2013

The Development of an International Medical Education Program with an Emphasis on English for Specific Purposes

Qian Chen
Minnesota State University - Mankato

THE DEVELOPMENT OF AN INTERNATIONAL MEDICAL EDUCATION

PROGRAM WITH AN EMPHASIS ON ENGLISH FOR SPECIFIC PURPOSES

By

Qian Chen

A Thesis Submitted in Partial

Fulfillment of the Requirements for the

Degree of Master of Arts

in

Teaching English as a Second Language

Minnesota State University, Mankato

Mankato, Minnesota

April, 2013

Date_____

Title: The Development of an International Medical Education Program with an

Emphasis on English for Specific Purposes

By Qian Chen

This paper has been examined and approved.

Examining Committee:

_____

Chairperson: Nancy L. Drescher

_____

Second Reader: Jessica J. Schomberg

ABSTRACT

THE DEVELOPMENT OF AN INTERNATIONAL MEDICAL EDUCATION

PROGRAM WITH AN EMPHASIS ON ENGLISH FOR SPECIFIC PURPOSES

By

Qian Chen
M. A. English: TESL

Minnesota State University, Mankato
Mankato, Minnesota

April, 2013

Medical international programs are becoming a new trend across China. With this trend comes the difficulty of implementing and designing an international medical program to meet the educational, cultural, and social needs of the students and teachers within a given context. The present case study researched the factors that contributed to successful international medical programs and through a survey and interviews, found both strengths and needs of a specific international medical program in the College of Medicine at Shihezi University. Specific recommendations are then given in order to assist the program and school with the design and implementation of their international students.

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF FIGURES

Chapter 1

Introduction

With the great educational infrastructure in Asia, cheap tuition and living expenses, and a highly reputed program in Medicine, along with the availability of instruction in the English medium, more and more Chinese universities have made English medium courses available to international students. Most of the Medical Schools in China are recognized in the World Health Organization (WHO)'s Directory of World Medical Schools. This listing makes a student graduating from such medical universities and medical colleges in China eligible to apply for many of the screening tests like the United States Medical Licensing Examination (USMLE), Professional and Linguistic Assessments Board (PLAB), and also the newly introduced "screening examination" conducted by the Indian National Board of Examinations, under the directive of the Medical Council of India. These factors have led to an ever increasing number of international students making their way to China to study General Medicine and Surgery (MBBS), dental courses or dentistry (BDS), M.D/M.S/M.D.S Courses. Every year there are more than 200,000 international students who come to China to study Medicine. China is fast becoming the most favored destination in Asia.

Since Shihezi University is one of the "key constructed universities" under the "211 Key University Project," which is the main university system in China, it is known for its international education and is nationally and internationally renowned for being a teaching and research comprehensive university. Education for overseas

students in Shihezi University has made great progress over the past decade. Since 2002, many international students have chosen to study at Shihezi University. Today, over 200 international students come from eight different countries to study at this university through Chinese Government Scholarships. In order to improve the academic level and management of international education, Shihezi University set up the International Education Center in June, 2004. The main group of international students at Shihezi University is Pakistani students, who make up 90% of all international students. The lower admission requirements and lower tuition attracted them to come to China and finish their medical study. In order to collect the most effective and reliable data, the author chose this majority as the target group.

However, facing a higher demand and a greater expectation for helping international students, this medical international program is encouraging that all professional courses be taught in English in addition to using textbooks written in English. Thus, the ideal ESP teachers must not only be skillful in the English language, but also acquire the knowledge of medicine. In fact, while all the teachers' expertise is medicine not English (and the international students' first language is neither Chinese nor English), the learning problems which are caused by language should be considered as one of the most important factors. This project attempts to increase our understanding of the learning and teaching context sufficiently to provide suggestions for better programming to overcome the obstacles. The following research questions guided this study:

1. What factors should be considered in designing an effective program for

Pakistani international medical students?

2. What types of methodology and class activities are appropriate for Pakistani international medical students studying medical content in an English medium school in China?

3. How can we provide support services to develop this international education program?

English for specific purposes has grown to become one of the most prominent approaches to the teaching of the English language today. This is reflected in the increasing numbers of Medical schools in English medium schools in China offering ESP medical programs, aiming at introducing international students to the content-study in English for their future profession. ESP is well known for its learner-centered and content-based approaches, which aims to meet learner-specific needs in the utilization of English for their specific field of study. Practically, such an English teacher is seldom found in a regular university setting. The author was looking into the following approaches as possible solutions: the short-term way to solve this problem could be by using a collaborative teaching approach, and the long-term way could be by conducting teacher training both in the field of English language and specific professions. This study will start with a review of relevant literature. As for the possible implications, the results may be used as input documentation in making decisions concerning and improving practice in discipline-related ESP instruction, specifically in Shihezi University.

Based on the background information which is mentioned in this chapter, chapter

two will discuss a number of studies which have been conducted to give voice to co-teaching and content-based teaching approaches in terms of making them investigate solutions for research questions. The third chapter will describe the methodology utilized in this case study. Chapter four will examine the data obtained from individual and focus group interviews, along with a survey, and analyze the findings. Chapter five will conclude this study with specific suggestions that could assist in meeting the needs of the international medical students involved in the ESP program in Shihezi University of China.

Chapter 2

Review of the Literature

Since ESP (English for Specific Purposes) has developed at different speeds in different countries, and examples of all the approaches described in this chapter can be found operating somewhere in the world at the present time, in some narrowed areas, it is important to implement different processes to support ESP program development in different contexts. Based on the background information mentioned in chapter 1, this chapter will discuss a number of studies conducted to give voice to co-teaching and content-based teaching approaches in terms of investigating them as possible solutions for research questions.

Beginnings of ESP

The origins of ESP

ESP is taught in many universities around the world because the fields of business English, technical English, scientific English, English for medical professionals, and other specially used English-related subjects are more in demand. Many professional associations of teachers of English have ESP sections. Much attention is devoted to ESP course design. Hutchinson and Waters (1987), however, stated that ESP has paid scant attention to the question of how people learn, focusing instead on the question of what people learn. Based on what they identified, it is easier to find what encouraged the growth of ESP – the expansion of demand for English to suit particular needs and developments in the fields of linguistics and educational psychology (Hutchinson & Waters, 1987). Sifakis (2003) defined ESP as

the wide area that concentrates on all aspects of the specific-purpose teaching of

English and encompasses the academic (EAP) and vocational/ occupational (EOP)

frameworks (Dudley-Evans & St John, 1998).

Yogman and Kaylani (1996) also concluded that ESP started out by trying to

address very specific student needs for English language learning and use. It has

ended up covering a wide range of instructional territory. In addition, they identified

the most essential thing is that students experience the satisfaction of productive

language use, and through their learning experience, gain new proficiency relevant to

their future occupational needs.

The development of ESP

ESP is not a monolithic universal phenomenon and is worth tracing back to its

developing process. 400 years ago, a phrasebook was found for foreign travelers and

in the next several hundred years, more and more bilingual books have been used in

different fields. As Hutchinson and Waters (1987) identified in one of their books,

there are mainly five stages, which are analyzed by different concepts with the

development of ESP. They are register analysis, rhetorical or discourse analysis, target

situation analysis, skills and strategies, and learning-centered approach.

Hutchinson and Waters (1987) exemplified some findings on the grammatical

and lexical features of specific registers. Many studies found that there are several

differences between English for Science and Technology (EST) and General English

in sentence structure, sentence length, tenses and voices of verbs. Conducting register

analysis not only has academic implications, but also contributes to language teaching,

especially in the field of making course syllabi and focusing on learning points. For example, Chi (2008) designed an oral business English course and a syllabus for mixed level students, which included business grammar and vocabulary. Chi also emphasized that grammar in business English needs to emphasize verb frequency and the usage of tenses. In the first phase of ESP development, grammatical and lexical syllabi are the main standards in a mixed syllabus. Also, Yogman and Kaylani (1996) introduced theoretical background for ESP program design and indicated that the introduction of projects into their ESP curriculum has fulfilled many of Krashen's (1981, 1982) prerequisites for acquisition. Students selected project topics pertinent to their ESP interests, and worked at acquiring the necessary vocabulary, expressions, and grammatical structures. From these examples, it is easy to see that the first consideration for both teachers and students is register analysis of the specific domain of their ESP program.

