

DOCUMENT RESUME

ED 384 755

CE 069 403

TITLE Report of Seminars Conducted in China in 1992.
 INSTITUTION Ohio State Univ., Columbus. Center on Education and Training for Employment.
 PUB DATE Feb 93
 NOTE 96p.; Prepared for Foreign Investment and Loan Office, State Education Commission, People's Republic of China.
 PUB TYPE Reports - Evaluative/Feasibility (142)
 EDRS PRICE MF01/PC04 Plus Postage.
 DESCRIPTORS Course Content; Developing Nations; Foreign Countries; *Outcomes of Education; Postsecondary Education; Program Content; *Program Effectiveness; Program Evaluation; Program Improvement; *Vocational Education; *Workshops
 IDENTIFIERS *China

ABSTRACT

This report summarizes and evaluates seven seminars conducted for the Vocational Education Project in China during 1992. For each of the seven seminars, a report prepared by the specialists conducting the seminar is provided. These reports summarize the content of the seminar, note any problems encountered in conducting them, and suggest ways in which vocational education in China could be improved. Following the specialists' reports, summaries of participant evaluations are included for each seminar. This report also contains an overview of the information assembled from the seven seminars and the results of the evaluations completed by 353 seminar participants. Suggestions made by the participants to improve the seminars are included. In general, the participants' responses indicated they were satisfied with the seminars. Suggestions for improvement primarily involved preparation and translation, with more time suggested for preliminary translation and suggestions for better translation. (KC)

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REPORT OF SEMINARS CONDUCTED IN CHINA IN 1992

Prepared for

Foreign Investment and Loan Office
State Education Commission
People's Republic of China

Center on Education and Training for Employment
The Ohio State University
1900 Kenny Road
Columbus, Ohio 43210-1090

February 1993

Introduction

This is a report on seven seminars conducted in China during 1992 which were assisted by the Center on Education and Training for Employment (CETE). Eight seminars had been planned, but Post 6, Advanced Electronics, was not conducted. The specialist who had been selected to conduct this seminar did not prepare the instructional material. It was necessary to find a new specialist and give the new specialist time to prepare material. This seminar is now scheduled to be conducted in March 1993.

For each of the seven seminars conducted, the specialists prepared a report. These reports summarized the content of the seminars, any problems encountered in their conduct, and suggestions of ways in which vocational education in China could be improved.

At the conclusion of each seminar, the participants were asked to complete an evaluation form prepared by project staff. All forms that were returned to CETE were tallied, and written comments on the forms were summarized.

The next section of this report presents an overview of the information assembled from the seven seminars. The results of the evaluations completed by the participants in all seven seminars are presented first. Suggestions that the participants provided to improve the seminars are summarized. The suggestions made by the specialists for the improvement of vocational education in China are then presented. Following the overview are the reports prepared by the specialists and the tallies of the evaluation forms from each of the seven seminars.

Overview

A total of 353 participant evaluation forms were completed and returned to CETE for analysis. This is fewer than the number of participants who took part in the seven seminars. The specialists reported that some participants did not complete the form. It was the specialists' impression that those who did not complete the forms tended to be students or staff from the host institutions who attended the classes but were not official participants.

A little more than three-fourths (77 percent) of the participants were from secondary vocational-technical schools, and almost all of the rest were from vocational-technical colleges. Slightly more administrators (52 percent) participated than teachers (42 percent). Six percent of the participants said they were neither teachers nor administrators.

Participants' Evaluations

In general, the participants' responses to the evaluation form indicate they were satisfied with the seminars. One of the questions in the form asked for an overall evaluation of the seminar in the following way: Did you learn from this seminar what you had hoped

you would learn? In response to this question, three-fourths (76 percent) of the participants reported they felt the seminar had given them what they had hoped to learn.

The evaluation form includes a series of 13 scales which the participants used to rate various features of the seminars. Each scale had five rating points which were defined as *Very Good*, *Good*, *OK*, *Poor* and *Very Poor*. There are thus 4,589 possible ratings (13 rating scales on 353 forms). Two-thirds of these ratings were either *Very Good* (23 percent) or *Good* (44 percent). There were few ratings of *Poor* (3 percent) and even fewer ratings of *Very Poor* (1 percent).

The four items with the highest percentage of *Very Good* plus *Good* ratings were the following:

- Overall quality of seminar instructor(s)--93%
- Responsiveness of leader(s) to your questions--88%
- Overall quality of seminar--84%
- Organization of presentations--78%

The four items with the highest percentage of *Poor* plus *Very Poor* ratings were the following:

- Administrative arrangements--13%
- Applicability of material to conditions in China--11%
- Adequacy of training facilities--8%
- Opportunities for informal interaction with seminar leaders--8%

While the participants were generally satisfied with the seminars, they did have suggestions for their improvement. These suggestions primarily involved preparation and translation. Almost two-thirds (63 percent) of the participants felt they had not been adequately prepared for the seminars. Most of those who wanted more preparation suggested that reading materials be sent to the participants before they come to the seminars. Over half of those who wanted more preparation also requested that more information about the goals and objectives of the seminars be provided.

Half of the participants had problems with the translation. Their suggestions for improving translation included the following:

- Use translators who are familiar with the content area of the seminars.
- Prepare a list of key vocabulary words related to the content area of the seminar.
- Translators should not attempt to do full translation, just the main points.
- Hold meetings between the specialists and translators to prepare for classes.
- The translators should speak Mandarin Chinese.

Here are some of the other ideas for improving the seminars that were suggested by seminar participants:

- Present more information about vocational education in other industrialized countries to provide a wider perspective.
- Try to reflect an understanding of China's (or other developing countries) situation in lectures, give more advice and suggestions for China.
- Provide overview of seminar topic by Chinese experts prior to classes led by foreign specialists.
- The host institutions should arrange one day for participants from project schools to exchange ideas with one another.

Suggestions from Specialists

Representatives of SEDC repeatedly stressed to CETE staff that one of the main objectives underlying all of the seminars is to encourage vocational educators in China to include more practical, *hands-on* instruction in their classes. This objective was emphasized with all of the specialists selected to conduct the seminars. The post-seminar reports submitted by the specialists reinforced the need both for more hands-on laboratory instruction and more linkage with the businesses and industries that high schools serve. These linkages could take several forms--advisory committees for schools made up of business and industry representatives, internships for students, and exchange of staff. Such contacts would serve to keep school instruction current with the requirements of the economy.

Some of the barriers to increased linkage with business and industry were noted by the specialists. It was suggested in one seminar that actual work experience in industry is looked upon negatively because of previous periods when students were required to work in factories or sent to the countryside. A barrier noted in another seminar is the reluctance of enterprises to train students who may not work for them in the future. The enterprise representative who expressed this concern stated that students trained by his enterprise might go to work for competitors and take knowledge that would give the competitors an advantage. If such attitudes are widespread, they must be addressed if increased linkage is to be achieved.

While the specialist agreed that there is a need for more hands-on instruction in China, some specialists reported that their host professors discouraged hands-on activities in the seminars. At one institution, when the specialists attempted to engage the participants in hands-on activities in class, the host professor actually stopped the classes and told the participants to take breaks.

CETE staff recommends that the objective of encouraging hands-on instruction be reinforced with the representatives of the host institutions. The host professors must

recognize that the best way to teach hands-on methods is to have the participants experience this type of instruction in the seminars. It is futile to attempt to encourage hands-on instruction by means of lecturing about it.

The specialist for Post 7, Basic Electronics, noted that increasing the proportion of instruction conducted in the laboratory does not require the purchase of expensive new equipment. He recommended *durable, industrial-quality, general purpose equipment* which the students would use *solving problems* (emphasis in the original).

Other recommendations for improving vocational education in China were reflected in reports from two or more of the seminars:

- Develop an understanding of the constantly changing nature of a market-driven economy and how to prepare workers for such an economy.
- Provide more training in pedagogy and more supervised teaching experience for future teachers.
- In comparison to the United States, teachers appear to be under-utilized, yet the classes they teach are large. Classes should either be made smaller or more than one teacher should meet with each class.

The specialists' reports also included comments on the seminars:

Several of the specialists indicated that some of their participants did not appear to have a background in the subject matter of the seminar. They wondered why these participants had attended their seminars.

Several of the seminar specialists noted, either in their reports or in conversations with CETE staff, how hard the translators had to work. It is very difficult to communicate new and complex concepts, especially when one is not a specialist in the subject matter. It is recommended that two translators be available for every seminar. The translators should work with the specialists prior to classes to become familiar with the concepts to be taught and to test the best way to express these concepts in the Chinese language. Both translators should attend all of the classes and alternate translating duties at approximately one-hour intervals.

One seminar had difficulty using an overhead projector because the classroom could not be made dark by shutting out light from the windows. Each host institution should ensure seminar classrooms can be darkened by lowering shades or putting curtains across windows so overhead projectors, slides, and videotapes can be used.

Another set of recommendations involved the living arrangements for the specialists. At six of the seven seminars conducted in 1992, the specialists lived in guest quarters

provided by the host institutions. At the seventh, Jilin, the specialists chose to stay in a commercial hotel. At Changzhou and Nanchang, the specialists had some negative comments on the facilities provided. The major criticism at Changzhou concerned the poor cleaning of the living quarters and the classroom. The specialists reported they had to clean their own bathroom before they felt comfortable using it. At Nanchang, the specialists also requested more frequent cleaning and change of bed linen, but their main suggestions involved a number of small conveniences, such as providing commercial bottled water, that would have made their day-to-day living more pleasant. The Nanchang specialists suggested that the cost of providing these conveniences be added to the housing fee charged to visiting specialists.

The specialist at Post 8 and many of the participants complained of the heat in the classroom. At Post 2 in Jilin, the complaints were about the cold. In fairness to both host institutions, CETE staff were warned how hot it was in Zibo in the summer and that it became very cold in Jilin. Unfortunately, the months that these seminars were conducted were the only ones when the specialists were available.

The final set of comments relative to the seminars was obtained during the visit to China by CETE staff in November 1992 to plan the seminars for 1993. As part of this visit, CETE staff met with representatives of three institutions that hosted seminars in 1993. During these meetings, the institutional representatives provided some comments about the seminars that had been held at their colleges. They felt the seminars had been useful and offered some recommendations for improving future seminars.

The primary recommendation was to provide instructional materials for translation well in advance of the seminar. CETE staff acknowledges that it was a continuing problem throughout 1992 to identify specialists and have them prepare instructional materials sufficiently ahead of the seminars to facilitate translation.

The discussions with host professors also highlighted the differing expectations of specialist and participants. Specialists, particularly those from the United States, anticipate considerable interaction with the participants. They expect the participants to ask questions and express their opinions. The participants are not used to this type of instruction. Instead, the participants expect the specialists to specify precisely what they expect them to learn and to present the material in a organized, detailed manner that will facilitate learning. The participants are reluctant to ask questions or express their own opinions. These differences are discussed in most detail in the reports from Posts 2 and 5, and are mentioned in the reports from the other posts.

It was recommended that future specialists be made aware of these differing expectations and try to organize their seminars to be "half American and half Chinese." By this the host professor meant, seek a balance between the structured presentation expected by the participants and the more informal, interactive methods in which the specialists are used to teaching.

CETE staff became aware of these differing expectations during the first seminar and from that point attempted to make specialists aware of how the participants were likely to act. We shall continue to stress to the specialists the need to adapt their teaching style to the expectations of Chinese participants. It would also be useful if the host professors encourage participants to become actively involved in the discussion and activities of their seminars.

Another recommendation arising from the discussions with representatives of the host institutions was the number of seminars scheduled in October 1992. Due to the availability of specialists, five of the seven seminars were conducted in October and November. This caused a hardship on the schools and colleges participating in the vocational education project because so many of their staff were away at the same time. It was recommended that future seminars be spread more evenly throughout the calendar year.

Following Sections

The following sections of this report present the reports on the separate seminars. Each section presents first the report prepared by the specialist(s). This is followed by the tally of the participant evaluations and a summary of the written comment from these forms.

SEMINAR EVALUATION

The information you provide on this form will be used in planning and conducting future workshops. Please answer all questions to describe your own personal reactions to the seminar. All answers are anonymous. Do *not* put your name on the form.

Title of Seminar: Total of Seminar Post 1, 2, 3, 4, 5, 7, and 8

Total trainees are: 353 (from the returned forms)

1. Did you feel you received the preparation you needed for participation in this seminar?
 - Yes 124, 35%
 - No → IF NO, what types of additional information/training might have helped to better prepare you?
224, 63%
 - Advance copies of reading materials 176, 50%
 - English language training 84, 24%
 - Additional training in content area of the workshop 89, 25%
 - Additional information about the goals/objectives of the seminar 136, 39%
 - Other (please specify) 9, 3%
2. What parts of the seminar were the *most* helpful to you?
281, 80%
(See summary of comments in separate seminar reports)
3. What parts were the *least* helpful to you?
33, 9%
(See summary of comments in separate seminar reports)

4. Please complete the following by putting a check mark [] on the line that best reflects your assessment of the quality of the following aspects of the seminars:

	Very Good	Good	OK	Poor	Very Poor
a. Overall quality of seminar	94 27%	202 57%	54 15%	3 1%	1
b. Overall quality of seminar instructor(s)	180 51%	149 42%	24 7%	1	
c. Responsiveness of leader(s) to your questions	140 40%	168 48%	44 12%	2	
d. Organization of presentations	117 33%	158 45%	71 20%	6 2%	1
e. Opportunities for informal interaction with seminar leader(s)	91 26%	119 34%	117 32%	20 6%	6 2%
f. Pace (fast, slow) of class	59 17%	172 48%	113 32%	9 3%	
g. Amount of information presented	73 21%	175 50%	101 28%	3 1%	1
h. Relevance of training to your job	62 18%	132 37%	146 42%	11 3%	2
i. Relevancy of topics to your needs	50 14%	153 44%	139 39%	8 2%	3 1%
j. Applicability of material to conditions in China	29 8%	126 36%	160 45%	33 9%	5 2%
k. Usefulness of information	39 12%	171 41%	133 29%	8 2%	2
l. Administrative arrangements	59 17%	144 41%	103 29%	24 7%	23 6%
m. Adequacy of training facilities	39 11%	144 41%	142 40%	19 5%	9 3%

5. Did you learn from this seminar what you had hoped you would learn?

[] Yes 270, 76%

No → IF NO, what did you hope you would learn that you did not learn?
34, 10%

6. Did you experience any problems in the seminar as a result of the need to translate English into Chinese?

No problems 152, 43%

Some problems 165, 47%

Many problems 2

a. If you experienced problems, do you have any suggestions on how the translation process could be improved?

113, 32%

7. Was the training appropriate given the resources (equipment/facilities) available at institution you work at?

Yes 296, 84%

No → IF NO, in what ways was it not appropriate?
37, 11%

8. What plans, if any, do you have to apply what you have learned during the seminar?
254, 72%

9. Please provide any additional information or suggestions that will improve future seminars of this type.

192, 54%

10. Is your home institution a--

Vocational-technical college 73, 21%

Secondary vocational-technical school 271, 77%

Other (please specify) 9, 2%

11. Is your PRIMARY job responsibility--

Teaching 148, 42%

Administration 182, 52%

Other (please specify) 23, 6%



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To: Nanchang Vocational and Technical Teacher's College
State Education Commission

From: Jean Hanson
Bill Knaak

Re: Seminars on "Theory and Method of Cost and Efficiency
Analysis and Quality Appraisal in Vocational-Technical
Schools"

Date: December 1, 1992

This report will consist of two parts as requested by our sponsoring institutions. The first section (A.) addresses the seminars. It summarizes the material presented and gives an assessment of how well the participants understood the content and were prepared to apply what they had learned. The second section (B.) deals with recommendations for the improvement of vocational education in China.

