teachers and students in the inland Gansu province through a series of teaching modules taught by teams of Chinese and US students at a 2-week summer institute in Gansu. The aim is on post-Institute education – for selected teachers in English and technology to work together in spreading their knowledge of the Internet to their students, so that by leveraging the wealth of materials available on websites, students and teachers will have the means to better compete in an information-based economy. Throughout the Institute, TECC officers constantly reinforced its core purpose with the teachers, and collected structured feedback on the class content. Here, the participants pointed to particular teaching methods that they had observed and thought applicable, often noting that the “open forum” class atmosphere promoted dialogue and active participation. Over the course of the Institute, the teachers grew increasingly receptive to new teaching methods, and many demonstrated these and other ideas in their final presentations at the Institute’s conclusion. Additionally, graduates of the English

program showed marked improvement in speaking and listening abilities, and all participants were taught introductory courses on PowerPoint and Internet research.

The Gansu Institute graduated 27 middle school instructors in English or technology. Given that teachers typically teach classes of anywhere between 50 and 100 students, and may rotate classes over a year, a conservative estimate would be 1300 middle school students directly impacted each school year. Each of these students should benefit from teaching methods that emphasize the use of Internet resources, increased classroom dialogue, and additional printed materials (each instructor received a copy of the texts used in class).

Qualitative improvements were manifest on the last day for the English class, when the teachers taught original lessons in lively ways as their final projects. The material ranged from the pragmatic (listening comprehension, memorization strategies) to the abstract (complex parables accompanied by interpretation questions).

The final grades of the technology trainees were based on their in-class participation, achievements in experiments and final exams. A certificate was given to each teacher at the end of the institute.

H. TECC's Beijing 2004 Summit:

On August 28th and 29th, TECC hosted its first Beijing Summit at Tsinghua University with the purpose of having Gansu Team members share their experiences and recommendations, before opening the discussion table to TECC board members from China, the US, and Hong Kong. The conversation specifically addressed ideas for developing Moodle (TECC's online platform), plans for recruitment at each site, fundraising and marketing objectives, and achieving scalable growth of TECC through collaboration with related organizations in education, and expanding projects like Gansu 2004 to new geographic fronts. Between discussion panels, TECC also invited several renowned professors and entrepreneurs to speak on related topics ranging from global markets and growth in China, to entrepreneurial activity and having social impact.

I. Instructor's Beijing Forum:

Three teachers were selected from the Gansu English and technology classes based on exceptional performance and dedication during the Institute to attend a forum in Beijing. As the visit aimed to start a long-term exchange between inland and coastal Chinese teachers, the participants met and spoke with top educators and field experts on challenges facing middle school education in China today.

J. Developments:

Looking forward, both students and teachers are now capable of and will be able to participate in online discussions concerning coastal developments and methods for achieving in a rural setting. To ensure this valuable exchange of ideas and a full utilization of resources, TECC is currently implementing a course development site that will serve as a platform for information-exchange and communication. TECC officers will be responsible for updating the site with current

education resources, relevant news, and teaching guides, while graduated teachers will contribute through the overseeing, evaluating, and posting of their students' online assignments on this site, as well as by maintaining contact with TECC officers regarding questions and needs that arise.

TECC is currently looking to expand its summer program into 2 separate, 1-week institutes in the interest of having an impact on a larger population and geographic area. In doing this, TECC will use information gathered from existing contacts from the previous Gansu Institute.

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