Whereas in the first stage of its development, ESP had focused on language at the sentence level, the second phase of development shifted attention to the level above the sentence, rhetorical and discourse analysis. The researchers in the second phase explained how people determine a definition, describe, narrate, prove, explain, and arrange sentences and paragraphs. Hutchinson and Waters (1987) created the rhetorical process chart to explain how we can use language skills to make our writing easy to read as a writer, and also use language features to more deeply understand the readings. Even now, the guiding ideology and research findings of rhetorical or discourse analysis is still significant and valuable in academic fields of ESP. Since the

1950s, more and more American universities set technical communication as a program in order to cultivate people with professional skills to communicate in different fields for specific purposes. From that time, ESP has developed from basic language use to communicative use.

The target situation analysis is the springboard and core of ESP. It is the soul and heart of ESP because it requires that we learn what we will use. As John Munby (1978) wrote in his book *Communicative Syllabus Design,* the learners' needs in terms of communication purposes, communicative setting, the means of communication, and language skills have been considered in ESP course design. This analysis combined learning situation closely with learning purposes. Namely, situation analysis is a part of needs analysis as discussed in the next section. Sifakis (2003) characterized adult learners' relationships with the different levels of learning, which is based on the language needs considerations of ESP students. The distinction is mapped along three types: general learning, learning a language, and learning in ESP situations. Along the continuum above, learning a language means acquiring knowledge that is related to using a language for general communicative purposes, and learning in ESP situations refers to acquiring skills that are related to using a language within certain circumstances. These two categories reflect the author employing the target situation analysis to involve consideration of the issues related to ESP and adult education.

Hutchinson and Waters (1987) noted that the first three stages of the development of ESP analysis had been of the surface forms of the language. Even the target situation analysis approach did not change this because the analysis of learner needs

still looked at the surface linguistic features of the target situation. However, in the fourth stage, skills and strategies stepped forward so that the learners guess the meaning of words from context, use visual layout to determine the type of text, and exploit cognates. The language learners in this stage are treated as thinking beings who can be asked to observe and verbalize the interpretive processes they employ in language use. More and more recent researchers put emphasis on reading and listening, especially in non-English speaking countries, because those scholars believe that any learning process of a language could have a similar process of mentality and interpretation. Micro-skills are now put forward as a new requirement when teachers design syllabi, since teachers hope their students use strategies to understand language instead of just stopping at the learning of language structures.

The four stages above are mainly about how we use language, and the fifth stage discusses how we learn language. Hutchinson and Waters (1987) state that our concern in ESP is not simply the use of specific structures; although this will help to define the course objectives, our concern are with language learning. A truly valid approach to ESP must be based on an understanding of the processes of language learning. To create dynamic integration of language use and language learning has become the current trend in ESP, which means ESP. Sifakis (2003) takes current theories on the ESP learner's profile in the light of adulthood- and adult learning-oriented considerations. This article suggests that adult learners' sense of perspective and ability can make a judgment which is based on accumulated experience, combined with their inner controlling and need for building clear goals in

ESP teaching and learning situations. It seems to be very useful to make the ESP

learner an active participant, not only in the real teaching procedure, but also in the

syllabus and lesson planning stage.

With the development of ESP, more demands on ESP teachers create a need for

more teacher professional development. Chen (2000) concluded that the question of

how general English teachers can train themselves to improve ESP teaching has

become a main concern among ESP practitioners. Based on the framework of the ESP

self-training model, teachers thus have a guide to help themselves develop

self-directed training programs. With this framework, the author employed action

research methods to reflect systematically and critically on practice and thus improve

teaching expertise. The study results confirmed that by systematic action research

procedures entailing continuous participation in situational decision making and

professional involvement in the disciplinary culture in which the learners in question

communicate, an ESP practitioner can conceptualize appropriate notions for teaching

approaches. Additionally, Voogt, Westbroek, Handelzalts, Walraven, and McKenney

(2011) use the Interconnected Model of Professional Growth to identify processes of

teacher learning during the collaborative design of curriculum materials in the context

of curriculum innovation. From the perspective of the individual teacher and the team,

the model can help us identify the processes underlying teacher learning. The main

findings were obtained from their survey and provide the points of their model: 1）the

design process can be characterized by problem analysis, design and development,

implementation and evaluation; 2) teacher design activities resulting in curriculum

materials belong to the domain of practice; 3) teachers realized that they needed to work on their subject matter knowledge with the help of external experts in order to achieve a change in the personal domain. From these findings, we can see that the teacher team learning model can also be applied to another aspect of teacher professional practice, namely collaborative curriculum design and implementation. Putnam and Borko (2000) emphasize the importance of teacher professional communities for teacher learning. Sifakis (2003) also assumed that ESP learners can be active participants, not only in the actual learning process, but also in the syllabus and lesson planning stage. The integrative model guides ESP teachers to become both teacher and counselor. These studies make a big step toward identifying how learning processes are encouraged and how knowledge is constructed in a particular type of professional teaching community. They proved that teacher professional development has been a very important factor of ESP development.

Summary that narrows to focus on medical ESP

Mazdayasna and Tahririan (2008) consider it is possible that the goals of some ESP courses are unrealistic, and its provision inadequate to prepare the students to face the challenges and demands posed by their specialist departments, unless serious measures are taken to resolve some major problems. They conducted a case study of investigating the foreign language learning needs of undergraduate medical sciences students studying in faculties of nursing and midwifery in Iran. Their findings help the future research take account of the following considerations: (1) Students need to increase their general proficiency in English and had expected to be offered

specialized English courses throughout their undergraduate studies in order to fulfill their short-term needs; (2) Subject-specific instructors' assessment revealed their dissatisfaction with students' insufficient English proficiency in reading, writing, speaking, and listening. Even the students themselves felt they needed to improve their reading skills for their medical studies; (3) Most of the medical students were dissatisfied with the number of students in each class, the teaching methodology used, the method of evaluation, the amount of foreign culture taught in the class, and the content of the textbook. Students hope course design can pay attention to the learning needs of the students, learners' present knowledge and knowledge gaps, the objectives of the course, the resources available, and teachers' skills and knowledge of the specific area.

Needs analysis

By the 1980s, in many parts of the world, a "needs-based philosophy" emerged in language teaching, particularly in relation to ESP and vocationally oriented program design. In simplest terms, a needs analysis includes all the activities used to collect information about students' learning needs, wants, wishes, desires, etc. The process also always involves looking at the expectations and requirements of other interested parties such as the teacher. The information gleaned from needs analysis can be used to help define program goals. These goals can be stated as specific teaching objectives, which in turn will function as the foundation on which to develop lesson plans, materials, tests, assignments, and activities. Basically, a needs analysis will help to clarify the purposes of a language program.

Needs analysis is applicable in situations where students have very specific language needs or when learners' needs are not so specific, as in the case of EFL students in a school setting. Malu and Figlear (1998) studied the problems that impeded success for nursing students with an ESL background. Data were drawn from a variety of sources including periodic open-ended interviews with students from an ESL background, and observations in the classroom and clinical settings. Discourse and text analysis was conducted and four problems were identified: second language development, differing expectations of nursing education, a fear of failure, and unfamiliarity with a participatory learning model. Guhde (2003) argues that nursing requires a higher level of cognitive academic language proficiency; however many students with ESL backgrounds have only conversational mastery of English, also referred to as 'Basic Interpersonal Communication' (BICS), the social language used in face to face conversation which most students acquire in their interaction with peers at school and work.