A. Two seminars of two weeks each were held during November, 1992, at Nanchang Technical Teachers College. A total of 62 individuals attended the seminars. The seminars met daily, six days a week for six hours. The first seminar of 41 individuals included 9 teachers, 19 administrators, 6 accountants and 7 from the World Bank offices. The second seminar of 21 individuals contained 4 teachers, 4 administrators, 8 accountants and 5 World Bank office personnel. The second class included six individuals who had completed only secondary school.

The seminar training consisted of presentations on types, purposes and scope of evaluation; overview of vocational education in the United States and developed countries; qualitative and quantitative evaluation analysis; internal and external evaluation; developing an evaluation plan; preparation of evaluation instruments including questionnaires and structured interviews; conducting needs analysis; computing cost benefit for training; evaluating external efficiency - cost, outcome, cost and outcome; preparation of evaluation reports including narrative analysis, preparation of tables, charts and graphs for data presentation, writing style and format; audit and evaluation by outside agencies; using evaluation data for program improvement; and evaluation of local evaluation plans.

Major student activities included the on-site evaluation at the #1 Vocational School and at the Hong du Vocational High School in Nanchang, Jiangxi, and preparation of plans for an evaluation program for each school that had attendees at the seminars.

The products of the seminars included evaluation reports that contained an introduction, purpose and scope of the evaluation, procedures, description of the vocational program, findings, recommendations and conclusions, and an appendix. Written evaluation plans were prepared for the home schools or colleges. Audio tape presentations of evaluation plans and reports were prepared. The College prepared typed copy of the evaluation reports and these were returned to the schools that were evaluated as well as to each seminar participant.

Teaching methods used included lectures, translated overhead transparencies, team teaching, small group discussion, group consensus, work as teams, individualized instruction, slides, posters, photo flip charts and forum critique. Materials were prepared ahead of time and translated by the Nanchang College staff so that each participant received a textbook and a complete student packet of materials on evaluation.

The student evaluations of the seminars were very positive. Students were enthusiastic about the teaching methods used and were very willing to learn in a variety of ways. Students were very positive about the experience of the on-site evaluation and preparing the evaluation reports. They anticipated that the sample evaluation materials would be of much value to them. Copies and summaries of the evaluations are available at the Ohio State University and they were previously reviewed with the Nanchang College staff.

The students did an excellent job on their on-site evaluations and produced high quality final reports. Plans for evaluation for their home schools were also of excellent quality and were adapted to their particular needs. The implementation of local evaluation plans may be expected to vary from the first to the second seminar because the second seminar included fewer school administrators so they had less educational background or influence to conduct a local evaluation. However, in the opinion of the instructors, all participants are qualified to be excellent evaluation team members and to give guidance to a local evaluation program. A few individuals were recognized by their co-students as leaders. They did outstanding work and are recommended as team leaders and writing leaders for conducting evaluations at other locations in China. They could also participate as evaluation seminar leaders. The list of recommended individuals is attached.

We would like to commend the administration, foreign affairs office and teaching office of the Nanchang Technical Teacher's College for their excellent cooperation. They made every effort to accommodate us and assist us as much as possible. These offices provided very good student support and a well-defined program for the students.

B. We had the opportunity to visit two vocational high schools during the evaluation process and to tour and to live on the campus of the Nanchang Technical Teacher's College. We also had the opportunity to discuss vocational programs with a number of seminar participants and school administrators. Our comments on recommendations for improvement of vocational-technical education in China are within the boundaries of our observations and are compared to our knowledge of the United States and other countries that we have worked in.

A well conducted, on-going evaluation program that involved faculty and administrators of the schools would assist in a continuing improvement and review cycle for vocational programs. The evaluation process should be used to assist in decision making.

We would suggest that more teacher education be provided to potential teachers. The Chinese teachers-to-be spend far less time in teaching practice than do United States counterparts. They also have fewer courses in teaching methods. It might be appropriate to give teachers-to-be some practice experience where they assisted a master teacher during their second year of college, had additional teaching methods classes, then had teaching practice for at least two months. Our seminar students appeared to be very anxious to learn how to use new teaching methods.

We did observe some very nice equipment at Nanchang College but have no information as to utilization factors.

We noted that some classes seemed overly large considering the high availability of teachers in China. In the United States most teachers have student contact for 6 out of 7 hours of a school day for five days a week, while in China the teachers teach far fewer hours. Perhaps the classes could be divided so that students get more individual help from their teachers. If space is a problem classes could be team taught so that there were two teachers in the room at all times or schedules could be adjusted so that student breaks might vary and thus increase availability of classroom space.

We learned that some vocational-technical occupations are better paid than some professional jobs in China. Yet, we observed that China was like many countries where the attitude of the parents and students was that the university was the higher status choice. As countries develop there is an increasing need for highly trained technicians. Promotional public relations materials about vocational-technical programs could stress the opportunities available for well trained technical workers.

cc: Morgan Lewis
Ohio State University

Yin Zhiqian	110031 Shengyang Vocational Center 462207, 461030
Wang Jiazhe	300110 Tianjin Meter Radio Industrial School 272679, 272680
Feng Kezheng	100011 Beijing Xicheng Vocational Education Center for Electrical Equipment 201009, 201883
Liao Wenzhuo	510050 Guangzhou Electronic Advanced School 3327648
Zhang Fuyin	118002 Dandong Work Bureau Technical School 61351, 61013
Guo Ling	100086 Beijing Instrument and Meter Industrial School 200602

SEMINAR EVALUATION

The information you provide on this form will be used in planning and conducting future workshops. Please answer all questions to describe your own personal reactions to the seminar. All answers are anonymous. Do *not* put your name on the form.

Title of Seminar: Total of Seminar Post 1

Total participants are: 60

1. Did you feel you received the preparation you needed for participation in this seminar?
 Yes 21, 35%
 No → IF NO, what types of additional information/training might have helped to better prepare you?
36, 60%

<input type="checkbox"/> Advance copies of reading materials	32, 53%
<input type="checkbox"/> English language training	10, 32%
<input type="checkbox"/> Additional training in content area of the workshop	18, 30%
<input type="checkbox"/> Additional information about the goals/objectives of the seminar	22, 37%
<input type="checkbox"/> Other (please specify)	3, 5%

2. What parts of the seminar were the *most* helpful to you?
56, 93%

3. What parts were the *least* helpful to you?
4, 7%

4. Please complete the following by putting a check mark [] on the line that best reflects your assessment of the quality of the following aspects of the seminars:

	Very Good	Good	OK	Poor	Very Poor
a. Overall quality of seminar	28 47%	27 45%	3 5%		
b. Overall quality of seminar instructor(s)	37 62%	20 33%	2 3%		
c. Responsiveness of leader(s) to your questions	30 50%	20 33%	7 12%		
d. Organization of presentations	30 50%	25 42%	3 5%		
e. Opportunities for informal interaction with seminar leader(s)	10 17%	21 35%	24 40%	1 2%	
f. Pace (fast, slow) of class	11 18%	38 63%	9 15%		
g. Amount of information presented	16 27%	31 52%	11 18%		
h. Relevance of training to your job	14 23%	27 45%	16 27%	1 2%	
i. Relevancy of topics to your needs	14 23%	27 45%	17 28%		
j. Applicability of material to conditions in China	5 8%	24 40%	29 48%		
k. Usefulness of information	10 17%	33 55%	13 22%	1 2%	
l. Administrative arrangements	14 23%	35 58%	8 13%		
m. Adequacy of training facilities	9 15%	31 52%	16 27%	1 2%	

5. Did you learn from this seminar what you had hoped you would learn?

[] Yes 54, 90%

- No → IF NO, what did you hope you would learn that you did not learn?
2, 3%
6. Did you experience any problems in the seminar as a result of the need to translate English into Chinese?
- No problems 18, 30%
- Some problems 38, 63%
- Many problems
- a. If you experienced problems, do you have any suggestions on how the translation process could be improved?
23, 38%
7. Was the training appropriate given the resources (equipment/facilities) available at institution you work at?
- Yes 57, 87%
- No → IF NO, in what ways was it not appropriate?
1, 2%
8. What plans, if any, do you have to apply what you have learned during the seminar?
52, 95%
9. Please provide any additional information or suggestions that will improve future seminars of this type.
37, 62%
10. Is your home institution a--
- | | |
|--|---------|
| <input type="checkbox"/> Vocational-technical college | 14, 23% |
| <input type="checkbox"/> Secondary vocational-technical school | 37, 62% |
| <input type="checkbox"/> Other (please specify) | 7, 12% |
11. Is your PRIMARY job responsibility--
- | | |
|---|---------|
| <input type="checkbox"/> Teaching | 10, 17% |
| <input type="checkbox"/> Administration | 40, 67% |
| <input type="checkbox"/> Other (please specify) | 8, 13% |

Post 1. Theory and Method of Cost and Efficiency Analysis, Quality Appraisal in Vocational-Technical schools

November 1 - 28, 1992 in Nanchang, 58 Participants

Question 2. What parts of the seminar were the most helpful to you?

- 1) Relation between school and industry
- 2) Information about evaluation on vocational education in developed countries.
- 3) Method and process of on site practice evaluation.
- 4) Contents of evaluation materials.

Question 6. a. If you experience problems in language translation, do you have any suggestions on how the translation process could be improved?

- 1) Send Chinese and English materials to the students one month before the seminar.
- 2) Translator should know vocational education management and terminology.
- 3) Translator should have enough time to get familiar with the materials and know the purpose of the seminar.
- 4) Students should review the material before class and become familiar with terminology.
- 5) Give more time to students to ask questions because the translation was unclear.

Question 8. What plans, if any, do you have to apply what you have learned during the seminar?

- 1) I'll use what the experts taught us, combine my own view and our school situation to evaluate the relation between our school and industry: also education, practice, production and management.
- 2) I'll use the evaluation knowledge and methods and make a summary, teach the needy members of the school, design and evaluation plan and perform an overall evaluation on our school.
- 3) I plan to hold an evaluation on the equipment offered by the World Bank

Question 9. Please provide any additional information or suggestions that will improve future seminars of this type.

- 1) Mail the translated materials to trainees before the seminar, and set more time for on site evaluation and discussion.
- 2) Introduce more information about vocational education and evaluation in industrialized countries, so that we can have a wide view.
- 3) Try to adapt to China's situation in lectures.
- 4) Suggests a seminar on the World Bank Loan evaluation in Beijing.
- 5) Should have a practice evaluation in the classroom before the on-site evaluation.

Report on Seminars
on
The Relationship Between Curriculum Design
at Vocational Schools and Demands of Professions and Trade
by
Sandra G. Pritz and Claude Vasamillet

Introduction

Two seminars on the Relationship Between Curriculum Design at Vocational Schools and Demands of Professions and Trade were co-led by Mrs. Sandra Pritz, Research Specialist from the Center on Education and Training for Employment (CETE) of The Ohio State University and Claude Vasamillet, Senior Program Manager from the International Training Center of the ILO-Turin in Changchun (China), hosted by the Jilin Vocational-Technical Education Research Institute. Over the course of the two two-week seminars, almost 70 teachers, researchers, and administrators from eligible colleges and universities throughout China received training. The aims of the seminars were to promote teaching skills; to study new advanced educational thought and training technology for improving curriculum design, teaching quality, and management of training; and to take into consideration when designing curriculum, the development of the economy and the industrial structure in order to meet the requirements of trades.

Accordingly, the seminar content emphasized the methods used in modern industrialized nations to identify the skills needed in specific occupations and to design instructional programs to teach these skills. The factors that restrict the capacity of schools to respond to changing skill needs were identified and suggestions made for dealing with these factors. Methods used to classify occupations and instructional programs were demonstrated and explained. Examples of course outlines and instructional guides for several of the most common vocational programs were discussed (such as auto mechanics and marketing). Trends in vocational-technical education in industrialized countries were also discussed. Teacher training and the methods used to improve teaching and methods for providing continuing education and transfer training were also discussed.

All involved—hosts, participants and leaders—gained valuable information from these activities. It is hoped that this information will be useful in developing new training projects and in adapting and transferring to China the new training technologies needed to design curricula matching the needs of the country. Due to the fact that the style of teaching/learning traditional to the Chinese culture does not encourage learners to take initiative, ask questions, or directly apply the seminar content, most of the participants expected to be lectured on abstract academic knowledge and tended to emphasize the theoretical aspect of their training. In this context, practical application in the seminars of much of the material such as the individualization of training and the use of competency-based training or modular organization of content was first regarded with suspicion. But, thanks to the combination of the Performance-Based Teacher Education Program and the Modular Series on Training Design developed by The Ohio State University and ILO Turin Center respectively, the leaders feel that they succeeded,

through practical exercises and demonstrations followed by analyses and discussions, in helping both the Chinese hosts and trainees to recognize that it would be desirable to try to adopt some of the methods in order to train their personnel and achieve their aims.

Seminar Materials

Materials for the seminar were drawn primarily from program materials developed by CETE and the I.L.O. Turin Center. The following CETE materials were drawn from:

Instructional Materials Development from the package *Basics: Bridging Vocational and Academic Skills*.

Competency-Based Administrator Education Materials, Leadership and Training Series

LT-B-1 *Direct Curriculum Development*

LT-B-2 *Guide the Development and Improvement of Instruction*

Professional Teacher Education Module Series

K-2 *Organize the Content for a CBE Program*

K-4 *Provide Instructional Materials for CBE*

Portions of the following modules from the I.L.O. Modular Series on Training Design were used:

o Modular training - Introduction

2 Curriculum design

22 Analyzing vocational activities - Introduction

23 Analyzing vocational activities - Global approach

24 Analyzing vocational activities - Working conditions and demands of a post or an occupation

25 Analyzing vocational activities - In depth analysis of activities

26 Analyzing vocational activities - Methods and analysis practice

It should be noted that the leaders felt very happy with the way their materials and their educational philosophies and methodologies meshed together.

Outline of the First Seminar

The first seminar was held from October 21-31, and the following content outline (as submitted prior to the seminar) adhered to, in a compressed form.

Day 1 Introduction and Overview

- Seminar Design
- The Changing Nature of the Workplace
- Relationship of Vocational Schools to Business and Industry

Day 2 Needs Analysis

- What Training Programs are Needed
- What General Training Approach is Needed: Competency-based education (CBE)
 - What is CBE?
 - Why is CBE an advanced approach to vocational education?

Day 3 Job Analysis

- Describing the Job Globally
 - Roles and functions
 - Responsibilities
 - Position in organization
- Working Conditions and Demands of an Occupation

Day 4 DACUM (Develop a Curriculum) Process of Task Identification

- Benefits of DACUM
- Selection of a DACUM Panel
- Procedures for DACUM

Day 5 DACUM (continued)

- Task Verification
- Expansion to DELTA (DACUM Enhanced Literacy Task Analysis)
 - Purpose
 - Procedures

Day 6 I.L.O. Process of Analysis

- Situations
- Activities
- Products

Day 7 Observations

- Purposes
- I.L.O. Procedures
- CETE Procedures

Day 8 Task Analysis

- Purposes
- Procedures

Day 9 Program Design

- Selection of Program Model
- Development of Training Plan

Day 10 Objectives and Assessment

- Performance Objectives
- Performance Measures

Day 11 Curricular Options

- Modular and Non-Modular
- Teaching/Learning Considerations
- Program Components Other Than the Materials

Day 12 Planning for the Future

- Maintaining the Program
- Trends in Vocational Technical Education
- Action Planning of Participants

Conduct of the First Seminar

The leaders asked the participants to write down their position and their aims or expectations from taking the seminar. Of the 34 responses, the positions were listed as follows:

- teachers (2)
- teachers/administrators (7)
- administrative staff (16)
- college instructors and research staff (2)
- research staff (4)
- observers (3)

Because over 40 people were counted in the classroom, it is assumed that there may have been more observers who did not respond. Indeed, it was understood later that a number of the host college staff were encouraged to attend sessions on an as-possible basis, and a number of people were also interested in hearing American English spoken, given that the host college teaches English.

The aims and expectations of the 31 participants who responded to this question follow:

Responses	Number	Percentage
To know the relationship between curriculum design and the needs of the community	9	29%
To know new trends of development of vocational/technical education	5	16%
To know advanced procedures/technics of vocational education	9	29%
To be able to organize instructions effectively	8	26%
How to design curriculum to meet needs of community	6	19%

There were several unanticipated interruptions to the seminar. One, interestingly, was occasioned by the fact that lecture time (approximately 15 minutes) was taken for the survey discussed and that the leaders were making obvious attempts to actively involve the participants in the seminar. Because these approaches were judged negatively by those hosting the seminar, an afternoon session was canceled and discussions were held with the leaders so that "suggestions" to the contrary could be offered. Although these discussions were amicable, it was clear that the leaders were expected to make changes in accordance with the suggestions.

Other times, seminar sessions were not held because of field trips (which were most interesting to all; including the participants, many of whom had not had these opportunities before): half-days to the palace of the last emperor, a movie studio, the "Adventure Palace," an automobile plant and a fine arts vocational school. (In addition, on the first Sunday, a trip with a boat ride on a lake near the city of Jilin was arranged.) One day there was no electricity, so class was held only half the day. On another afternoon, all the participants gathered in a conference room with Ms. Pritz (Mr. Vasamillet happened to be ill that day) to ask questions. The interpreter conveyed that, outside the classroom environment, the participants feel able to converse with a teacher without the typical student-teacher gulf.

It was made apparent that structure was of great importance. The schedule, including timing of breaks, was to be announced and adhered to exactly, as was the announced outline of content. The participants were expected to sit in their rows of tables and benches in an extremely cold room and listen passively to hour after hour of lecture. It is a testament to the logic and power inherent in the content presented that, over the course of the seminar, most of the participants seemed to gain a basic understanding of the material and of how the systems discussed might be beneficial to their students and to China.

Sequential interpretation for the seminar was provided by Li Feng (Keith), a 27-year-old journalist with a masters degree in education, who had also been employed to translate the seminar materials. The leaders were impressed by his command of the language and his ability to facilitate the classroom communication, although some of the participants were critical on their evaluations. It turned out that some of the materials submitted had not been translated, but this problem was bridged by creating transparencies which Keith translated on the spot. He was also able to deal in this way with some requested information that was faxed in from CETE.

Outline of the Second Seminar

The first seminar was declared a success, but both the hosts and the leaders found changes to be desirable for the second seminar. The hosts suggested a newly sequenced

outline, with emphasis on particular topics, which follows for sixteen sessions of three hours each.

Session 1. Introduction and Overview

- Seminar Design
- The Global Economy
- The Changing Nature of the Workplace
- Relationship of Vocational Schools to Business and Industry

Competency-Based Education

- Session 2. ● What is CBE?
- Session 3. ● Why CBE?
- Session 4. ● How can CBE be introduced? Modular instructional materials
- Session 5. ● Models of implementation

Analyzing the Work World

- Session 6. ● Groupings of Occupations and Job Descriptions
- Session 7. ● DACUM Process of Job Analysis
- Session 8. ● Procedures for DACUM
- Session 9. ● Task Verification and DELTA
- Session 10. ● Performance Objectives
- Session 11. ● Performance Measures (Post-tests)
- Session 12. ● Program Evaluation

The Future for Vocational Education

- Session 13. ● Future Needs of the Global Economy
- Session 14. ● Vocational Education's Response - Teaching
- Session 15. ● Programs for the Future
- Session 16. ● Summary and Evaluation

The leaders were able to benefit from the first experience and the evaluative input to make improvements to their strategies for handling the situation. Also, discussions were held with the staff of the college research institution on the Monday between the seminars, and it became apparent that some of the requests and comments related directly to the research interests of some of the staff.

Conduct of the Second Seminar

The second seminar was held from November 3-13, with a smaller group of participants, numbering 22. Both because the number was smaller and because the hosts felt supportive enough by then to announce to the group that participation was considered desirable, a much more personalized and interactive classroom environment developed. Further, the leaders were able to learn and use the participants' names, which helped considerably.

Field trips for the second group were similar except that the school trip was to a computer school (fascinating because of its application of all the principles being discussed in the seminar), and a trip to the reservoir was substituted for the boat trip, which had closed for the season. There was some disgruntlement on the part of the participants on this last point, as they felt they were not being given all the opportunities. They also voiced displeasure to the hosts over the food and the physical conditions (freezing, so that many participants caught a cold and cold remedies were dispensed to all before class in the morning!). These factors, however, did not seem to put a damper on their enthusiasm for the seminar itself.

This second group was willing to undertake some classroom work and also completed some homework assignments, which some participants shared with the group. When one such assignment to write a job description according to criteria was evaluated (by Keith, with the leaders' guidance) the majority who turned it in (14) were able to respond correctly on at least half of the criteria.

Interpretation became something of a problem as the second seminar progressed and Keith became more and more exhausted. The extended lecture format plus interpretation demands outside the classroom placed great strain on Keith's mental energy. Shaun Wei Wei (Susan), who was a dedicated helper to the leaders in their non-seminar activities and who attended the whole of the seminars, tried to spell Keith in the classroom, but this did not work out well due to lack of preparation, especially in technical vocabulary.

Outcomes

The optimistically expected results of the workshop were:

1. The adoption of relevant occupational analysis procedures, courses structure, and methodology to be applied by teachers and curricula designers.
2. The agreement on a well-defined methodology on the preparation of training programs designed according to occupational analysis.
3. The encouragement of "networking" among trainers/curricula designers and industry in Changchun and the region.
4. Concrete plans for follow-up activities of the workshop and the transferability of the workshop format to other regions of China.
5. A joint final report of the workshop established by the Vocational Education Research Center of Changchun, Jilin Province, The Ohio State University, and I.L.O. Turin experts.

The actual outcomes were that the first four results were achieved on an awareness level rather than an applications level. The fifth, a joint report, is likely to be pursued.

Evaluations

It was originally intended that participants' competencies on the seminar skills developed would be assessed using typical methods for competency-based programs. This was not possible due to the restraints on participation and applications practice.

The standard project evaluation form was used to obtain feedback about the seminar from the participants. However, one question was added, as follows:

The primary goal of this seminar was to teach the methods used in modern industrialized nations to identify the skills needed in occupations and to design instructional programs to teach these skills. **On the whole, I think this goal has been achieved.**

/ completely disagree/ not agree/ agree more or less/ agree/ completely agree/

Reasons:

Conclusions and Recommendations

In retrospect, the leaders offer the following recommendations for improvement of future similar seminars:

Leaders should request that:

- In selecting the participants, the host institution should apply criteria that assure that those attending will have potential to benefit from and implement the seminar objectives.
- The host institution ask for background information on the participants, their interests, and needs, as well as request that they bring sample curricula.
- It would be most desirable if titles and objectives of seminars could be worked out so as to assure realistic application. In this case, it is questionable if most of the participants will be involved in curriculum development
- More interaction between the leaders and the host institution prior to the seminar would be beneficial. Topics would include—
 - instructional strategies (The leaders should have provided a rationale at this time for a non-lecture method of instruction consistent with the subject matter.)
 - classroom setting (A set-up conducive to small group work could have been requested.)

- translation (A list of the material translated should be provided and more material should be translated.)
 - equipment (In this case, very good.)
 - conditions (Potential to provide a comfortable learning environment—for example, heat.)
 - field trips and visits (Number, nature, and schedule)
 - communication with local educators (In this case, the local computer school was applying many cbe principles and could have been used as a case study.)
- At least two people should be trained to interpret and should study the materials. The interpreters have a large role to play and must be familiar with terminology of the field as well as open and motivated psychologically.
 - It should be clear which people are participating vs. observing so that the participants can be given priority.
 - More interaction between leaders on terminology to establish common definitions.
 - Ideally, participants should expect to have their prior knowledge and their exit competencies assessed.

Summary

Considering the depth of the traditions of Chinese education, the leaders from Columbus and Turin were impressed by the spirit of openness of their Chinese colleagues and by their willingness to place their familiar ways in question in order to face the challenge of socio-economic change. They clearly care deeply about their professional responsibilities to the country's educational system. This is also evident in the work of the host's research institute, with which plans for future cooperation have been formed. This unique opportunity (an encounter for Europe and North America with one of the oldest civilizations on the globe) allowed all persons involved to contribute to better understanding of each other for the benefit of world peace and the recognition of internationally accepted values, not only in the field of training, but also in everyday life.

The leaders at the host institution were unfailingly hospitable and eager to make their visitors feel comfortable. As mentioned previously, in addition to the interpreter, they provided the services of a capable and caring young English teacher whose help was invaluable in terms of functioning in an unfamiliar environment. The visitors always felt safe, welcome, and greatly appreciated.

SEMINAR EVALUATION

The information you provide on this form will be used in planning and conducting future workshops. Please answer all questions to describe your own personal reactions to the seminar. All answers are anonymous. Do *not* put your name on the form.

Title of Seminar: Total of Seminar Post 2

Total participants are: 43

1. Did you feel you received the preparation you needed for participation in this seminar?
 Yes 15, 35%
 No → IF NO, what types of additional information/training might have helped to better prepare you?
23, 53%

<input type="checkbox"/> Advance copies of reading materials	22, 51%
<input type="checkbox"/> English language training	2, 5%
<input type="checkbox"/> Additional training in content area of the workshop	7, 16%
<input type="checkbox"/> Additional information about the goals/objectives of the seminar	13, 30%
<input type="checkbox"/> Other (please specify)	2, 5%

2. What parts of the seminar were the *most* helpful to you?
37, 86%

3. What parts were the *least* helpful to you?
4, 9%

4. Please complete the following by putting a check mark [] on the line that best reflects your assessment of the quality of the following aspects of the seminars:

	Very Good	Good	OK	Poor	Very Poor
a. Overall quality of seminar	7 16%	20 47%	15 35%		
b. Overall quality of seminar instructor(s)	15 35%	24 56%	4 9%		
c. Responsiveness of leader(s) to your questions	13 30%	23 53%	6 14%		
d. Organization of presentations	5 12%	20 47%	18 42%		
e. Opportunities for informal interaction with seminar leader(s)	5 12%	17 40%	14 33%	4 9%	4 9%
f. Pace (fast, slow) of class	5 12%	17 40%	20 47%	1 2%	
g. Amount of information presented	7 16%	22 51%	13 30%	1 2%	
h. Relevance of training to your job	6 14%	16 37%	19 44%	2 5%	
i. Relevancy of topics to your needs	2 5%	17 40%	23 53%	1 2%	
j. Applicability of material to conditions in China	2 5%	5 12%	30 70%	7 16%	
k. Usefulness of information	3 7%	19 44%	21 49%	1 2%	
l. Administrative arrangements	8 19%	13 30%	17 40%	4 9%	
m. Adequacy of training facilities	3 7%	19 44%	19 44%	1 2%	

5. Did you learn from this seminar what you had hoped you would learn?

[] Yes 27, 63%

No → IF NO, what did you hope you would learn that you did not learn?
10, 23%

6. Did you experience any problems in the seminar as a result of the need to translate English into Chinese?

No problems 23, 53%

Some problems 13, 30%

Many problems 1, 2%

a. If you experienced problems, do you have any suggestions on how the translation process could be improved?

13, 30%

7. Was the training appropriate given the resources (equipment/facilities) available at institution you work at?

Yes 39, 91%

No → IF NO, in what ways was it not appropriate?

8. What plans, if any, do you have to apply what you have learned during the seminar?

28, 65%

9. Please provide any additional information or suggestions that will improve future seminars of this type.

28, 65%

10. Is your home institution a—

Vocational-technical college 11, 26%

Secondary vocational-technical school 23, 53%

Other (please specify) 8, 19%

11. Is your PRIMARY job responsibility—

Teaching 7, 16%

Administration 29, 67%

Other (please specify) 9, 21%

Post 2. The Relationship Between Curriculum Design at Vocational Schools and Demands of Professions and Trade

October 19 - November 14, 1992 in Changchun, 43 Participants

Question 2. What parts of the seminar were the most helpful to you?

- 1) Modular instruction, DACUM procedures, DELTA and CBE
- 2) The information on vocational education, and the comparison of vocational education between China and other developed countries.
- 3) Classification, structure and analysis of vocational education.

Question 6. a. If you experience problems in language translation, do you have any suggestions on how the translation process could be improved?

- 1) Interpreter should not translate the lecture given by instructor sentence by sentence, and should be familiar with the subject he was translating.
- 2) Interpreter should prepare lectures with foreign experts together.

Question 8. What plans, if any, do you have to apply what you have learned during the seminar?

- 1) I plan to do some work in my school to reform the old ideas of training objectives, let more people know vocational education should focus on competency and skill, emphasize both theory and practice, especially the latter, and emphasize the qualitative standard of performance.
- 2) Adopt, step by step, Modular instruction, DACUM, and apply the experience of industrialized countries in our school to reform our traditional education and improve our vocational education.
- 3) I will conduct a vocational analysis to make our curriculum meet the local needs.
- 4) I'll try to analyze the standards and requirements of the students' technical skills by DACUM.

Question 9. Please provide any additional information or suggestions that will improve future seminars of this type.

- 1) I think it will be better that all the materials are translated beforehand, and the goal, requirements and contents of the seminar are kept consistent.
- 2) I'd like to suggest that lecture be connected to the materials closely.
- 3) Host school should collect more information from potential trainees in different project schools, and make the seminar lectures meet our needs.
- 4) Promote the communication between the host school and foreign experts to make the goal of the seminar clearer and consensus.