In terms of needs analysis for course design, Hutchinson and Waters (1987) lead us to examine the most characteristic features of ESP course design and try to show what the learners will have to do in the target situation. Both target situation needs and learning needs must be taken into account. The needs analysis combined target-situation analysis with present-situation analysis (Dudley-Evans & St John, 1998; Hutchinson & Waters, 1987; West, 1994). The situational or functional demands of the target setting were determined and a curriculum designed around "learner lacks" or the gaps between the current skills of ESL nursing students and the

target skills of nursing students. The tasks and activities that students need to perform as nursing students were identified at the global and rhetorical levels (Tarone & Yule, 1989).

Student needs

We must admit that any course should be based on an analysis of learner needs. This is one way in which ESP procedures can have a useful effect on General English and indicates the need for a common approach. With the awareness of target situation, the ESP learners' needs distinguish the learners of General English.

Huang (1997) conducted a survey, which covered 17 universities and examined opinions of participants in English Programs for Non-English Majors (EPNMs) to offer ESP to university freshman and graduates. Two-thirds of the students believed that ESP was important because many of them had to use English on their jobs or they would benefit from ESP in the future. Especially, the science students felt they needed and wanted ESP. In this case, students' needs become one of the most important considerations to set an ESP course at a university. Mazdayasna and Tahririan (2008) also conducted a case study of investigating the foreign language learning needs of undergraduate medical sciences students studying in faculties of nursing and midwifery in Iran. They found students need to increase their general proficiency in English and had expected to be offered specialized English courses throughout their undergraduate studies in order to fulfill their short-term needs. The learners' needs finally revealed the problem in their program and reminded the course designer to focus attention on realistic situations.

"Success in learning can only come about if the learner is motivated. Additionally, making the course relevant to job or study needs is usually a good way to motivate the learner" (Ellis & Johnson, 1994, p.71). Chi (2008) indicates that language learning organizers are crucial for students to discover what they need to learn and design how to learn effectively. Additionally, Dudley-Evans and St. John (1998) believed that the learners' needs are more subjective and correspond to cognitive and affective factors.

Teacher needs

Obviously, students' needs lead the direction of ESP courses, but meanwhile, teachers' needs should not be ignored because learning and teaching themselves are two points of the learning process. Huang (1997) reported that the main difficulty militating against the provision of ESP courses in Taiwanese universities is the lack of ESP background among general English teachers. This lack is reflected in Master's (1997) remark, "ESP teacher education in the US today can thus be said to be minimal at best … In most cases, professional ESP practitioners train themselves, learning as they go" (p.32-33). This means that ESP teachers' needs must also be satisfied with teacher professional development. Again in Huang's (1997) study, the coordinators believed that students would benefit from ESP and the EPNMs should offer it. But, again the major difficulty would be the lack of teachers with the expertise required.

In the context of ESP, in order to meet students' needs, teachers always think more beyond the teaching itself. Liu (1999) suggested that ESP teachers' skin colors, birth places, and the sequences of language learning should become less meaningful than their real teaching abilities. Teachers need more confidence to focus their attention on

motivating and promoting learners to be more successful through various kinds of activities. The teachers' impact on their ESL learners is determined not only by who they are, but also by what they do. Kamhi-Stein (1999) argues that there is a need to reset the whole curriculum to improve discussions of NNS issues in TESOL with the increase of NNSs enrolled in TESOL MA programs. Meanwhile, she details how these issues are integrated to the curriculum through classroom activities.

<div align="center">Program Development</div>

Content-based teaching and education

Content-Based Instruction (CBI) is a significant approach in language education (Brinton, Snow, & Wesche, 1989). CBI is designed to provide second-language learners instruction in content and language. Historically, the word *content* has changed its meaning in language teaching. Content used to refer to the methods of grammar-translation, audio-lingual methodology, and vocabulary or sound patterns in dialog form. Recently, however, content is interpreted as the use of subject matter as a vehicle for second or foreign language teaching/learning.

Tan (2011) used data from a study examining secondary mathematics and science teachers' implementation of a language of instruction policy in Malaysia, which explores the beliefs of math, science, and language teachers, and how these beliefs influence their pedagogical practices in content-based language instruction classrooms. Three main research questions are raised at the beginning of this article and through teachers' interviews and classroom observations, the results indicate that teachers' beliefs about their respective roles as only content teachers or only language teachers

limit students' language learning opportunities. It follows that the lack of collaboration between content and language teachers has been a problem which should be considered. In addition, it suggests that both content and language teachers need to be aware of how to use language as a tool for learning, not simply as a conduit for transferring facts and formulas. The author employs a mixed-method to collect and analyze data in order to find out what these teachers' beliefs are and what role they see themselves playing in supporting the teaching and learning process. Meanwhile, Tan is aware of how difficult it is for language and subject matter teachers to implement CBLT without high-quality, sustained, professional development. Also, this finding contributes to the ongoing work of improving instructional practices in content-based classrooms to integrate content and language for English language learners.

Co-teaching and collaborative teaching

The concept of co-teaching is not new in education; as there are many teaching arrangements that have been promoted in the history of American education that may look like co-teaching. Johns and Dudley-Evans (1980) were two of the EAP teachers and researchers who found team teaching extremely useful in their study. Shao (1992) also claimed that the best way for an ESP program to succeed was the collaboration between science/engineering teachers and English teachers in the instruction.

Definition criteria

Co-teaching is two or more people sharing responsibility for teaching some or all of the students assigned to a classroom. It involves the distribution of responsibility

among people for planning, instruction, and evaluation for a classroom of students.

Another way of saying this is that co-teaching is a way for students to learn from two

or more people who may have different ways of thinking or teaching. Some people

say that co-teaching is a creative way to connect with and support others to help all

children learn. Others say that co-teaching is a way to make schools more effective

(Bauwens, Hourcade, & Friend, 1989).

Co-teaching plays a role in the real classroom and defining co-teaching has been

described as an instructional process that involves "a restructuring of teaching

procedures in which two or more educators possessing distinct sets of skills work in a

co-active and coordinated fashion to jointly teach academically and behaviorally

heterogeneous groups of students in integrated educational settings" (Bauwens &

Hourcade, 1995, p. 46). Wolff-Michael Roth, Domenico Masciotra, and Nadely Boyd

(1999) also emphasized co-teaching provides us with opportunities to see what and

how teachers learn when they work together in the same classroom, in praxis, and for

getting the day's job done. Rice and Zigmond (2000) still believe that co-teaching is

one of several service delivery options that have been promoted to ensure that

students with disabilities receive the support they need to optimally access instruction

in the general education classroom.

Perceptions from teacher training

Bauwens and Hourcade (1995) start their article with an overview of cooperative

teaching and define it as an educational approach for general and special educators

who work in educationally integrated settings with a group of students. From this

definitional framework, three program options have been developed to facilitate general and special educators working together; they are team teaching, complementary instruction, and supportive learning activities. Philosophical, theoretical, procedural, instructional, and evaluational considerations and the suggestion for problem solving follow. When considered from the perspective of collaboration, co-teaching is an application with promise for both teachers and students. Two major educational questions should be asked: "First, if the present service delivery systems in education remain unchanged, will most teachers be able to meet the needs of this more diverse student population? Second, can schools continue to effectively serve students with diverse needs through the current compensatory or pull-out service delivery approach?" (Bauwens & Hourcade, 1995, p. 46). Meanwhile, Wolff-Michael Roth, Domenico Masciotra, and Nadely Boyd (1999) show how co-teaching provides a context in which novice teachers can come to embody a dimension of teaching which is essential to mastery. They advance Schon's reflection-in-action and reflection-on-action to help readers understand teaching and come up with two main questions: how can we deal with teaching that seems so hard to capture in a theoretical framework and how can we teach the novice teachers if there are important aspects of teaching that are not easily captured? Based on these two concepts, the authors first developed a phenomenological frame for understanding mastery, and then described and exemplified one beginning teacher's growing competence in asking questions. Finally, co-teaching was emphasized by the authors as working with someone in accomplishing the lessons and can be viable in

other contexts if suitable sponsor teachers agree to cooperate.

Although co-teaching has become a comprehensive strategy to make teachers work together in different language settings, some problems still exist. Some studies reported their satisfaction with teaching groups, but others said they cannot find a model of co-teaching that fully meets the exact criteria. For example, Walther-Thomas (1997) reported that the teachers' experiences of co-teaching were professionally satisfying in terms of student learning, their own professional growth, and the support each received from co-teaching partners, but, on the contrary, Don and Naomi (2000) conducted a case study of the comparison of co-teaching in Australian and American classrooms of secondary schools. They adopted interview and classroom observation to get 17 teachers involved their study, and then collected data in Queensland and Pennsylvania public schools to compare teacher roles and responsibilities under two systems of education. Based on data analysis, six main themes emerged from the Australian and American data sets. In the first theme, teachers attributed the success or failure of co-teaching to a school-wide commitment to inclusion; the second theme concerned the benefits of co-teaching for subject and special education teachers, as well as students with and without disabilities; in the third theme, teachers emphasized the importance of personal and professional compatibility for the success of a co-teaching partnership; the fourth theme focused on the need for special education teachers to prove themselves to colleagues for the partnership to work, and the fifth dealt with the equity of teaching roles within co-teaching partnerships; the last one described the barriers that needed to be

overcome. The authors concluded with a discussion which is based on their data sets

for two public schools and they find here is no major differences that emerged

between the manifestations of co-teaching in both sets of schools. They could not,

however, find a model of co-teaching that fully met the criteria they set.

ESP Curriculum Development

If we revisit Dudley-Evans' (1998) claim that ESP should be offered at an

intermediate or advanced level, use of authentic learning materials is entirely feasible.

The use of authentic content materials, modified or unmodified in form, are a feature

of ESP, particularly in self-directed study and research tasks. For instance, by

designing an intensive, non-assessed, in-service oral business English course, Chi

(2008) concluded that this intensive oral business course is designed for people who

learn English for business purposes with careful consideration of the need of

in-service business people. The content mainly focuses on developing communicative

skills by providing learners with actual business communication situations along with

a functional syllabus.

Conclusion

This chapter has discussed the origins of ESP, addressed key notions about ESP,

examined issues in ESP curriculum design, and issues about co-teaching and

content-based education. The content of this chapter was determined by needs based

on my teaching experience as an ESL instructor designing and developing an

international medical education program with an emphasis on English for Specific

Purposes. These issues, where possible, have been supported by current and pertinent

academic literature. It is my sincerest hope that these observations will lend insight

into the challenges facing the ESL instructor acting as ESP curriculum developer.

Chapter 3

Methodology

Introduction

This chapter provides detailed information about how the current study was conducted, what the research questions are, who the participants are, and how the data was collected and analyzed. The chapter is divided into four main parts: 1) Introduction and research questions 2) The university, program, and participant profiles 3) Procedures: Survey and interview descriptions of those participants and settings. In part 3, a short report is given about the participants in order to acquaint readers with the main idea of the study. 4) A description of the coding system developed by the author used as a method of analysis.

Statement of the Problem

English for Specific Purposes (ESP) is an exciting area in language education. It has provided opportunities for English teachers and researchers to explore the curriculum, course planning, and implementation of ESP education and examine its impact on learners. The world we live in has increasingly become more globalized. More and more people are using English in a growing number of occupational contexts. For example, eighty-five percent of all information in science and engineering in worldwide informational storage and retrieval networks are in English (Grabe & Kaplan, 1986; Zengin, Erdogan & Akalin, 2007). Facing a higher demand and a greater expectation for English proficiency of college graduates, some universities in China, are encouraging that more professional courses be taught in

English in addition to using textbooks written in English. In November 2005, a new organization (ETA-ESP) was established within the English Teachers' Association (ETA) in China. It suggests that ESP has been gaining attention in China.

For the last 15 years, there have been numerous studies on ESP courses in China including courses for nursing or medical students (e.g., Lee, 1998; Chia et al., 1999), for business students (Chen, 1998; 2000), and for students in travel and leisure management (Tsai, 2005; Liang, 2007). The goal of these studies is to provide effective instruction of the English language that meets the academic or professional needs of students. However, most English teachers in China have been trained and prepared in the areas related to linguistic competence, literature, and cultural knowledge but do not know enough about other professional fields such as science, engineering, or computer technology to effectively teach ESP courses on their own. A study by Shao (1992) suggests that the best way for an ESP program to succeed is for English teachers to collaborate with science/engineering/computer teachers or teachers from whatever professional fields the course are geared to teach. Fortunately, the comprehensiveness of Shihezi University makes it possible for English and content area teachers to work together in this international medical program. More specifically, the study addresses the following research questions as the main points for program development:

1. What factors should be considered in designing an effective program for Pakistani international medical students at Shihezi University?

2. What types of methodology and class activities are appropriate for Pakistani

international medical students studying medical content in an English medium school in China?

3. How can we provide support services to develop this international education program?

The university, program and participant profiles

The university:

Shihezi University is a new, comprehensive university, located in the city of Shihezi, and by the river of Manas on the northern foot of the Tianshan Mountains in the Xinjiang province in China. In August 2000, the Central Government designated the university as a key institution to develop in northwestern China. Shihezi University was ranked among the most elite 6 percent of higher education institutions in China. It offers ten specialties--Agriculture, Medicine, Engineering, Economics and Trade, Management, Literature and Arts, Sciences, Education, Law, and History. The university has 20 colleges, offering 4 doctorate degrees, 53 master's degrees, and 71 bachelor's degrees programs, 5 specialties that enroll on-job-teachers for master's degrees, 1 post-doctoral scientific work stations, and 2 post-doctoral mobile stations. The university has jointly set up graduate education bases with Peking University and Tianjin University, as well as a program for culture-oriented quality-education for Chinese university students.

The University now has a faculty of 2,131, including 1,527 full-time teachers, 2 specially-engaged academicians in the Chinese Academy of Engineering, 152 professors, and 450 associate professors. The university employs more than 10

foreign experts and teachers every year. The students of the university come from 31 provinces and regions. The total enrollment of students numbers 24,040, including 21,989 undergraduates 1,906 postgraduates and 245 international students from different countries. The university is equipped with the most up-to-date teaching and scientific research facilities. It has a well-equipped library, a large gymnasium, a multi-functional stadium, and modernized teaching buildings. The university covers 1,870,000 square meters. It has 950,000 square meters of building, and the area of its laboratories is 170,000 square meters .The library has a collection of 2,900,000 Chinese and foreign books and periodicals.

The program:

Beacuse Shihezi University aims to become a nationally and internationally renowned teaching and research institute, it recognizes that this objective requires an international approach. Since 2002, many international students have chosen to study at Shihezi University. Today, about 245 international students come from eight different countries, including the United States, Russia, Pakistan, Kazakhstan, India, South Korea, Bangladesh, and Japan. Many foreign students also chose to study at Shihezi University through the Chinese Government Scholarship programs. Additionally, this university is one of the universities in China qualified to accept international medical students.

Since 2002 the School of Medicine, as a part of a comprehensive university, has already adapted to the "internationalization" of the Medical Education for Pakistan to enroll western medicine in clinical professional (5-year) undergraduate students.

Currently, a total of 257 students have been enrolled, and 83 students have graduated from the school. Through the development of international student education in a few years, the academy has set up a dedicated students' office, and gradually develops and improves the teaching plan, syllabuses, teaching, and student management rules and regulations, as well as training a group of bilingual teaching faculty.

Participants:

Students:

Since 2002, many international students have chosen to study at Shihezi University. Today, over 200 international students come from eight different countries to study at this university through Chinese Government Scholarships. In order to improve the academic level and management of international education, Shihezi University set up the International Education Center in June, 2004. The main group of international students at Shihezi University is Pakistani students, which makes up 90% of all of the international students. All the student-participants are current undergraduate students at Shihezi University. There are 19 males and 8 females in the study, and they are between the ages of 18 and 24. Additionally, all the student-participants took the survey and interview in this research.