Exit Evaluation Report Information

China "Post 3" Project

Submitted by:

Dr. James E. Sage
Dr. Gary J. Hoppes

and Reviewed by:

Mr. Shang Yuanming
Mr. Cheng Pei-Kung
Mr. Liu Lixiang

November 7, 1992

Services provided between June 15, 1992 and November 7, 1992

The main function of the experts will be to:

Describe the importance of the experiment and practice centers in the vocational-technical colleges and the necessity to raise management levels

Help the centers to amplify the management rules and regulations and help the staff of the centers to master the scientific management contents and methods to form a new model and style of the experiment and practice so as to give example to other non-project colleges and schools

Provide recommendations for the construction of the centers and utilization ratio of equipment

Help the teaching personnel of the centers to improve their teaching levels

Make suggestions on how the experience and practice centers in vocational and technical colleges provide guidance to the labs in vocational schools

The experts will be required to:

Prepare a detailed program for the senior and send it together with teaching syllabus and materials to Changzhou Technical Teachers College 2 months in advance for translation

Materials presented by Dr. James Sage to Changzhou Teachers College of Technology during August were reproduced in the

form of five booklets for distribution to each workshop participant. While originals were of excellent quality, the reproduced materials were down-sized on poor quality paper. Another problem was created when materials that were mailed from Ohio State University were not properly marked in sequential order. This resulted in the materials being received and printed out of order. Access to further duplication needs and graphics production was less than the expectations of the workshop co-leaders. A computer workstation was provided the project and was very helpful and useful for the management of the project while in Changzhou.

Assess the teaching conditions in the local experiment and practice center and put forward concrete suggestions to improve it

Visitation was made to the Changzhou Teachers College of Technology school factory and classrooms on two occasions with workshop participants. Instruction was given to workshop participants regarding environment and machine safety, work station/workcell identification, equipment name nomenclature, and standard operating procedures for successful implementation to augment their curricula. As part of the visitation to each area emphasis was placed on work station/workcell utilization as it relates to the identified learning objectives and performance tasks which have been pre-determined through joint meetings involving classroom teachers, lab supervisors, and subject matter experts from business and industry.

Assess the management conditions of the local center and make recommendations to raise the utilization ratio of its equipment

By pure numbers of population in the service area it is clear that the facility is under-utilized. However, until the school factory can obtain contracted work from local industry it appears to be cost prohibitive to man and operate the equipment more than under present conditions. Much attention must be given to employing the best person and establishing a showplace atmosphere and development of a public relations promotion team to encourage local business and industry to enter into joint venture activities with the college. This type of individual does not presently exist on staff and such a relationship does not exist with business and industry. "the enterprise zone". Concepts of total quality management "TQM" statistical process control "SPC" and working as a team to identify

quality are non-existent. Most teachers have fallen into the classification of simply working their job. Extra effort should be placed on emphasizing the importance and impact that they have on the development of China's youth. Money appears to be tight, safety glasses are not used, electrical connections on some machines are not professionally installed and many simple safety and operational conditions are violated. Some of these can be resolved if workshop participants would simply take a more pro-active role in education and the improvement of their laboratories.

Train the management and technical staff of the local center and provide them with teaching materials

During the first workshop classes began at 07:40 and ended at 17:00 with a two hour lunch break daily for a period of twelve days and a total of 84 hours contact. Conducting the second workshop we found a more learned group of individuals and as a result our hour were adjusted accordingly. Workshop participants were also requested to complete homework assignments to identify learning objectives and specific tasks for learning. Changzhou Teachers College of Technology provided printed materials and supplies to workshop participants. Of the three hundred and fifty four individuals employed by Changzhou Teachers College of Technology, eleven attended one or more sessions of the workshop and are identified in the class rosters for each workshop. Their work and efforts are also reflected in the packets of materials submitted for review by Ohio State's Center On Education and Training for Employment personnel, and these packets will become part of a published final report.

Help the center to establish relations with the expert and practice centers of other countries and to exchange experience with them

As part of workshop presentations addresses business, industry, and educational resources were provided. In many cases point of contact persons providing information was also provided. To prepare the school staff, and students to function in a global economy much has to be done to develop a localized commitment, an experience in a market driven economy. Orientation to the concepts of market-driven environment reflecting manufacturing, forecasting/projecting needs of goods and services which are produced or rendered are lessons that are presently non-existent, they must be developed and taught.

Make a constructive comprehensive report on the raising the management levels of the experiment and practice centers of vocational-technical colleges based on the analysis of China's current vocational-technical education

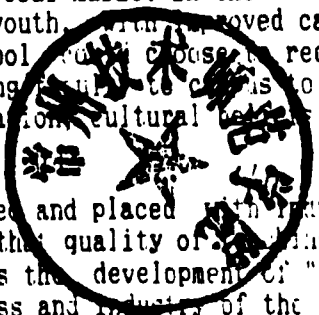
A staged evolution of activities must take place at Changzhou Teachers College of Technology for it to be recognized as a "Center of Excellence" for learning and technology transfer. Such an agency could provide a service to the enterprize zone of the Changzhou area. While the school has a long range plan for facilities development, much is lacking in the area of a mission statement and a long range plan of management strategies. Such policies should be computer-based thus allowing for and act as a medium which will encourage the management team to be involved in the decision making process. Opportunities to make real-time adjustments to the goals of the college fostering partnerships with the economic zone to address local needs is critical to the future success of this college with respect to China's recent acceptance of an open-door policy for a global community.

The school must establish a well disciplined and clean educational environment that will reflect highly on it's faculty and staff.

Curricula must reflect learning activities, and the material processing of raw goods similar to those produced in this economic zone. Present curricula does not reflect the currency of business and industry needs at this time. It is hoped that participants of these workshops will work hard to resolve this problem in the near future.

Public relations conducted by faculty and staff must sell the possible linkage with the companies doing business in their enterprize zone. Sexual, cultural, and other barriers must be overcome so that this college can compete in a global market in the training and development of China's youth. With improved campus living conditions, the school should choose to recruit foreign students and visiting faculty to gain diversity in their population, cultural beliefs, and classroom instruction.

Students must be well-trained and placed with industry to validate and insure the quality of learning and student learning represents the development of "value added" employees for business and industry of the local enterprize zone.



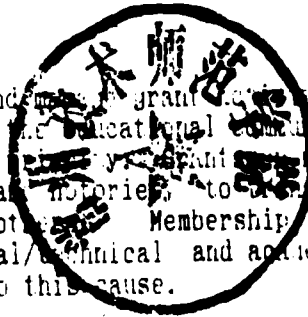
Cultural exchange of management, faculty, and staff with other schools of higher education could accelerate the transition of learning and economic development on campus at CTCT.

Management exchanges would stimulate more visions to assist CTCT delivery goods and services to a global economy

Faculty exchanges would stimulate thinking, learning, and research activities among peers. Through the publication of research results, other business, education, and industrial leaders would learn about China's emerging culture of technology transfer.

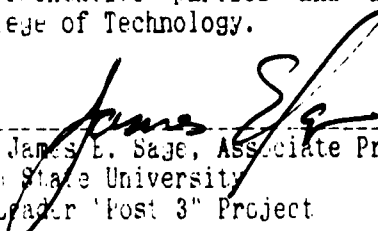
Staff exchanges would stimulate interest and thinking about global computer based library access, vocational and adult education clearing house information exchanges, and better management techniques to support the efforts of faculty research and student learning.

Efforts to write, secure, and disseminate grant proposals with business, industry, and the educational community must continue to be a high priority. We must also seek global publication and distribution to transfer this knowledge gained to others. Membership and affiliation in key vocational/technical and academic arenas is equally important to this cause.



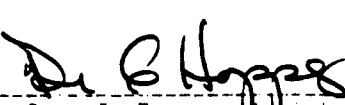
Exit Report Summary Signature Page

Presented as partial completion of "Post 3" Project authored by the co-leader staff and reviewed by the below mentioned representative parties and attached seal of Changzhou Teachers College of Technology.



Dr. James E. Sage, Associate Professor
Ohio State University
Co-Leader "Post 3" Project

Date: 4 Nov 92



Dr. Gary J. Hoppes, Assistant Professor
University of Northern Iowa
Co-Leader "Post 3" Project

Date: Nov, 4, 92

Changzhou Teachers College of Technology



Date: 1992.11.4

SEMINAR EVALUATION

The information you provide on this form will be used in planning and conducting future workshops. Please answer all questions to describe your own personal reactions to the seminar. All answers are anonymous. Do *not* put your name on the form.

Title of Seminar: Total of Seminar Post 3: Management of Experiment (Laboratory) and Practice Centers of Vocational-Technical College

Total participants are: 83

1. Did you feel you received the preparation you needed for participation in this seminar?
 Yes 41, 49%
 No → IF NO, what types of additional information/training might have helped to better prepare you?
42, 51%

<input type="checkbox"/> Advance copies of reading materials	25, 30%
<input type="checkbox"/> English language training	12, 14%
<input type="checkbox"/> Additional training in content area of the workshop	12, 14%
<input type="checkbox"/> Additional information about the goals/objectives of the seminar	26, 31%
<input type="checkbox"/> Other (please specify)	1, 1%

2. What parts of the seminar were the *most* helpful to you?
79, 95%

3. What parts were the *least* helpful to you?
12, 14%

4. Please complete the following by putting a check mark [] on the line that best reflects your assessment of the quality of the following aspects of the seminars:

	Very Good	Good	OK	Poor	Very Poor
a. Overall quality of seminar	14 17%	51 62%	15 18%	2 2%	1 1%
b. Overall quality of seminar instructor(s)	46 55%	31 37%	5 6%	1 1%	
c. Responsiveness of leader(s) to your questions	26 31%	41 49%	14 17%	2 2%	
d. Organization of presentations	24 29%	40 48%	16 19%	3 4%	
e. Opportunities for informal interaction with seminar leader(s)	36 43%	28 34%	15 18%	4 5%	
f. Pace (fast, slow) of class	12 14%	44 53%	23 28%	4 5%	
g. Amount of information presented	11 13%	39 47%	31 38%	1 1%	1 1%
h. Relevance of training to your job	12 15%	27 33%	41 49%	1 1%	2 2%
i. Relevancy of topics to your needs	9 11%	29 35%	40 48%	3 4%	2 2%
j. Applicability of material to conditions in China	8 10%	30 36%	30 36%	11 13%	3 4%
k. Usefulness of information	12 14%	38 46%	27 33%	3 4%	2 2%
l. Administrative arrangements	4 5%	14 17%	29 35%	12 14%	23 28%
m. Adequacy of training facilities	4 5%	25 30%	41 49%	8 10%	5 6%

5. Did you learn from this seminar what you had hoped you would learn?

[] Yes 73, 88%

No → IF NO, what did you hope you would learn that you did not learn?

10,12%

6. Did you experience any problems in the seminar as a result of the need to translate English into Chinese?

No problems 48, 58%

Some problems 34, 42%

Many problems

a. If you experienced problems, do you have any suggestions on how the translation process could be improved?

16, 19%

7. Was the training appropriate given the resources (equipment/facilities) available at institution you work at?

Yes 66, 80%

No → IF NO, in what ways was it not appropriate?

15, 18%

8. What plans, if any, do you have to apply what you have learned during the seminar?

52, 63%

9. Please provide any additional information or suggestions that will improve future seminars of this type.

51, 61%

10. Is your home institution a--

Vocational-technical college 15, 18%

Secondary vocational-technical school 66, 80%

Other (please specify) 2, 2%

11. Is your PRIMARY job responsibility--

Teaching 23, 28%

Administration 60, 72%

Other (please specify)

**Post 3.Seminars on the Management of Experiment [Laboratory] and Practice Centers
[Cooperative Placements] of Vocational-Technical Colleges**

October 8 - November 6, 1992 in Changzhou, 83 Participants

Question 2. What parts of the seminar were the most helpful to you?

- 1) The new concept of laboratory management based on total quality control, and using input - process - output - feedback - improve and input cycle in experimental course teaching.
- 2) The T.Q.M. in the practical training management of vocational and technical school's laboratory.
- 3) The modern method of using and managing the lab at vocational schools in the US.
- 4) How to make the hands-on training plan, and how to evaluate the progress of students.
- 4) Safety education and measures in experimental classes.
- 5) The information of vocational training in the United States and other developed countries.

Question 6. a. If you experience problems in language translation, do you have any suggestions on how the translation process could be improved?

- 1) Interpreter should know the field he (she) translated, and also should translate the main meaning, not only sentence by sentence.
- 2) Prepare a list of some special terms used in the field to students.
- 3) Interpreter should have some meetings with foreign experts before lectures.
- 4) Suggest expert(s) bring a Chinese student studying in the same field in the US back to do translation.

Question 8. What plans, if any, do you have to apply what you have learned during the seminar?

- 1) Use the theory of "Operational Plan" and "Regulation System" to guide our school's lab management, and improve the efficiency of our laboratory.
- 2) I will make plan suggest our school set some feedback channels to get more information form students and industries to improve the hands-on training of our students.
- 3) I will use the method of "Quality Control" and "JOB Analysis" to make quantitative measurement for every one working in school's lab to improve our lab management.
- 4) I will submit a report to our school's president to suggest our school adopt some new theory and technology to reform our laboratory, increase the weight of hands-on training courses, and focus on the practical skill training in new curriculum design. I will make clear goals for every experimental and hands-on training course, set criterion for evaluation, and keep records for latter check.

Question 9. Please provide any additional information or suggestions that will improve future seminars of this type.

- 1) I would like to suggest experts to find more information about China or other developing countries' vocational education during they prepare their teaching materials, in this way, the contents of the seminar will be more close to our situation and more useful.
- 2) Provide the teaching materials to us beforehand to let us have a better preparation.
- 3) I wish teachers brought some video tapes of introducing the laboratory management in the US and other developed countries' vocational and technical schools and colleges, and some computer software used by lab manager.
- 4) Suggest we have some pre-seminar courses to let us know some basic ideas of this seminar, therefore, we can understand foreign experts' lectures better.

Final Report
Predetermine Work Force Demand And Programme
(Occupational Projections and Programme Planning)

Shanghai Teacher's College of Technology

The People's Republic of China

by

Larry Less

Søren Poulsen

December 1992

INTRODUCTION

The present report is a further developed version of the report submitted to the State Education Commission, Shanghai Teacher's College of Technology and the Center on Education and Training for Employment, Ohio State University.

The intention of the report is to present information which will be useful in the process of planning coming seminars in China.

GENERAL

We arrived in Shanghai on Saturday, October 24, and were greeted at the airport by Mrs. Dian and Mrs. Wu. We really appreciated being escorted to the Shanghai Teacher's College in the school shuttle bus, especially since it was about a one and one-half hour drive from the airport. We settled into the guest quarters about 11 PM. Accommodations were quite satisfactory with a single room and private bath for each of us.

On Sunday morning, we met Professor Peng and Professor Zhu. Professor Zhu took us on a tour of the campus grounds and showed us the room where the seminar would be held. On Sunday afternoon, we met with Professor Peng, Mr. Zhang and Mrs. Wu to discuss the materials that had been translated and compiled for the syllabus. Many of the materials had already been translated, but they continued this work during the seminar because we had quite a lot between the two of us. They also had not had a chance to copy the Chinese articles that were listed in the syllabus, but were able to get them copied in the first part of the week.

We had hoped that Professor Peng or the participants would bring data with them that we could use to analyze the Chinese labor market and educational response to labor demand. We were disappointed that there were only two who were familiar with the concept of manpower forecasting to know what to bring.