The participants are international students from Pakistan whose first language is Urdo and whose country's official language is English. Their major is medicine, and they will stay in China for at least five years to study this topic. In the first year, their courses focus on Chinese. Starting in the second year, they begin to take medical courses in English. The international students get into this university through an agent

after they have graduated from high school. During the first year, these students must pass the HSK test certificate – a Chinese language proficiency test, a standardized test of Standard Mandarin Chinese for international non-native language learners organized and administered in China. By passing this test, students should be able to survive in their day-to-day life, but not use Chinese academically.

Teachers and Administrator:

Teachers or administrators who are involved in this program are interviewed also. Some of them only teach professional classes or only work in the office, but some are both teachers and administrators in this program. All of them are adults and they are English-as-a-second-language speakers.

A teaching staff has come from the medical college with a strong sense of responsibility and a great deal of teaching experience to offer their best education for overseas students. Faculty members in the International Education Center and the Medical College have not only gained advanced experience from foreign education systems but also make good use of their own specific advantages and characteristics. They have formed their own particular practices in international education and created excellent circumstances in which students from abroad can enjoy their studies and lives.

There are two teacher participants in this study. One of the participants is 40 years old and is one of the administrators of international student office. She has been teaching basic medical courses such as physiology at Shihezi University for 13 years, and part of the international program for more than 8 years. The other one is one of

the main administrators of the teaching and research group in the international

program. He is 35 years old, and has taught human physiology and medical Chinese

for 7 years.

Procedures

In order to be able to efficiently obtain reliable data, a multi-method approach

which involved both quantitative and qualitative research methods was adopted in this

needs analysis project. Dexter (1970) argues that no one should plan or finance an

entire study in advance with the expectation of relying chiefly upon interviews for

data unless the interviewers have enough relevant background to be sure that they can

make sense out of interview conversations or unless there is a reasonable hope of

being able to hang around or in some way observe so as to learn what it is meaningful

and significant to ask. This example illustrates the general principle known as

triangulation: collecting information from a diverse range of individuals and settings,

using a variety of methods (Denzin, 1970). Triangulation of sources and methods

(Jasso-Aguilar, 1999; Long, 2005) was also attempted in order to secure the validity

and reliability of the research. In this study, the author conducted a survey and

interviews to collect the data from both student and teacher participants. The above

statement gave a clear idea to author the procedure of the survey and interview.

Richards (2001) defines a *needs analysis* as, essentially, in-depth research

conducted in order to determine the needs of a specific population or group of people.

A needs analysis can be researched with any given number or type of participants and

is very useful in determining different elements that should or shouldn't be included

in an educational program (Richards, 2001).

Data were collected through a student questionnaire, which included closed questions and was administered to 27 students. Moreover, semi-structured interviews were conducted with 15 students, 2 teachers, and 1 administrator in an attempt to gain more meaningful insights into the situation.

Survey

The first method used to carry out this study was a questionnaire survey, which included close-ended questions to collect quantitative data in order to obtain the general idea of what is going on with this program. Surveys can be very useful depending on the type of data a researcher wishes to obtain. In referring to surveys, Richards (2001) states, "Questionnaires are one of the most common instruments used. They are relatively easy to prepare, they can be used with large numbers of subjects, and they obtain information that is relatively easy to tabulate and analyze" (p. 60). A survey can be an efficient way to elicit information, attitudes, or beliefs about a certain issue (Richards, 2001), and it is for this reason that a survey was used to discover specific information relevant to the international medical program as a whole.

A total of 27 Pakistan students, 19 males and 8 females, out of approximately 300 international students total, from the College of Medicine, were surveyed for the present study in order to discover the strengths and needs as expressed more generally in their program. Those students included freshmen, sophomores, juniors, as well as seniors who just finished their internship in Pakistan and had just returned to China.

The survey (See Appendix A) contained questions that were very specific and clearly defined. Each question was related specifically to the international medical program based on the general problems and needs discovered through research and interviews. The participants chose one item from two options in the survey, and also were given the options of choosing "Both of…" instead of simply selecting an option. This questionnaire, given to medical students, consisted of 32 questions including 2 general demographic questions and was divided into six categories: (1) the demographic information, (2) frequency of the use of English and Chinese by students and teachers, (3) course offerings, (4) classroom activities, (5) professional practice or opportunities for students, (6) the usage of school facility- library and lab, and (7) living conditions and culture issues. Each question contained in the survey was considered preliminary investigation for the further in-depth interview use. After the survey was completed by the student-participants, the author designed interview questions for both students and teachers in order to specify more detailed issues.

Interview

Although questionnaires are one of the most effective means of conducting a survey, its disadvantage is that the information obtained may be fairly superficial or imprecise and will often need follow-up to gain a fuller understanding of what respondents intend. According to Richards (2001), interviews usually provide an in-depth exploration of details pertaining to the needs analysis and can offer the researcher insight into the feelings of the participants. Ordinary language is used in interviews; this gives the process a more personal feel and allows participants to

express themselves and even enter into new topics if they desire (McDonough &

McDonough, 1997). It is for these reasons that the author chose to utilize interviews

as the second stage of data collection for the present study. A semi-structured

interview in which a set series of questions is used allows more consistency across

responses to be obtained. Interviews can be conducted face-to-face, over the

telephone, or by using online chatting software.

As Weiss (1994) stated, interviewing can be a valuable way of gaining a

description of actions or events. These can provide additional information that was

missed in general survey and can be used to check the accuracy of the questionnaire.

The students who participated in the interviews included 15 Pakistan students

from international medical program. The students interviewed were between the age

of 18 and 24, and represent the same ethnic/linguistic group. All of the students were

given consent forms to be signed by them in order to participate in this study, and

gave the author permission to use his or her information for the completion of the

current study.

Since the author was not in China when the interviews were conducted, the

international students, teachers, and administrator were interviewed by the author

through Tencent QQ (international version), generally referred to as QQ, which is the

most popular free instant messaging computer program in mainland China. The

original name of QQ was OICQ ("Open ICQ"), based on an extant instant messaging

service (IMS), ICQ. The abbreviation "ICQ" came from using letters that sound like

"I seek you". Like Skype in the United States, QQ has become the main chatting tool

in China, especially the international version.

The author recruited participants through the International Education Center and Medicine College, and asked for volunteer participants to contact her via email or QQ. One of the teachers of the program talked about the purpose of this research to students during class hours in English. The author's colleague was with those students when the author interviewed them to assure all the interviews went well. And also, the colleague collected the consent forms, and mailed them to the author. As incentives to participate, students were provided with lunch at the interview. They were also given a number on a label, which was placed in a basket to be drawn for a RMB25 gift certificate to a supermarket.

The author individually interviewed each student participant using questions (see Appendix B) adapted from Friedlander (1991) and Richards (2001) to give the interview a general framework. When necessary, the author explained the questions to the students to ensure understanding. Since these international students' religious belief is Islam, and then girls cannot be with boys at the same dormitory when they are not in the class, the interviews were conducted at their dormitory. The author and author's colleague recorded each individual interview through QQ, and then they chose the best sound-effect records and keep them in a USB flash disk. For teacher or administrator participants, the author used the same method to conduct the interview, except that they were interviewed individually. All interviews were transcribed by the secondary investigator. The data of interview were initially recorded on MP3 files.

During all of the interviews, if there was a question that was not understood by a

participant, the author restated the question in different words in order to elicit maximum comprehension. During the interviews, the author took notes as well as MP3-recorded the participants' responses to the questions. After the interviews were completed, the author transcribed and coded the recordings and compared the transcriptions to those of the other participants.

The flexible framework in which all of the interviews took place allowed the participants to answer questions freely, and elaborate on each answer. All of the participants were also requested to state their own opinions related to their program. Comparing the data obtained from all of the interviews is thought to be extremely relevant and of utmost importance to the nature of this study because all of the participants view the school and its program in different ways based on their position within the school system.