We then discussed the schedules for the two seminars. Based on the typical Chinese workweek of Monday through Saturday with Sunday off, we had planned on conducting the first seminar from October 26–November 7 with one day off before the second seminar, which would last from November 7–November 21. We each planned on teaching 3 hours a day to permit some time for our lesson preparations and time for the participants to complete homework assignments like readings, exercises and reports on the Chinese articles. We would both depart for home on Sunday, November 22.

We were informed that the second seminar would not start until Tuesday, November 10 and would end on Friday, November 20. We replied that we were very flexible and that we could go 11 days in a row with 2 evening sessions for the second seminar to cover all the material. This was not an ideal arrangement for either the participants or us, but was acceptable to us given the constraints.

Because Soren had further business in Beijing, he arranged to leave on Saturday morning. Because he had an early flight and it is a long drive to the airport and I had an early flight on Sunday morning, we made reservations at the International Airport Hotel to impose the least inconvenience.

The participants of each seminar were also permitted some input on the schedule so that they might have the opportunity to see some of the local sights. The first group decided to go 12 days in a row to have an extra day to travel to Hangzhou. This was satisfactory with us because it gave us an extra day in the city during the break. Both groups decided to have an evening session in place of one afternoon session so that we could all go into Shanghai for an afternoon and evening. Everyone had a wonderful time!

FACILITIES/EQUIPMENT/DATA

Facilities in the classroom were initially inadequate. We had informed them in advance that we would be needing an overhead projector, but they had a slide projector instead. There was an overhead projector readily available, but the room in which we held the seminar had an entire wall of windows with no blinds or curtains so it was initially impossible to use them. We had prepared for this contingency and were able to teach using the chalk board.

This worked all right for the first few days with the smaller number (25 participants) in the first seminar until they found enough curtains to hang and taped paper to the higher windows. We were glad to have this resolved for the second seminar which had 35 participants.

We both brought along VCR tapes and were able to use them after juggling equipment around a little. Some demonstration software diskettes were damaged in transit so we had to improvise. Fortunately, they had an up-to-date computer lab with a Chinese version of Lotus 1-2-3 so we were able to apply some forecasting techniques in analyzing Chinese labor force data and trends. We were able to compute statistics, run simple linear regression equations with accompanying statistics, chart historical data and the forecast output, etc.

As mentioned above, we were disappointed that data were not readily available when we arrived for the first seminar. We did have a breakthrough regarding data use in the first seminar when a group from Sichuan Province arrived late. One gentleman was the local employment service manager and they had been conducting manpower surveys to collect forecast data for some time.

During our 2-day break in Shanghai, we (primarily Soren) scoured the city and finally located a publishing house that had many statistical books about population, industry employment, unemployment, etc. which Soren purchased for group exercises for participants of the second seminar. This resulted in more effective teaching in the second seminar. This post would not have been nearly as successful had Soren not had the ability to read and speak Chinese and obtain useful data.

The following books were purchased and used during the second seminar;

- 1) Zhongguo de Jiuye Yu Shiye
- 2) Zhongguo Gongye Jingji Tongji Nianjian 1988, 1989 & 1991.
- 3) Zhongguo Funu Tongji Ziliao 1949-1989
- 4) Major Figures of the Fourth National Population Census of China 1990.
- 5) Quanguo Baicun Laodongli Qingkuang Diaocha ziliao Ji 1978-1986.
- 6) Zhongguo Touru Chanchu Biao 1987.

SEMINAR

The translation services were excellent. Mrs. Wu Shui Fung, Dean of the English Department, served as our interpreter. She was very pleasant and cheerful with a wonderful sense of humor. She was very capable so we did not have to make much of an adjustment in our rate of speech. There were some difficulties in translation because the English concept/word did not have a direct equivalent in Chinese ("I cannot always find the exact character"). We could usually manage to say the same thing in a different way. There were also some minor difficulties in translating presentations by the participants into English because of the differences in dialect among the provinces.

We were very pleased with the conscientiousness of the participants in both seminars. The participants were very actively involved in discussion, even from the very first day. They were very responsive to all the Chinese articles that they were assigned to read and present.

These often sparked some very lively discussions among the participants. This particular teaching method was even more effective during the second seminar when we had more Chinese materials available.

Mr. Zhang worked very hard, as well as others at the college, to translate the many reading materials that we covered. Not all the Chinese articles had been located wherefore we included some extra Chinese articles. Mr. Zhang was very helpful in locating the new Chinese articles and coping them. Once again, we were very fortunate that Soren could read Chinese and show them what articles he wanted to have copied. This did, however, place a strain on their budget, but we felt that this was very important. Therefore, Soren agreed to pay for these copies while here to be submitted for reimbursement after we returned.

The following Chinese articles were included;

- 1) "Gaodeng Jiaoyu Yingdang Yu Jingji Fazhan Xianghu Shiying Yu Xietiao" by Li Tongming in Gaodeng Jiaoyu Yanjiu No.3, 1989, pp. 36-39
- 2) "Dui Gaodeng Xuexiao Jiaqiang Yu Jingji Jie, Kejijie Hengxiang Lianhe Zhongguo Gaodeng Jiaoyu, No.3, 1989, pp.6-9 & 17.
- 3) "Changxiao Hezuo Cujin Qiye Fazhan De Youxiao Tujing" Zhongguo Gaodeng Jiaoyu, No.3, 1989, pp.60-64.

We felt that the biggest drawback for the seminars was that the participants were generally from vocational high schools or vocational teacher's colleges. In western countries, manpower forecasting would typically be done by a person with a labor market or economics background. Because many of the participants did not have the mathematics or statistics background (e.g., random sampling, regression analysis, etc.) it was much more challenging and sometimes difficult for them. For this reason, our overall recommendations include using techniques that they feel knowledgeable about. This will probably vary with the individual circumstances.

Something that cannot probably be measured very well, but we feel created very successful seminars was the rapport between us and the students and staff at the Shanghai Teacher's College. Whether it was sharing a beer outside a bar in the city or enjoying the dance or movie, we made many new friendships and had a wonderful time.

RECOMMENDATIONS FOR CHINA

In regard to manpower forecasting we have the following (short-term) recommendations for the Vocational Educational Institutions in China.

1) Link theory with Practice

At the present it is common knowledge that many of the graduates from Vocational Educational Institutions lack practical training. It is also known that students associate practical training with a past and highly political educational system. New methods must therefore be introduced in order to give the students the practical training enterprises demand. The following methods could be used:

- Workshop Training
- Practice in an enterprise
- Certificate in practical skill

2 Employers Survey & Tracer Studies

Employers survey and tracer studies are a good way for vocational schools to gain experience with the idea of manpower demand. At the same time the schools will gain experience with the use of different statistical methods, a precondition for doing more advanced manpower forecasting. It is important that the overall objective of such surveys is to be able to carry out actual manpower forecasting and curriculum development.

3 PC Equipment

In any systematic analysis of manpower demand the use of PCs is required. For many schools this means purchase of equipment, software, manuals but also appropriate training.

4 Establish Link with Industries/Units

Many schools have no link to enterprises and units, so knowledge of the requirements, demands and developments within the economy is limited. This clearly affects the schools ability to offer training with the content demanded in the economy.

It is highly relevant that vocational schools establish a network with local enterprises and units in order to obtain the necessary information for a constant course development etc. It is clear the vocational schools must be the driving force in establishing such a network. An employer survey is only one (practical) way to establish links to enterprises.

A network between the different vocational schools would also be an advantage and is highly recommended. Through such a network information and experience can be communicated and training seminars/conferences can be set up.

5 Follow-up Seminar

It is our view that if the Chinese want to carry out any kind of labour market survey or forecasting based on modern techniques, a follow-up seminar should be included in the programme. The seminar should have a highly practical approach aiming at working out precise methods for the local area in question and secondly establishing a network to other vocational units and enterprises and thirdly set up training courses for other relevant units.

It should be considered in which way the experience from Vocational Universities in China would be included in such a seminar.

SERVICES

We ate very well at the canteen. The cook was very anxious to do what he could to please us. He even let us look through the refrigerator to let him know what we liked and didn't like! The other kitchen staff were also very obliging and fixed a cup of coffee for me every morning.

They were very helpful in making arrangements for us to call home. Unfortunately, the outside line was not very good at that time so we were frustrated because we had to scream at both ends of the line to just barely be audible. For this reason, we kept the calls short and waited until we were in Shanghai on the break to call home again.

We were able to make our own arrangements for hotels in Shanghai and at the airport when we were in the city. This seemed to be the most efficient way to do this. Mr. Gu did a fine job taking care of transportation arrangements for buses and trains and changing and confirming airline reservations.

He was also very efficient at coordinating these arrangements for the participants. He also kept track of our expenses and presented us with a total bill at the end of the month. We generally took turns paying expenses, like meals in the city, because this was more practical.

The weather was rather cold (close to freezing) for the first few days of each seminar. We feel that because we are both younger fellows that we were probably better able to cope with conditions like no heat in the classrooms. Any future seminars here should probably be scheduled a little earlier in the year.

It was very nice to have someone else who spoke English to share these experiences with. We got along like old friends and our presentations complemented each other extremely well—better than we could have ever anticipated.

Sincerely,

Larry Less
Soren Poulsen

SEMINAR EVALUATION

The information you provide on this form will be used in planning and conducting future workshops. Please answer all questions to describe your own personal reactions to the seminar. All answers are anonymous. Do *not* put your name on the form.

Title of Seminar: Total of Seminar Post 4:

Total participants are: 58 trainees (53 returned forms)

1. Did you feel you received the preparation you needed for participation in this seminar?
 Yes 15, 28%
 No → IF NO, what types of additional information/training might have helped to better prepare you?
38, 72%

<input type="checkbox"/> Advance copies of reading materials	35, 66%
<input type="checkbox"/> English language training	14, 26%
<input type="checkbox"/> Additional training in content area of the workshop	27, 51%
<input type="checkbox"/> Additional information about the goals/objectives of the seminar	27, 51%
<input type="checkbox"/> Other (please specify)	1, 2%

2. What parts of the seminar were the *most* helpful to you?
47, 89%

3. What parts were the *least* helpful to you?
6, 11%

4. Please complete the following by putting a check mark [] on the line that best reflects your assessment of the quality of the following aspects of the seminars:

	Very Good	Good	OK	Poor	Very Poor
a. Overall quality of seminar	20 38%	29 55%	2 4%		
b. Overall quality of seminar instructor(s)	29 55%	22 42%			
c. Responsiveness of leader(s) to your questions	27 51%	23 43%	1 2%		
d. Organization of presentations	25 47%	23 43%	1 2%		
e. Opportunities for informal interaction with seminar leader(s)	20 38%	20 38%	11 21%		
f. Pace (fast, slow) of class	14 26%	28 53%	9 17%		
g. Amount of information presented	16 30%	26 49%	9 17%		
h. Relevance of training to your job	10 19%	17 32%	24 45%		
i. Relevancy of topics to your needs	9 17%	29 55%	14 26%		
j. Applicability of material to conditions in China	3 6%	23 43%	24 45%	1 2%	
k. Usefulness of information	3 6%	28 53%	15 28%	1 2%	
l. Administrative arrangements	16 30%	27 51%	7 13%	1 2%	
m. Adequacy of training facilities	9 17%	23 43%	18 34%		1 2%

5. Did you learn from this seminar what you had hoped you would learn?

[] Yes 29, 55%

- No → IF NO, what did you hope you would learn that you did not learn?
3, 6%
6. Did you experience any problems in the seminar as a result of the need to translate English into Chinese?
- No problems 11, 21%
- Some problems 20, 38%
- Many problems
- a. If you experienced problems, do you have any suggestions on how the translation process could be improved?
24, 45%
7. Was the training appropriate given the resources (equipment/facilities) available at institution you work at?
- Yes 47, 89%
- No → IF NO, in what ways was it not appropriate?
1, 2%
8. What plans, if any, do you have to apply what you have learned during the seminar?
24, 45%
9. Please provide any additional information or suggestions that will improve future seminars of this type.
26, 49%
10. Is your home institution a--
- | | |
|--|---------|
| <input type="checkbox"/> Vocational-technical college | 16, 30% |
| <input type="checkbox"/> Secondary vocational-technical school | 27, 51% |
| <input type="checkbox"/> Other (please specify) | |
11. Is your PRIMARY job responsibility--
- | | |
|---|---------|
| <input type="checkbox"/> Teaching | 13, 25% |
| <input type="checkbox"/> Administration | 30, 57% |
| <input type="checkbox"/> Other (please specify) | 6, 11% |

Post 4. Predetermine Work Force Demand and Program [Occupational Projections and Program Planning]

June 1 - 29, 1992 in Shanghai, 53 Participants

Question 2. What parts of the seminar were the most helpful to you?

- 1) The method of how to predetermine work force demanded of society.
- 2) We get a lot of information, especially projection of work force demand, the program of vocational training, and the logical structure analysis.
- 3) The methods of employers investigation and labor force projection.
- 4) 1. the key points of market economy; 2. the vocational education in market economy; 3. the primary methods and procedures of predetermine work force demand; 4. the transfer from industry demand to occupational needs, and the projection in developing countries; 5. the mini model report of the transformation from industry demand to occupational needs; 6. the programme of vocational training; 7. the training needs analysis; 8. the logical structure analysis.

Question 6. a. If you experience problems in language translation, do you have any suggestions on how the translation process could be improved?

- 1) Interpreter should have some knowledge of the contents of this seminar.
- 2) I hope interpreters read the materials before he (she) translated to trainees in the future seminars.
- 3) I wish interpreters could speak mandarin.

Question 8. What plans, if any, do you have to apply what you have learned during the seminar?

- 1) I will visit some employers and managers using the theory and method from the seminar to strengthen the relationship between our school and industry, and make the work force demand projections work better.
- 2) I will use the knowledge learnt from the seminar to make a work plan for work force demand projection, and put it into effect. In this way, I can make current programs work better and also provide a scientific basis for new programs in the future.
- 3) I will suggest our local government set a special agency to manage the labor force in scientific way by using the theory and method learnt from the seminar.

Question 9. Please provide any additional information or suggestions that will improve future seminars of this type.

- 1) I would like to suggest SEdC let Chinese experts give us some pre-courses before the seminar, even one or two days, I think this can help us understand the seminar better.

- 2) I think there should have a seminar for officials from the labor and education departs of local government to let them know some theories of predetermine work force demand and program planning.
- 3) Select some materials which are suitable for China.
- 4) Sent the seminar materials to trainees in advance.
- 5) I wish foreign experts could understand more current status of China, give more advice and suggestions for China.
- 6) I can not finish the materials reading assignment, because it's too much. I hope we could get these materials before the seminar, and longer seminar time (20 days).
- 7) I hope we should have this kind of seminar periodically to learn more new theory and method to improve programs in our school.

REPORT ON POST #5 SEMINARS IN VOCATIONAL GUIDANCE

James V Carr and Larry Gulick
Shanghai Teachers College
of Technology, Shanghai
People's Republic of China

The Ohio State University
Center of Educ & Train for Empl.
Columbus, Ohio, USA

Seminar Dates: June 1 - June 27, 1992

Report Date: October 1, 1992

BACKGROUND

Under the leadership of Deng Xiaoping the People's Republic of China has embarked on the bold adventure of changing the economic structure of the land of 1.3 billion inhabitants. In part, the economic reforms have been occasioned by the desire of the Chinese national government and the Central Committee of the Communist Party to develop an economy that can compete successfully on the world market.

A report of a study done by the Training Department of the National Ministry of Labor, and reported in the June 25, 1992 English newspaper, *China Daily*, (See Appendix) describes the current status of Chinese education and its role in producing conditions unfavorable to the development of a skilled national workforce. The report claims that the current education system cannot meet the demand of the on-going reform in Chinese enterprises.

In response to this situation, the Central Committee of the Communist Party has supported Deng Xiaoping's call for a system of assignment of students to educational programs based upon a consideration of the students' interests and abilities as well as school grades, and for a system of assignment of workers to jobs based upon use of interviews and employment contracts. These new procedures are consistent with the philosophy supporting the development of "free enterprise zones" throughout the country.

Perhaps the most direct change in the educational processes is that of introducing vocational guidance principles and methods to the junior and senior middle schools. The first initiative is in the area of helping students identify their interests and abilities using data beyond that provided by school grades alone. At the present time, there are few, if any, instruments to measure general abilities or vocational interests in China. If they exist, the educational community does not have access to

them. Also, teachers of the middle schools (junior or senior) need to develop a sense of vocational guidance principles and to learn some of the general procedures that are common in other countries where students have access to vocational guidance.

PURPOSE OF SEMINAR

The purpose of the Post #5 Seminar in Vocational Guidance is to teach basic vocational guidance principles and practices to vocational teachers and administrators. Participants are expected to introduce these basic principles and practices to their schools and classrooms after the seminar.

As the seminar developed, a secondary purpose became evident. The Seminar has led to the need for development of a system of dissemination of information and eventually of training to assist in spreading vocational guidance to schools throughout China.

POPULATION OF PARTICIPANTS

The participants were mostly administrators and teachers from vocational-technical schools located in the eastern section of the country. Teachers and teacher-administrators made up the majority of the participants with full time administrators and some college level instructors in the minority. Some participants spent more than 20 hours on trains to reach Shanghai. One spent as much as 36 hours en route.

DESCRIPTION OF SEMINAR CONTENT

The format of the Seminar consisted of two 12 day sessions. The first session occurred from June 1- 12, and the second from June 16-28, 1992. Classes were held each day during those time frames.

Because the Seminar leaders judged the original Seminar outline to be inappropriate for the needs of the participants as described by the on-site Research Institute for Vocational Guidance staff members, approximately 50 percent of the content of the first session was revised.

However, verbal discussions involving the same staff members as a method of evaluation of the first session led to the decision to rewrite the entire twelve day Seminar for the second session participants.

What follows is the outline of the Seminar which was put into use during the second session and which turned out to be quite effective in achieving its purposes.

Principles and Practices of Vocational Guidance

A. Format of Presentation

The Seminar focuses on the presentation, explanation and hands on activities that provide greater meaning to each principle. The immediate goal of the workshop includes the preparation of teachers to allow for vocational guidance to become a part of a regular classroom teacher's involvement with students.

1. Statement of the Principle
2. Explanation of the principle using examples.
3. Theoretical support for the principle.
4. Exercises to increase the awareness of the participants regarding the particular principle.
5. Suggestions of exercises to foster application of the principle for students and adults.

Further, principles are grouped in a way to provide a sequential approach to facilitate learning about vocational guidance. The major categories of the principles are:

1. Development and attainment of self-knowledge.
2. Development and attainment of job-knowledge.
3. Development and attainment of mature decision-making.
4. Job placement principles.
5. Job follow-up/follow-through principles.

To make this outline complete, the leaders also attempted to force a second organizational structure which meets the needs of the developmental phases of the students who are the recipients of the vocational guidance.

- Phase 1: Occupational Orientation
- Phase 2: Occupational Selection
- Phase 3: Job Placement
- Phase 4: Job and Occupational Follow-up.

B. Listing of Principles of Vocational Guidance:

Principle #1:

All persons have the right to develop in their unique ways and to expect that society will assist them in their growth and development.

Principle #2:

Society has the right to expect all individuals to develop their talents to their fullest for that individual for the benefit of their society.

Principle #3:

To develop one's talents to the fullest, each person must first gain in self knowledge.

Principle #4:

It is through their work that individuals find a satisfying way to demonstrate their talents. Therefore, they must orient themselves to the diversity of occupations and relate that knowledge to their own vocational development and planning.

Principle #5:

To make realistic vocational decisions individuals must investigate a variety of occupational information resources.

Principle #6:

Decision making is the most important process in vocational guidance. All other vocational guidance processes either lead to making valid vocational decisions, or follow as a result of the vocational decisions that were made.

Principle #7:

Vocational guidance processes help lead individuals to make valid occupational selections suitable to their unique characteristics and talents.

Principle #8:

Employment in a suitable occupation demonstrates the success of vocational guidance.

Principle #9:

To be successful in vocational guidance planning, the individual will develop and use a personal individualized vocational guidance written plan.

Principle #10:

To be successful in the delivery of vocational guidance, the institution (school) will develop and use an organizational vocational guidance written plan.

C. Curriculum Outline (for a twelve day seminar).

Day 1: Opening Ceremony

Ice Breaker

Survey of participants expectations of Seminar

Overview of Seminar

Explanation of Title, Methodology, Importance to China

History and current status of Vocational Guidance around the World

Presentation of Principle #1

Statement of Principle

Explanation of Principle

Theoretical Support from pronouncements of Deng Xiaoping and the Central Committee of Communist Party

Experiential Exercise to increase awareness of principle

First Draft of Definition of Vocational Guidance

Discussion of Topic, Questions, Comments

Review of Day 4 topics, questions and comments

Day 2: Review of First Day's Key Content items and issues, discussions, etc.

Presentation of Principle #2 re: Individual's contribution to society

Explanation of Principle

Theoretical Support: Workforce of 2010 in US and China

Experiential Exercise to increase awareness of principle

In 4 Groups, Discussion of significance of occupations and persons who helped in occupational selection,

Presentation of Principle #3 Re: Self Knowledge and the Assessment of Abilities, Interests, etc. Strengths and Limitations

Explanation of Principle

Theoretical Support: Maslow's needs model, analysis of personal characteristics

Experiential Exercises to increase awareness of principle

Coat of Arms, Interest Surveys, Attitude Survey, Learning Style Survey, Self Analysis Inventory

Prepare questions for Visit to Vocational Technical School on Day 3.

Review of Day 2 topics, questions and comments

Day 3: Day long visit to Senior Middle Vocational Technical School

Day 4: Debrief visit to school on day #3
Continuation of Experiential Exercises of Day #2 afternoon
General cautions about test usage
Review of Day 4 topics, questions and comments

Evening: Overview of Fukuyama Profile, Administration of Form A

Day 5: Development of Work Groups, Using and Explaining Holland's Personality Types
Experiential Exercise: In groups identify and discuss the most important learnings of the first four days. Recorder reports to total seminar group.
Administration of Values Survey
Description and Explanation of Sources of Occupational Information

Presentation of Principle #4 Re: Occupational Orientation through
collection, review and study of occupational information and resources
(Principle #4 deliberately presented after the experiential activities to make sure they had experienced what Principle #4 refers to).
Statement of Principle
Explanation of Principle
Theoretical Support: Need for up to date and meaningful occupational information
Experiential Exercises were covered first with the administrations of various attitude, interest, etc. tests and survey instruments.

Review and Discussion of Day 6 Topics, Questions, Comments
Preparation of questions to ask the Day 6 Panel of Employers.

Day 6: AM: Panel of Employers (Managers from the same factory)
Presentation of the hiring, promotion, and personnel development procedures and the rationale for their approach.

PM: Debrief and discuss the content of the presentations, impressions and rationale

Presentation of Principle #5 Re: Investigation of a variety of occupational
information resources
Statement of Principle
Explanation of Principle
Theoretical Support: Learning methods applied to learning Occ. Info.
Experiential Exercise to increase awareness of principle was reason for Panel of Employers, and for Survey Research on Day 7

Assignment of field research project for Day 7 field trip to Shanghai
Development of Survey about occupations to use on the Day 7 field trip.
Review and Discussion of Day 6 Topics, Questions, Comments

Evening:
Second session of the F-Profile:
Administration of Form B

Day 7: Field trip to Shanghai to do survey research about occupations

Day 8: Debrief field trip experience, and that of doing survey research with people "on the street"

Presentation and discussion of results and their relationships to occupational information to understand self and occupations and implications on decision making

Experiential Exercise to increase awareness of principle #6
Lifeline Activity

Presentation of Principle #6 Re: Decision Making

Statement of Principle

Explanation of Principle: Goals, Objectives and Actions

Theoretical Support: Decision making and personal/career growth

Experiential Exercise: Making Decisions & Developing an Action Plan -
First Demonstration, then group development

Internal and External factors and forces working for and against goal achievement -

Presentation of Principle #7 Re: Occupational Selection

Statement of Principle

Explanation of Principle: Selecting a suitable occupation

Theoretical Support: Relation of worker motivation and effectiveness to owning their choice of occupation

Experiential Exercise: Group discussion of their appointments/selections of their present occupations

Review and Discussion of Day 8 Topics, Questions, Comments
Prepare questions for Day 9 visit to factory

Day 9: Field Trip to Factory (Chemical Company first session, Sewing Machine Company second session)

Evening: Scoring of F-Profile

Day 10: Debrief Factory visit

Presentation of Principle #8 Re: Job Placement

Statement of Principle

Explanation of Principle: Procedures used in U.S. re: job placement

Relationship to Contract Employment in China

Theoretical Support: Choice and ownership of job selection

Experiential Exercise:

Presentation of Principle #9 Re: Development of Individualized Vocational Guidance Plans

Statement of Principle

Explanation of Principle:

Theoretical Support: Using goals, objectives, and study of resources

Experiential Exercise: Transfer of life data to sample plans

Review and Discussion of Day 10 Topics, Questions, Comments

Day 11: Experiential Exercise: In groups identify and discuss the most important learnings of the ten previous days. Recorder reports to total seminar group. Discussion.

Presentation of Principle #10 Re: Organizational Vocational Guidance Plans.

Statement of Principle

Explanation of Principle

Theoretical Support: Responsibility of Schools to provide guidance and help students in their career planning.

Experiential Exercise to increase awareness of principle.

Begin to work on Vocational Guidance Plan for use in their schools after the Seminar is over.

Review and Discussion of Day 11 Topics, Questions, Comments

Evening: Interpretation of F-Profile

Day 12: Complete local school (or common to all) vocational guidance plan
Finalize written plan to submit to OSU and Beijing
Evaluate Seminar and its value to the participants when they return to their schools

Closing Ceremony

TEACHING METHODOLOGY

The specifications listed in the RFP called for the Seminar leaders to use of a combination of teaching methods. They specifically indicated a use of "hands-on" as well as lecture method techniques.

Field Trips

This Seminar used field visits, panel presentations, development of a product through work groups, group discussion in structured groups, test taking related to various guidance related tests, observation of test administration, and of course, the lecture method.

The Shanghai Teachers College of Technology cooperated significantly in arranging for two visits to outside locations. On the third day of each session, the students and Seminar leaders visited the Qiong Yi Vocational-Technical Senior Middle School. Also, on the ninth day of each session students and Seminar leaders toured and conducted discussions with officials at two factories: first session, the Shanghai Petrochemical Complex Plastics Factory in Shanghai, and second session, a Sewing Machine Company also in Shanghai. The focus of these plant visits was to see how employees are selected for their jobs, promoted to other positions, and given recognition when they have accomplished some significant result.

Panel Presentations

On the sixth day of each seminar, a panel of managers from a nearby cosmetic factory visited the school to explain how they, as managers, view the new "contract employment" opportunities that now exist in China's Special Economic Zones. Also, they presented their views about hiring and placing employees in positions where they can work in ways to demonstrate and develop their talents. This situation is slowly replacing the assignment system, where employees are assigned to factories and business by a personnel type official working for the national, provincial, or county government. This panel presentation method was used occasionally during the daily class presentations, and on the three field trip visits to factories and schools.

Activity Groups

For three reasons, the seminar sessions involved a heavy use of activity groups with the use of group discussion as a major teaching method. First, both seminar leaders are committed to the use of activity group procedures as a primary teaching method. In this belief, the leaders often cited what they believed was a Chinese saying: "I hear and I forget; I see and I remember; I do and I understand."

Second, in preseminar conferences, the leaders at Shanghai Teachers College of Technology stressed the need to use methods in addition to the simple lecture method that characterizes the main teaching approach of Chinese university professors. Quite frequently, during the courses of both Seminars, some STCT professors attended the Seminar classes for the single purpose of observing the various teaching methods of the leaders.

Third, the RFP regarding this Seminar specifically called for teaching methods that were described as "hands-on-learning". The leaders attempted to produce "hands-on-learning" situations that would resemble the style of work expected of future workers of China: a style that stresses the use of small work groups operating in problem solving modes.

Test Taking

The third through fifth days of each Seminar session consisted of heavy test taking activities, involving vocational guidance instruments as tests of interest, aptitude, values, learning style, etc. Since much useful self knowledge is gained from such "test-taking", it was important to show the Seminar participants how certain of these kinds of tests can be used in vocational guidance.

A major activity used to teach the concept of "development of a career plan" was the administration and interpretation of the Fukuyama Profile. This activity taught the participants how to administer, score, and interpret this comprehensive career and vocational guidance program.

Observation of Test Administration

Through the teaching of test taking, participants were shown how to administer the various tests presented. The focus was not only on the information collecting function of the tests and their interpreting, but equally on teaching participants how to administer tests, and what constituted good, valid test administration practices.

Development of a Product through Work Groups

The needs of the future workforce will include heavy reliance on workers ability to learn and use the skills of working as teams in small groups, incorporating creative problem solving as a major working style to produce the products required. Because of this situation, the teaching methods of each twelve day seminar moved gradually from leader presentation focused activities of the early days, to group discussion activities of the middle days, to the development of a product (the Vocational Guidance Plan). The production of this plan took place in work groups that resemble the expected work groups of the future workforce.

Lecture Method

The lecture method was used throughout the twelve day seminars. Each vocational guidance principle was introduced through a lecture. Other vocational guidance concepts and strategies also required a mini-lecture as way of introduction. Awareness and experiencing the principles, concepts and strategies came about through "hands-on" methods, especially test taking and group discussion.

During the first session, the leaders realized that frequently their lectures were not being seen as lectures by the students who were not used to their more informal way of lecturing - different from the formal presentations they were used to from their Chinese professors. The leaders realized that the continued use of a formal lecture approach was necessary for the participants to become open to learning from other styles. During the second session, the leaders instituted formal lectures each time they presented one of the ten vocational guidance principles. These formal lecture presentations were necessary not because they were the only way to get the concepts of the principles across, but because they

brought periodic familiarity in teaching method to the students, which in turn enabled them to be open to new learnings.

In this way the participants were shown the major teaching methods that are appropriate to a twelve day Seminar of this nature.