<div align="center">The Coding System</div>

The author developed and utilized a coding system in order to carefully record both the positive aspects of how the current program was doing and the needs the program exhibited. This coding system is fairly simple in its nature and is derived from both the literature pertaining to this medical program and from the data itself. The author listed several key factors that might influence this program, looked for patterns in the data, defined and abbreviated them in order to code them in an easy way. The table shows individual factors that might affect the success and needs of an international medical program.

Table 1.1: The factors and abbreviated code.

	Factors	Definition	Abbreviated Code
Student	Nurturing Environment	Staff and/or students provide assistant and encouragement during class and with homework.	NE
	Culture Validation	The program, staff, and students validate the cultures of the international students by showing them through words or actions that their native culture and language is important and significant.	CV
	Flexible Teaching	Teaching that understands that students have a variety of personal and experiences that affect their classroom behavior and learning.	FT
	Educational Atmosphere	The overall environment of the school or classroom.	EA
	Internal Motivation	The personal desire of students to learn for their own benefit.	IM
	School Resources	The various resources the school provides to assist both teachers and students.	SR
	Teachers' L2 Proficiency	The ability of the teacher to speak or perform English as their second language in an academic domain.	TLP
	Student Centered Classrooms	The students are made responsible for their own learning and help each other through group work and activities to learn the materials.	SCC
	Teacher Centered Classrooms	The teacher will decide how the class will be run, what the class will be learning and what is to be tested with little input from the students.	TCC
	Social Norms	The normal behavior that is expected in China.	SN
	Scaffolded Instruction	A teaching methodology designed to make the class content comprehensible to students.	SI
	Staff Assistance	An adequate number of quality staff to assist the students with their needs.	SA
	Student Life Management	Increase student involvement and maximize efficiency within the Office of Student Life by managing all student and organization information.	SLM

		Bilingual Support	Academic support through the students' English and Chinese.	BS
		Self-Learning	Students are taking in information, processing it, and retaining it without the need for another individual to be teaching it in order for the understanding to occur.	SL
		Culture & Social Involvement	Creating an environment in which students have an impact on decisions and actions that affect their study and day-to-day life.	CSI
		Quality Assessments	The tests and assessments that are used to measure the students' professional ability.	QA
		Staff Training	The specialize training of staff in different teaching methodology and in language needs.	ST
		Program Curriculum Design	The arrangement of the elements of a curriculum into a substantive entity.	PCD
		Student Language Background	Students' basic language learning and proficiency.	SLB
		Admission Requirements	The general procedure of students' admission.	AR
		Learner Feedback & Evaluation	The reaction or evaluation from learners (directed towards other learners, the teacher, or the whole program).	LFE
		Extracurricular Connection	The educational activities or connections not falling within the scope of the regular curriculum.	EC
Teacher		Teacher Background Information	The general education and working background of the teacher or administrator.	TBI
		School Resources	The various resources the school provides to assist both teachers and students.	SR
		Teacher L2 Proficiency	The ability of the teacher to speak or perform English as their second language in an academic domain.	TLP
		Class Preparation	The teachers according to the requirements of the curriculum standards and the characteristics of the course, combined with the specific circumstances of the students, select the most appropriate method to ensure that students learn more effectively.	CP

	Teaching Materials Selection	Teacher selects the most appropriate textbook and materials to guide students learn more effectively.	TMS
	Class Extension	The assigned homework connects in-class and after-class.	CE
	Learners' Feature	Teacher understands the international students' specific feature in learning and culture difference.	LF
	Teachers' Feedback for Program	The reaction or evaluation from teachers or administrator (directed towards the learners or the whole program).	TFP
	Extracurricular Support	The educational activities or connections not falling within the scope of the regular curriculum.	ES
	Teacher Training	The specialize training of teacher in their professional field or in other academic field that they need.	TT
	Professional Support	Pedagogical support and academic support that teacher needs.	PS

To ensure the reliability of the definition of each factor, the author and author's

colleague used different colors separately to mark and conclude the data of interviews.

All the abbreviation was marked with a "P" or an "N". The "P" was meant to

illustrate present information of the program, and the "N" was meant to show all the

needs that displayed in the interviews. For example, if a teacher mentioned in an

interview that he or she needed more training in order to assist students, the author

would then mark that statement with a "N" (illustrating the need) and a "TT"

(defining the need mentioned).

Conclusion

The previous study by Weiss (1994) and the research suggestions given by

Richards (2001) were used to a large extent in gathering the necessary data to analyze

the specific needs related to develop the international medical program. The survey

and interviews that were done in this study are thought to give specific insight into this situation. It is hoped that the data presented in the next chapter can be made to benefit students, teachers and the whole program.

Chapter 4

Results

Introduction

Interviews and a survey generated the data pertaining to the needs analysis, ESP

curriculum development, and collaborative teaching of the international medical

program in the Medical School at Shihezi University. The interviews were transcribed

and then coded, along with the survey data, in order to find specific information that

could elucidate the different needs of the Pakistani international medical students, as

well as the teachers and administrators in that program, and also, to discover the areas

where the international medical program succeeds. The survey was completed by the

international students before the interviews were started, in order to collect the

general impressions of students about this program.

This chapter will focus on the different findings pertaining to the international

medical program in Shihezi University and analyze the data obtained. First, the survey

will be examined to determine the main problems and urgent needs as well as

strengths are of the entire program, and what interview questions should be addressed

in the future interview. Second, data from interviews will be presented to show the

detailed impressions of the international medical program and to illustrate the areas

where the school could assist the international program.

Survey and Analysis

The students' perspectives

A total of 27 Pakistani international medical students from the College of

Medicine at Shihezi University were surveyed for the present study in order to
discover the general impressions and needs that they perceived about the international
medical program and school as a whole. All the student-participants are current
undergraduate students from different grades at Shihezi University. There are 19
males and 8 females in the study and they are between the ages of 18 and 24. This
group of students provided data that assisted in finding the general problems and
needs of the international medical program.

The following Figure 4.1 consists of 5 sub-figures which showed the basic and
general problems and needs of these international students. Each title of the
sub-figures covered some questions in the questionnaire that these students
completed.

Figure 4.1: The percentage of positive and negative responses within survey
questions and sub-figures. These 5 pie graphs illustrate both the questions pertaining
to the general problems and needs, and the percentage of positive and negative
responses within survey questions given by the 27 international students that
participated in the survey. The students were asked to answer to the questions by
using "yes," "no," or other fairly simple options.

1) Figure 4.1.1: The students' language needs. It covered 6 survey questions to
figure out if the Pakistani international students need bilingual support. (See appendix
A- survey question 1, 2, 3, 4, 9, 10).
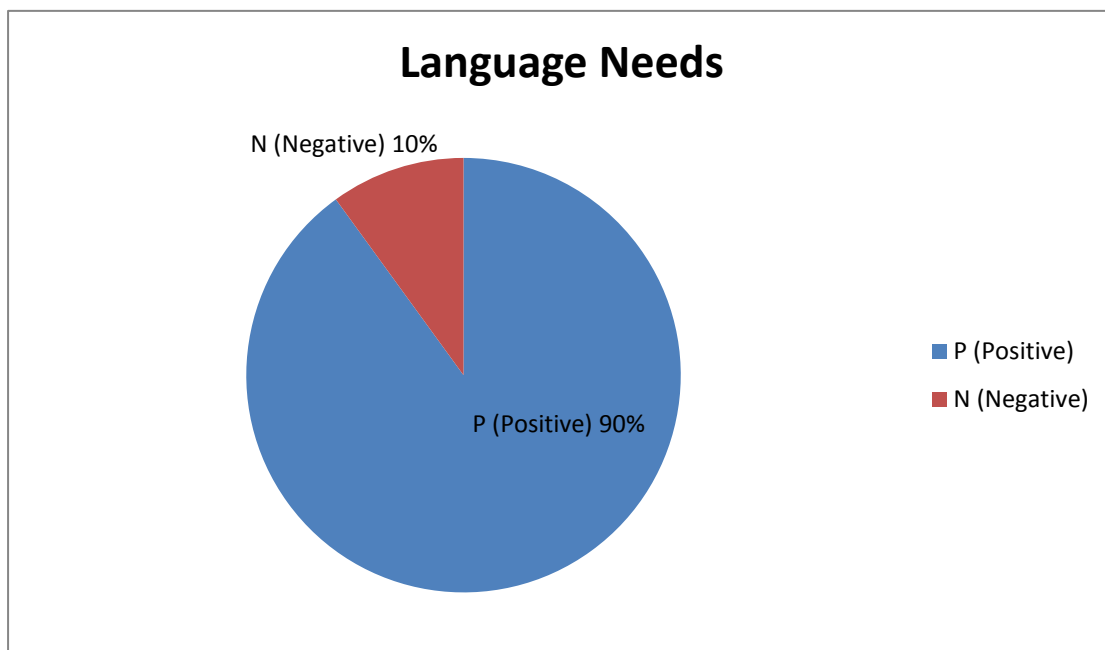
Figure 4.1.1

According to the survey data obtained, about 90% of the international students thought they needed more bilingual supports for survival Chinese and Professional English. Only 10% students do not think they need any more language support.