RESULTS AND PRODUCTS OF THE SEMINAR

As a result of the Seminar, each participant was able to:

1. Recite and explain the ten principles of Vocational Guidance.
2. Describe how vocational guidance activities might be implemented in their classrooms.
3. Explain and describe the processes of assessment used in vocational guidance.
4. Establish work groups using an accepted method of selection of group members for maximum productivity.
5. Describe and explain group procedures used for work groups and group decision making.
6. Develop and conduct survey research and do a simple analysis of the data collected.

7. Interview business and industry leaders to collect meaningful and appropriate occupational information.
8. Locate sources of valid occupational information and identify the types of information needed for various purposes.
9. Complete an individualized career plan.
10. Complete an organizational vocational guidance plan.

FACILITATOR COMMENTS

Ability of Participants to understand the content and apply the learnings

Although vocational guidance is not a formalized part of the Chinese curricula, the participants indicated that the government and school administrators play an important part in determining what school and, consequently, what jobs are eventually assigned to graduates. The major determinant regarding the successful assignment to jobs is the ability of prospective employees to complete courses of study relating to a specific occupational area.

After the introduction to the concept of vocational guidance, the seminar participants accepted the basic concepts and principles of this "new field of study." The interpreter's comments were indicative of many of the participants' views when he said, "I knew nothing about vocational guidance before this seminar, but now I have found it to be very interesting and important - in fact, I briefly thought about the possibility of studying this process myself."

The participants were able to successfully complete the seminar tasks and demonstrated much enthusiasm with the variety of activities which they personally accomplished. Their willingness to implement this process was manifested by their desire to form a national association for vocational guidance. Also, an important element to the success of the vocational guidance seminar was the flexible seating arrangements which was necessary for many of the activities.

Suggestions for the Future

Although there were no real problems during the seminar, developing learning/work groups with similar personality types facilitated the

acceptance and understanding of the program. However, more emphasis should have been given on how group work needs to function so that as the groups completed an assignment at different intervals, they would know how to utilize their time more efficiently. We also recommend that prospective vocational guidance personnel (other seminar participants) should be given some introductory information about this new method for job selection and placement.

Since the success of vocational guidance processes is ultimately determined by the satisfaction people derive from their occupational choices, the job placement/follow-up components is of major importance for the people who are selected to participate in a vocational guidance seminar. In this respect, vocational guidance is looked upon here as a process rather than a program. Therefore all Chinese youth and adults should have the advantage of learning the vocational guidance processes, that is, the processes for making better career choices.

Specific Recommendations

As more people are involved in planning their future, they will develop a greater sense of pride in the quality of their work throughout their life-careers. It is important to realize that information and knowledge about occupations is learned at a very early age (even pre-schoolers know something about their parents' jobs). Learning about occupations is a lifelong process for those who take an active role in their own career development and occupational decision making. Consequently, vocational guidance actually covers an individual's life span.

- 1. We therefore recommend** that additional seminars in vocational guidance be offered in locations that are convenient for vocational school administrators and teachers. These additional seminars are important for the growth of the vocational guidance movement in China which, after a period of about seventy years, began again at the Shanghai Teachers College of Technology.
- 2. We also recommend** that the enrollments of future workshops be limited to 25 persons. The seminar in vocational guidance is teaching a process and uses a hands-on experiential approach as the only appropriate major teaching method. To be successful, the enrollment must not surpass 25 persons.

- 3. We also recommend that, while foreign experts are necessary as instructors, there be two interpreters available for communications. The need for two interpreters was very evident during the June 1992 Seminar. When only one person is available, that person becomes exhausted to the detriment of the quality of the seminar. Equally important, with the extensive use of groups, there is a strong need to monitor the conversation and progress of more than one group at a time.**
- 4. Along with the above recommendation, we recommend that staff members of the Shanghai Teachers College of Technology be trained extensively in vocational guidance theory and practice so that at some future point, Chinese teachers will be teaching the Post #5 Seminar in the native language.**
- 5. We recommend that the Shanghai Teachers College of Technology be considered as a center for vocational guidance training and materials dissemination throughout China. STCT has the leadership and personnel who are committed to this field and have expressed a strong desire to obtain the material support needed to give other Chinese professionals the opportunity to engage in vocational guidance seminars and activities.**
- 6. We recommend that the STCT operations in the areas of copying, distribution methods, communications especially telephone, and housing capabilities be expanded to accommodate the implementation of these recommendations.**
- 7. We recommend that the Shanghai Teachers College of Technology and the Ohio State University Center of Education and Training for Employment develop a "sister school" relationship to enable materials now residing at Ohio State CETE be translated into Chinese and sent to STCT for duplication and shipment to those schools who are involved in the vocational guidance network of schools.**
- 8. Along with the last two recommendations, we recommend that the appropriate officials at both schools develop a plan to allow STCT instructors to attend Ohio State University to study vocational guidance and conduct the translations of vocational guidance materials that will be required.**

A Final Note:

The two instructors, Mr. Gulick and Mr. Carr wish to convey their gratitude to the government of the People's Republic of China in general and specifically to the State Educational Commission in Beijing, and the Vocational Guidance Institute at the Shanghai Teachers College.

Also, they wish to acknowledge the assistance they received from the staff and faculty at Shanghai Teachers College of Technology, especially Vice President Chen Qi-ming, Vocational Guidance Research Institute Director Peng Gui Chang, and our three interpreters, Mr. Chin Jie, Mr. Dong Ru Shun and Mrs. Yiang Li.

The Ohio State University, specifically the Center of Education and Training for Employment, in the persons of Mr. Chet Hansen, Mr. Morgan Lewis, and Mr. Harry Drier were most helpful in producing a very successful seminar.

Most important is it to thank the administrators and teachers of the Vocational Schools throughout the People's Republic, and specifically, the seminar participants who helped the two foreign seminar leaders conduct successful seminars.

Because of the cooperation of all listed above, especially the interpreters, the inability of the leaders to speak Chinese was overcome.

APPENDIX

SUMMARY OF REPORT REGARDING THE STATUS OF CHINESE EDUCATION AND ITS ROLE IN PRODUCING CONDITIONS UNFAVORABLE TO THE DEVELOPMENT OF A SKILLED NATIONAL WORKFORCE

(Summarized from China Daily, June 25, 1992)

The Situation:

Every year, more than 10 million students cannot enter middle or high schools. Seventy percent of these students receive no technical training before entering the workforce.

China has a glut of laborers but its enterprises still have severe shortages of technical personnel.

In the past ten years, an average of 3 million young laborers in cities remain unemployed every year. Yet, production lines in Chinese enterprises, especially the mining industries, badly need technicians.

In 1990, technicians accounted for only 11 percent of the nation's labor force. To solve this problem, 1.5 to 1.8 million technicians need to be trained every year. Currently, China trains fewer than 700,000 technicians each year.

The gap between labor supply and demand indicates the low quality of Chinese laborers.

Yet, there is a stockpile of technical personnel employed in government offices and institutions. From 1986 to 1990, college and vocational school graduates numbered 6.68 million. Sixty percent were assigned to national government offices and institutions. As a result, these work units actually have too many technicians. The utilization rate for these workers, approximately 10 million, is just 66 percent according to a State Science and Technology Commission survey.

The job assignment system in colleges and vocational schools has contributed to these problems in workforce effectiveness. The crying need for technical personnel is especially obvious in rural areas. On the outskirts of Shanghai, for example, only 0.2 percent of the local laborers received a vocational or college schooling.

Young factory workers show little interest in developing technical skills even when related skilled work opportunities are available nearby. Many would rather register for part time study at colleges to get a general diploma which they see as their ticket out of the factory and into an office position.

Causes of the apparent wasted labor resources and inefficient labor usage:

The nations educational program is to, a large extent, divorced from the demands of economic growth.

Training for workers on production lines, for example is often overlooked.

There is an irrational distribution of the central government's investment in different types of education. Compared to its contribution to vocational schools, regular universities get too much funding and attention from the central government. Moreover, the government contributes almost no money for on the job training for factory workers.

The governments (national, provincial, county) offer jobs to all graduates of universities and vocational schools. But indiscriminate assignment of graduates to jobs prevents schools from evaluating the quality of their graduates and discourages schools and universities from adjusting teaching methods and curricula. As a result many aspects of the curricula in these schools does not address what is needed for sound economic development.

SEMINAR EVALUATION

The information you provide on this form will be used in planning and conducting future workshops. Please answer all questions to describe your own personal reactions to the seminar. All answers are anonymous. Do *not* put your name on the form.

Title of Seminar: Total of Seminar Post 5

Total participants are: 47

1. Did you feel you received the preparation you needed for participation in this seminar?
[] Yes 4, 9%
[] No → IF NO, what types of additional information/training might have helped to better prepare you?
43, 92%

[] Advance copies of reading materials	38, 80%
[] English language training	16, 34%
[] Additional training in content area of the workshop	15, 32%
[] Additional information about the goals/objectives of the seminar	36, 77%
[] Other (please specify)	

2. What parts of the seminar were the *most* helpful to you?
32, 68%

3. What parts were the *least* helpful to you?
22, 47%

4. Please complete the following by putting a check mark [] on the line that best reflects your assessment of the quality of the following aspects of the seminars:

	Very Good	Good	OK	Poor	Very Poor
a. Overall quality of seminar	14 30%	30 64%	3 6%		
b. Overall quality of seminar instructor(s)	32 68%	13 28%	2 4%		
c. Responsiveness of leader(s) to your questions	23 49%	23 49%	1 2%		
d. Organization of presentations	14 30%	27 59%	4 9%	2 4%	
e. Opportunities for informal interaction with seminar leader(s)	10 21%	14 30%	20 43%	3 6%	
f. Pace (fast, slow) of class	10 21%	25 53%	12 26%		
g. Amount of information presented	9 19%	29 53%	9 19%		
h. Relevance of training to your job	9 19%	21 45%	15 32%	2 4%	
i. Relevancy of topics to your needs	4 9%	35 75%	6 13%	2 4%	
j. Applicability of material to conditions in China	4 9%	18 38%	24 51%	1 2%	
k. Usefulness of information	5 11%	28 60%	14 30%		
l. Administrative arrangements	3 6%	26 55%	19 40%		
m. Adequacy of training facilities	3 6%	19 40%	19 40%	5 11%	1 2%

5. Did you learn from this seminar what you had hoped you would learn?

[] Yes 47, 100%

- No → IF NO, what did you hope you would learn that you did not learn?
6. Did you experience any problems in the seminar as a result of the need to translate English into Chinese?
- No problems 25, 53%
- Some problems 22, 47%
- Many problems
- a. If you experienced problems, do you have any suggestions on how the translation process could be improved?
- 13, 30%
7. Was the training appropriate given the resources (equipment/facilities) available at institution you work at?
- Yes 33, 70%
- No → IF NO, in what ways was it not appropriate?
- 13, 28%
8. What plans, if any, do you have to apply what you have learned during the seminar?
- 40, 85%
9. Please provide any additional information or suggestions that will improve future seminars of this type.
10. Is your home institution a--
- | | |
|--|---------|
| <input type="checkbox"/> Vocational-technical college | 9, 15% |
| <input type="checkbox"/> Secondary vocational-technical school | 38, 81% |
| <input type="checkbox"/> Other (please specify) | |
11. Is your PRIMARY job responsibility--
- | | |
|---|---------|
| <input type="checkbox"/> Teaching | 29, 62% |
| <input type="checkbox"/> Administration | 18, 38% |
| <input type="checkbox"/> Other (please specify) | |

Post 5. Career Guidance Seminar

June 1 - 29, 1992 in Shanghai, 47 Participants

Question 2. What parts of the seminar were the most helpful to you?

- 1) The Concepts, principles and methods of career guidance.
- 2) Theories and history of career guidance.
- 3) F test on career guidance.
- 4) The status of career guidance in American.

Question 6. a. If you experience problems in language translation, do you have any suggestions on how the translation process could be improved?

- 1) Interpreter should have some knowledge of career guidance.
- 2) Give us more materials being translated in Chinese beforehand.

Question 8. What plans, if any, do you have to apply what you have learned during the seminar?

- 1) I will continue to learn the career guidance theory, try to use it and disseminate to other places nearby.
- 2) Use the theory and methods we learnt in the seminar to help students make right career choice.
- 3) I will organize some workshops on career guidance theory and methods for students and parents, test students by F test and let parents help and respect students' choices.

Question 9. Please provide any additional information or suggestions that will improve future seminars of this type.

- 1) We wish the seminar could be longer, and we, therefore, can learn career guidance theory systematically, maybe we can have another advanced career guidance seminar.
- 2) Provide more information and materials on career guidance continually.
- 3) Add more training materials about the career guidance in secondary vocational high school.
- 4) Send the seminar materials to trainees in advance.

Comments:

I am from a vocational high school. I found this seminar is great help to me. The theories and methods can help us solve some problems in students' job assignments. In the past, once we assigned a student to a work unit, if he (she) didn't accept, we always blamed him (her) not follow our instruction. But, after I participated the seminar, I think we have something wrong. We should extensively conduct career guidance among our students to help work units find right students and help our

students find the jobs they are really interested in. This way can benefit both work units and students, and, of course, our society.

SEMINAR REPORT

For the Seminar,
"Strategies for Teaching Vocational Technical Electronics"

Zhejiang Institute of Technology,
Peoples Republic of China
10/12/92 - 11/6/92

George Bradford

Section I. - SEMINAR REVIEW

The seminars in vocational technical electronics were initially designed to have a heavy emphasis on pedagogy and minor focus on technical content. The technical content of the seminar was placed in a secondary position first, because the academic character of the audience was not well known and second, because the mathematics and technical content of electronics curricula are rather fundamental and generally well known by all technical educators. It was the basic premise of these seminars that the truly challenging aspect of technical education for vocational level students is the "How to teach" rather than the "what to teach".

The primary message of the seminars was that students, at the vocational level, must know theories as well as applications, must be able to communicate with engineers and scientists, should be qualified craftsmen, and must have appropriate worker traits. Also, students at the vocational level have a reduced appreciation of the abstract and need to visualize concepts, need a little more time to master a concept, and usually have very diverse backgrounds. The challenge of teaching vocational electronics is formidable and therefore there is a need to make efficient use of all resources. The best resource available is the laboratory. It is appropriate and desirable to use the laboratory to teach concepts, communications skills, worker traits, as well as craftsmanship. The seminars were designed to demonstrate how to use the laboratory to these ends.

The audience of the first seminar was primarily students of Zhejiang Institute of Technology who were enrolled in a teacher training program. The students were young, bright and energetic. The message of using the laboratory to teach all aspects of electronics is a subtle one and was possibly diminished in translation. The students revelled in the availability of the laboratory and learned several technical issues but probably not the main message. While the latest applications or electronics should constitute a relatively small portion of an electronics curriculum, they are the most exciting and glamorous aspects of the technology and hence the participants, when placed in a laboratory, thought of doing electronics themselves rather than using the laboratory as a teaching tool.

In order to pull the focus of the seminar back to the main message, the format was changed slightly for the second seminar. Three of the laboratory exercises were rewritten to offer greater technical challenge and while the participants were focusing on the technical aspects of the exercises, the subtle points were interjected. The audience of the second seminar was mature, veteran teachers from all over the country and the message of the seminar was heard.