2) Figure 4.1.2: The needs of curriculum design. It covered 8 survey questions to figure out if the Pakistani international students need more effective curriculum design. (See appendix A- survey question 5, 7, 8, 17, 22, 23, 24, 25).
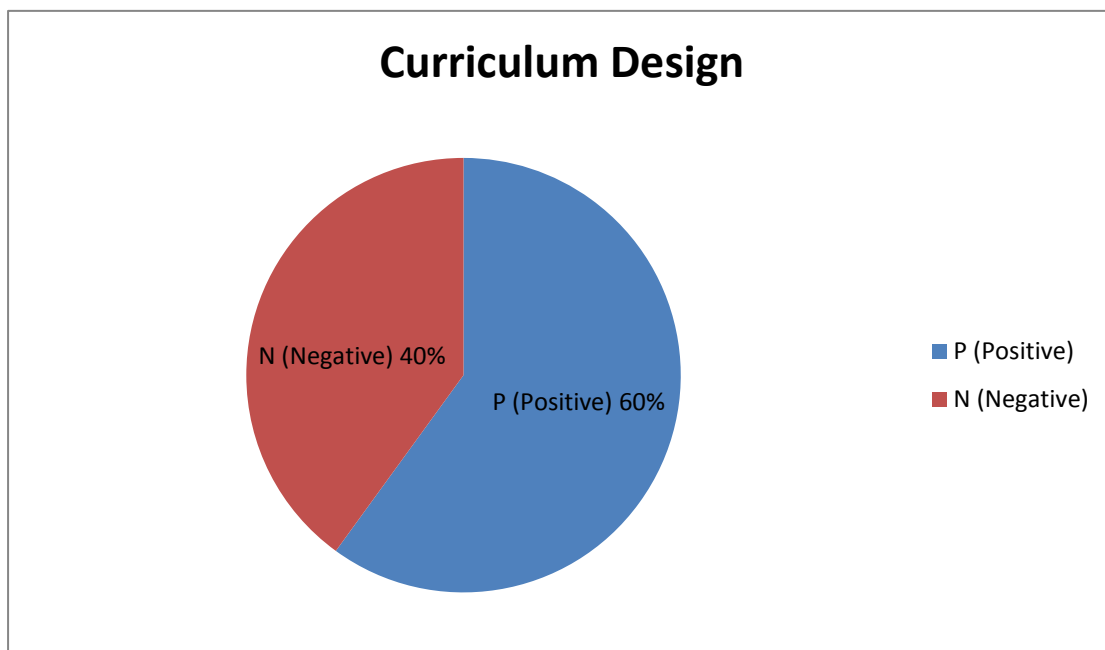
Figure 4.1.2

From this graph, it is not hard to see that 40% of the students were not satisfied

with the curriculum design, and 60% students were happy with what curriculum they

have been offered in this international program.

3) Figure 4.1.3: The needs of teaching methodology. It covered 9 survey

questions to figure out if the Pakistani international students were satisfied with the

teaching methodology or not. (See appendix A- survey question 6, 11, 12, 13, 14, 15,

16, 18, 20).
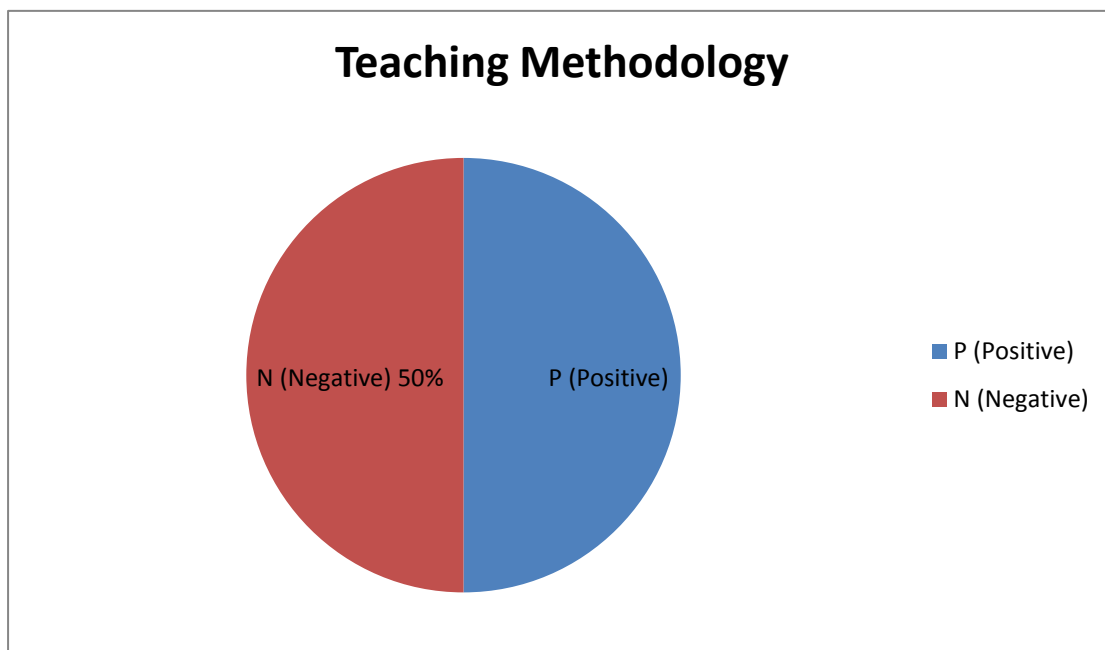
Figure 4.1.3

The interesting finding here is the positive opinions and negative opinions on teaching methodology occupied half and half. It means 50% international students like the teaching methods offered in class, and the other half students were not happy with them.