The experience of teaching at Z.I.T. had several frustrations but the warm, friendly, cooperative nature of all of the administrators, translators and support people made the frustrations insignificant.

Section II - RECOMMENDATIONS

The need to have productive technical graduates of vocational technical programs in a very short period of time requires innovative and efficient teaching techniques. One method of teaching technical concepts while accommodating the learning style of the vocational student is to make liberal use of the laboratory. The participants of the seminars at Z.I.T. acknowledged that, in the P.R.C., the laboratory is used for less than 20% of the teaching time in most courses. The primary mode of instruction is lecture. It must be stated that advocating increased use of the laboratory usually strikes fear and disdain into the hearts of all education administrators for misuse of the laboratory is prevalent in technical education. I do not recommend a large expenditure for new special purpose laboratory equipment. I do recommend that durable, industrial quality, general purpose equipment be purchased and many supplies be available. Faculty should be encouraged to design educational exercises that teach a lot with simple tools and equipment. Students should be encouraged to spend time in the laboratory, solving problems.

SEMINAR EVALUATION

The information you provide on this form will be used in planning and conducting future workshops. Please answer all questions to describe your own personal reactions to the seminar. All answers are anonymous. Do *not* put your name on the form.

Title of Seminar: Total of Seminar Post 7

Total participants are: 16

1. Did you feel you received the preparation you needed for participation in this seminar?
[] Yes 5, 31%
[] No → IF NO, what types of additional information/training might have helped to better prepare you?
10, 63%

[] Advance copies of reading materials	4, 25%
[] English language training	3, 19%
[] Additional training in content area of the workshop	4, 25%
[] Additional information about the goals/objectives of the seminar	4, 25%
[] Other (please specify)	

2. What parts of the seminar were the *most* helpful to you?
10, 63%

3. What parts were the *least* helpful to you?
6, 37%

4. Please complete the following by putting a check mark [] on the line that best reflects your assessment of the quality of the following aspects of the seminars:

	Very Good	Good	OK	Poor	Very Poor
a. Overall quality of seminar	1 6%	11 69%	2 13%		
b. Overall quality of seminar instructor(s)	7 44%	5 31%	1 6%		
c. Responsiveness of leader(s) to your questions	6 38%	6 38%	4 25%		
d. Organization of presentations	4 25%	7 44%	5 31%		
e. Opportunities for informal interaction with seminar leader(s)	1 6%	5 31%	10 63%		
f. Pace (fast, slow) of class	1 6%	8 50%	7 44%		
g. Amount of information presented	4 25%	6 38%	6 38%		
h. Relevance of training to your job	2 13%	8 50%	5 31%	1 6%	
i. Relevancy of topics to your needs	5 31%	6 38%	5 31%		
j. Applicability of material to conditions in China	1 6%	5 31%	8 50%	2 13%	
k. Usefulness of information	1 6%	4 25%	11 69%		
l. Administrative arrangements	2 13%	8 50%	6 38%		
m. Adequacy of training facilities	2 13%	9 56%	5 31%		

5. Did you learn from this seminar what you had hoped you would learn?

[] Yes 10, 63%

No → IF NO, what did you hope you would learn that you did not learn?

3, 19%

6. Did you experience any problems in the seminar as a result of the need to translate English into Chinese?

No problems 4, 25%

Some problems 11, 69%

Many problems 1, 6%

a. If you experienced problems, do you have any suggestions on how the translation process could be improved?

5, 31%

7. Was the training appropriate given the resources (equipment/facilities) available at institution you work at?

Yes 13, 81%

No → IF NO, in what ways was it not appropriate?

2, 13%

8. What plans, if any, do you have to apply what you have learned during the seminar?

6, 38%

9. Please provide any additional information or suggestions that will improve future seminars of this type.

10. Is your home institution a--

Vocational-technical college

Secondary vocational-technical school 16, 100%

Other (please specify)

11. Is your PRIMARY job responsibility--

Teaching 15, 94%

Administration 1, 6%

Other (please specify)

Post 7. Teaching and Training Methodology of Electronics in Vocational-Technical Schools

October 7 - November 7, 1992 in Hangzhou, 16 Participants

Question 2. What parts of the seminar were the most helpful to you?

- 1) Experimental part and teaching method in the seminar.
- 2) The basic principles and skills of training electronic technician by vocational education.

Question 6. a. If you experience problems in language translation, do you have any suggestions on how the translation process could be improved?

- 1) Interpreters should have both English and the some electronic knowledge.
- 2) I wish all of the materials being translated to Chinese.
- 3) I wish interpreters could speak mandarin.

Question 8. What plans, if any, do you have to apply what you have learned during the seminar?

- 1) I will write a summary report and make a plan for our school to reform electronic lab. The plan will include the arrangements and procedures of the lab by using the method learnt from the seminar.
- 2) After going back to my school, I will more emphasize object teaching and hands on training to my students.

Question 9. Please provide any additional information or suggestions that will improve future seminars of this type.

- 1) I would like suggest instructor spend more time talk about how to train technicians, don't give too much details on different experiments, for those, I think, only need to give results and compare them.
- 2) I hope every three to four years we can get this kind of training to upgrade our knowledge and skill.

Shandong Teachers Training Center of Vocational Technical
Education
Post 8 July 1992

I. SEMINAR REPORT

Submitted by Professor Peter J. Smania, 8/3/92

A. INTRODUCTION

I would like to express my appreciation to the State Education Commission at Beijing and to the Shandong Engineering Institute. Everyone that I met was very friendly and helpful during my visit to China.

B. SECTION 1.

1. Seminar Summary

A key objective of both seminars was to encourage the participants to design and use more active "hands-on" learning experiences in their classes. I feel very expert in this area because this has been my formal training and education, and I have 26 years of experience teaching this way. The participants were shown many successful examples of how to use more active "hands-on" learning experiences in the classroom. One such example was a laboratory demonstration in the Machinery Factory of the Institute. I demonstrated machining on how to use the latest cutting tool technology of Diamond and Cubic Boron Nitride. Another demonstration was made using computer software that covered theory and application of superabrasives. This was a good example of the latest developed software and its application using the computer.

Another emphasis was to cover the latest teaching methods and content used for Mechanical Engineering in Vocational Technical Education. I used the lecture method to demonstrate the various methods and showed the participants by my example different methods of teaching.

Other topics included methods for developing a curriculum and keeping it up-to-date, planning, equipping, and managing laboratories. Examples were used from Canada and several States from America. Also included were managing internships and practice, as well as continual upgrading of technical education for teachers. In addition, I spent a little time teaching the latest technology related to cutting tool technology, modular fixture construction, Computer Aided Design, and Manufacturing. I also mentioned the topics of Computer Integrated Manufacturing and Integration.

Video equipment used included slides, four videotapes in Chinese, as well as transparencies. The computer software,

Valenite cutting tool manuals, and video tapes were offered to the seminar participants for free. Valenite of Troy, Michigan, donated cutting tool manuals, pencils and four cutting tool inserts. General Electric Corporation of Worthington, Ohio, donated four video tapes, one set of computer software and 60 educator packages.

II. PARTICIPANT ASSESSMENT

Very few of the participants could understand spoken English and it was necessary to use an interpreter.

I requested information from each participant in regards to the subject matter that they teach at the beginning of each seminar. Some participants did not have a relevant background to the instruction given. However, I repeatedly emphasized to apply the learning objective presented to their field of expertise and not to dwell on the example shown them. My learning objectives would apply to any curriculum. It would be better for future seminars to have the teaching background of the participants to be closer matches.

It was a tough problem to get the participants to ask questions about what they did not understand, but I solved this problem very quickly. I do feel that Chinese teachers should ask questions of their students and in turn be asked questions by their students. Only in this way can the instructor tell if learning is taking place during a lecture or laboratory practice.

By the questioning method I learned that many, if not most of the participants, needed training examples of how to apply "hands-on" learning experiences in their classes. A major problem was a lack of industrial experience in their field of instruction. It is hard to apply knowledge without experience.

I determined by questioning whether the participants understood what I covered and repeated the material using a different example if I felt that they did not understand. The only classroom problem encountered was the heat. The host institution did all they could to solve this problem, but air conditioning would be a big help to learning for future seminars if possible.

C. SECTION 2

1. Improvements and Suggestions

Based upon my limited time and experience in China, I

feel that the following suggestions will improve Vocational Technical Education in China.

A major weakness that I observed with the Chinese educational system is very little, if any, relationship with industry. This is a very significant difference between America and China. Someone needs to take the first step to make this happen in China. Following are just a few benefits from such a relationship:

1. An industrial advisory committee could give advice and support on curriculum objectives for both theory and practice courses, especially occupational objectives required by each province.
2. An industrial advisory committee could recommend laboratory and factory equipment as well as supplies. Many donations or help acquiring equipment and supplies would follow this relationship.
3. This relationship would lead to industry field trips, internships and co-operative experiences that would be valuable to students and industry.
4. All of the above would mean better trained graduates for China and each local province.

Another major weakness I observed is lack of computer knowledge and especially application. This relates to all types of computer applications such as Computer Numerical Control, Computer Aided Manufacturing, Computer Integrated Manufacturing and Automation. Very few participants had knowledge or experience with computer operated metal working machines, 2-D/3-D drawing, and using Computer Aided Machining software.

Although the participants stated that many of them belonged to a professional society, no one had student chapters of professional societies. I feel that student societies are very beneficial to a student's education and this is highly respected by industry.

I sensed a lack of up-to-date technical text books for teachers, especially with respect to technical English. This should be a very simple problem to solve since there are very many American companies that publish technical text books. This should at least be provided for teachers.

Many of the teachers lacked knowledge and practice in the following skill areas:

1. Sheet metal die making
2. Fixture construction
3. Plastic materials and their application.
4. Plastic mold construction.

Note: The last two areas of above would be especially useful to the Shandong Engineering Institute since the Qilu Petrochemical Company is located there. Graduates with this knowledge would be very useful to this company and its parent corporation.

It would be appropriate to present each participant with a seminar certificate for course completion to be given by the host school.

I was very impressed with the total English skills of the students we met at the Shandong Engineering Institute. Their study habits, interest in learning, and values were also very good. We used several of them to help in many ways and their assistance was very helpful. I feel that this would be a good idea for all future seminars. Students should be allowed to attend appropriate class sessions and to practice their technical English whenever possible. The students represent the future of China.

SEMINAR EVALUATION

The information you provide on this form will be used in planning and conducting future workshops. Please answer all questions to describe your own personal reactions to the seminar. All answers are anonymous. Do *not* put your name on the form.

Title of Seminar: Total of Seminar Post 8: Mechanical Engineering at Shandong Zibo

Total participants are: 55

1. Did you feel you received the preparation you needed for participation in this seminar?
 - Yes 23, 42%
 - No → IF NO, what types of additional information/training might have helped to better prepare you?
 - 31, 56%
 - Advance copies of reading materials 20, 36%
 - English language training 18, 33%
 - Additional training in content area of the workshop 6, 11%
 - Additional information about the goals/objectives of the seminar 8, 33%
 - Other (please specify) 2, 4%
2. What parts of the seminar were the *most* helpful to you?
 - 20, 36%
3. What parts were the *least* helpful to you?
 - 2, 4%

4. Please complete the following by putting a check mark [] on the line that best reflects your assessment of the quality of the following aspects of the seminars:

	Very Good	Good	OK	Poor	Very Poor
a. Overall quality of seminar	9 16%	33 60%	12 21%	1 2%	
b. Overall quality of seminar instructor(s)	13 24%	33 60%	9 16%		
c. Responsiveness of leader(s) to your questions	14 25%	31 56%	10 18%		
d. Organization of presentations	13 24%	18 33%	22 40%	1 2%	1 2%
e. Opportunities for informal interaction with seminar leader(s)	9 16%	13 24%	23 42%	8 15%	2 4%
f. Pace (fast, slow) of class	6 11%	16 29%	29 53%	4 7%	
g. Amount of information presented	10 18%	27 49%	17 31%	1 2%	
h. Relevance of training to your job	9 16%	16 29%	26 47%	4 7%	
i. Relevancy of topics to your needs	5 9%	12 22%	35 64%	2 4%	1 2%
j. Applicability of material to conditions in China	1 2%	11 20%	33 56%	8 15%	2 4%
k. Usefulness of information	5 9%	18 33%	30 55%	2 4%	
l. Administrative arrangements	12 22%	23 42%	17 31%	3 5%	
m. Adequacy of training facilities	9 16%	17 31%	23 42%	4 7%	2 4%

5. Did you learn from this seminar what you had hoped you would learn?

[] Yes 30, 55%

- No → IF NO, what did you hope you would learn that you did not learn?
6, 11%
6. Did you experience any problems in the seminar as a result of the need to translate English into Chinese?
- No problems 23, 42%
- Some problems 27, 49% (The interpreter doesn't know mechanical engineering)
- Many problems
- a. If you experienced problems, do you have any suggestions on how the translation process could be improved?
2, 4%
7. Was the training appropriate given the resources (equipment/facilities) available at institution you work at?
- Yes 41, 75%
- No → IF NO, in what ways was it not appropriate?
5, 9%
8. What plans, if any, do you have to apply what you have learned during the seminar?
22, 40%
9. Please provide any additional information or suggestions that will improve future seminars of this type.
10. Is your home institution a--
- Vocational-technical college 10, 18%
- Secondary vocational-technical school 45, 82%
- Other (please specify)
11. Is your PRIMARY job responsibility--
- Teaching 51, 93%
- Administration 4, 7%
- Other (please specify)

Post 8. Teaching Approaches and Training Programme in Colleges of Mechanical Engineering [Metal Working]

July 6 - August 1, 1992 in Zibo, 55 Participants

Question 2. What parts of the seminar were the most helpful to you?

- 1) The application of computer in vocational education of mechanical engineering.
- 2) The hands-on training in vocational schools of industrialized countries.
- 3) The training methods of combining teaching and practice as an organic whole.
- 4) How to use super-abrasive, ceramic cutting tool and multipotent clamping apparatus in vocational training.
- 5) How to establish the relationship between schools and industries.

Question 6. a. If you experience problems in language translation, do you have any suggestions on how the translation process could be improved?

- 1) I think interpreter should have some knowledge of mechanical engineering.
- 2) The best way to do this is give us the translated materials being used in seminar beforehand.

Question 8. What plans, if any, do you have to apply what you have learned during the seminar?

- 1) I'll try to use American teaching method to improve my students' hands-on training.
- 2) I'll translate the materials obtained from the seminar, and organize some workshops to let more teachers and students know new technology and new teaching methods to improve teaching and learning in our school.
- 3) I'll suggest our school enhance the hands-on training to young teachers by using the methods learnt through the seminar.

Question 9. Please provide any additional information or suggestions that will improve future seminars of this type.

- 1) I would like suggest host school arrange one day let project schools exchange experiences and ideals each other.
- 2) Provide detail course plan and schedule to trainees beforehand.
- 3) I would like to suggest foreign expert introduce more new technology and new teaching methods in vocational education of mechanical engineering being used in industrialized countries.
- 4) Let every trainee have an opportunity to practice hands-on training.
- 5) In the middle of the seminar, host school should organize us to prepare some questions which have the universality in China's vocational education to let expert

answer part of them. This can make the seminar in accordance with our special needs.