4) Figure 4.1.4: The needs of school resources. It covered 4 survey questions to figure out if the Pakistani international students need more support from school resources. (See appendix A- survey question 19, 21, 26, 27).
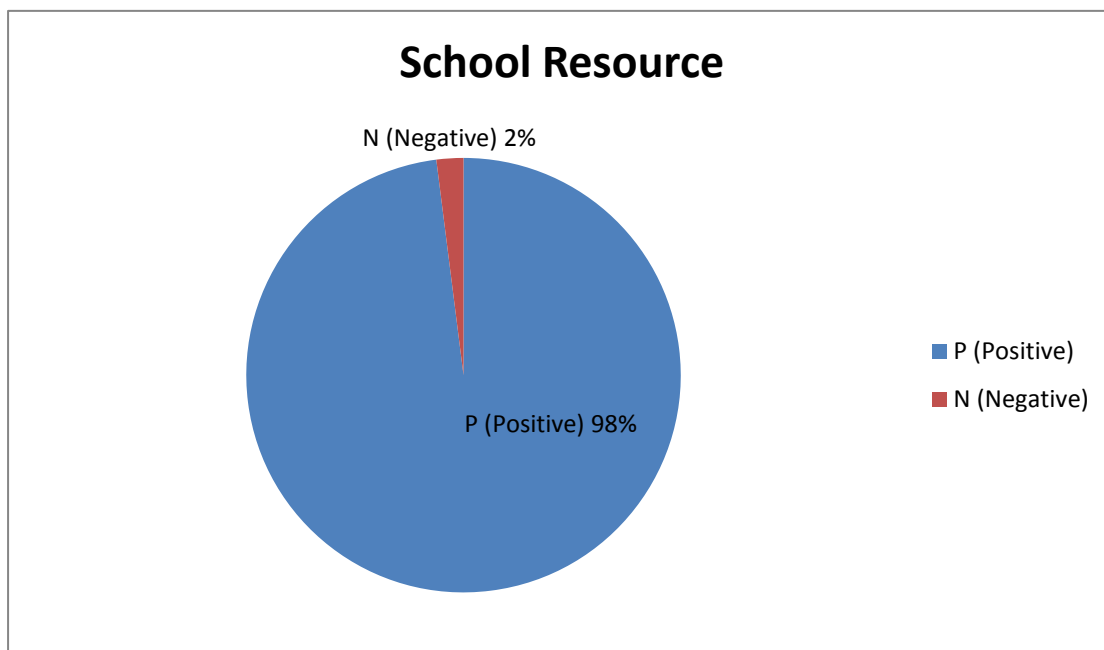
Figure 4.1.4

With regard to school resources, 98% international students think the school

resources are perfect for them to utilize and assist them in learning and living in China.

Only 2% students were not happy with the school resources.

5) Figure 4.1.5: The needs of cultural and social involvement. It covered 3 survey

questions to figure out if the Pakistani international students need to be more involved

with the present culture and social environment. (See appendix A- survey question 28,

29, 30).
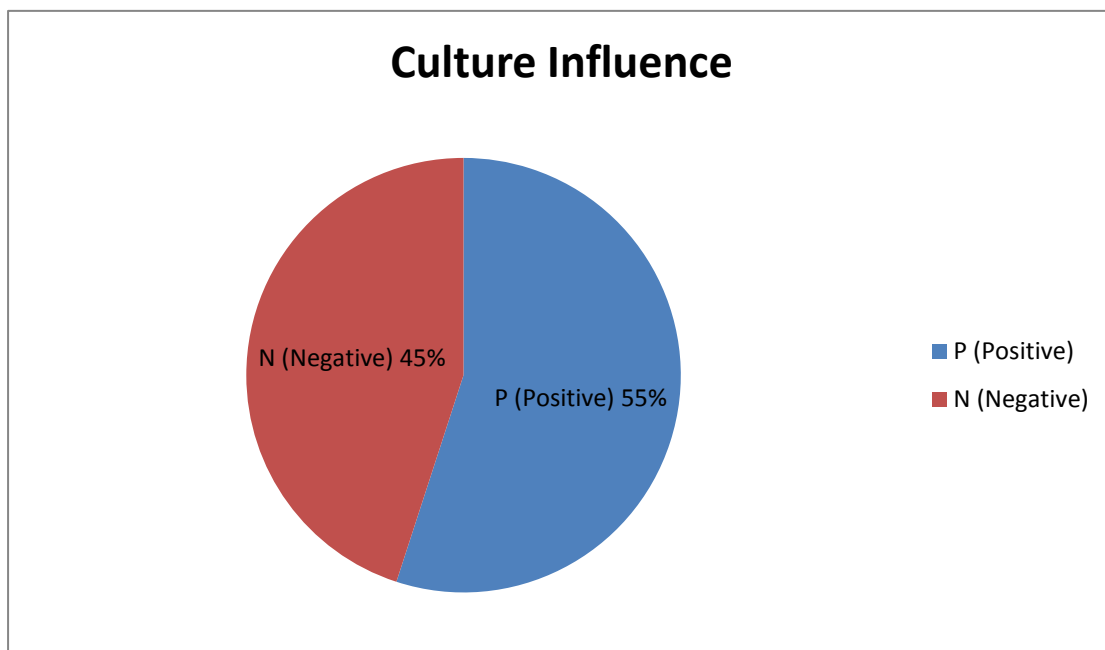
Figure 4.1.5

For the culture issue, 55% positive opinions showed that the program and

teachers validate the cultures of the international students by showing them through

words or actions that their native culture and language is important and significant.

However, 45% of the students reported that their learning life in China consists of

mainly of their own small native cultural circle.
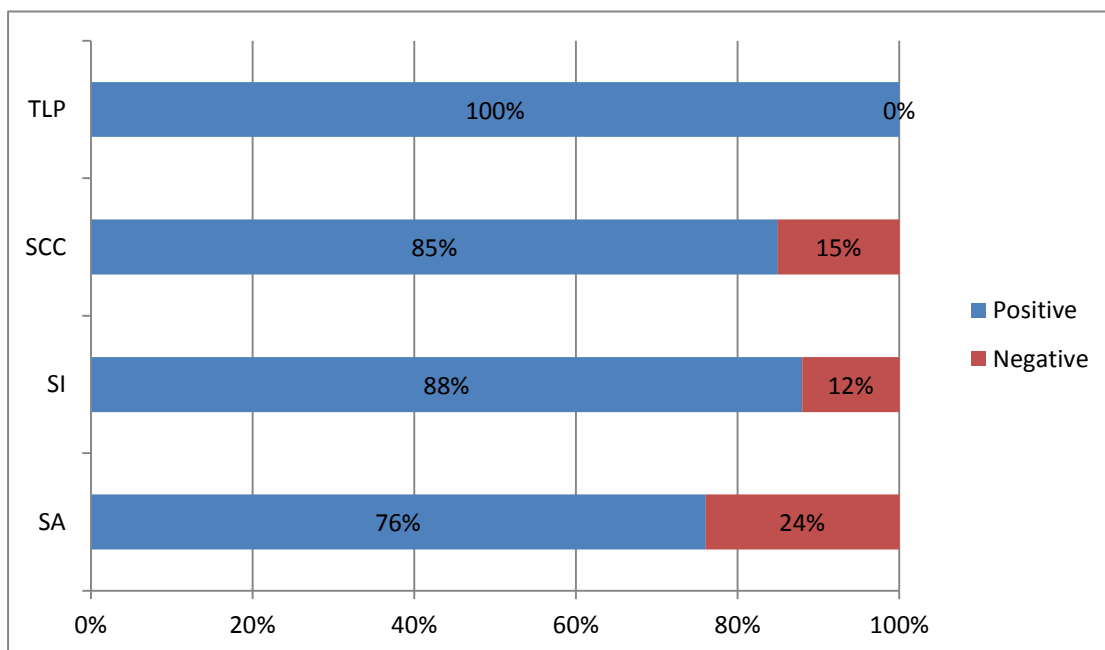
Figure 4.2: The top four needs. The above graph illustrates the primary areas where

the students' had the greatest perceived needs.

It can be seen from the data obtained from the survey of international students that they feel the areas where the school has the greatest needs include 1) improving teachers' English proficiency, 2) focusing on student centered classrooms, 3) providing scaffolded instruction, and 4) encouraging staff assistance. The survey serves to confirm the primary needs found through interviews with students.

Interviews and Findings

The data gathered from the interviews was divided into two general sections. The general sections include information from students, teachers, and administrators. Within those general sections, the overall data was then examined by looking for the main needs of this program. First, the overall data will be presented in relation to the school and international medical program using the coding system described in Chapter Ⅲ. Then each section will be introduced using the data obtained in the interviews.

The interview data consists of the interview findings from the international medical students, mainstream teachers, and administrators. The data have been coded in such a way as to be able to recognize both the general problems and needs of the program and the strengths that the program may have.

The interview data graph (see Figure 4.3) shows the basic areas in which participants believed the school is performing positively or negatively, and the areas where the students, teachers, and administrator expressed needs. Each number represents the number of times the particular need was mentioned throughout the

different questions within a personal interview.

Overall Needs

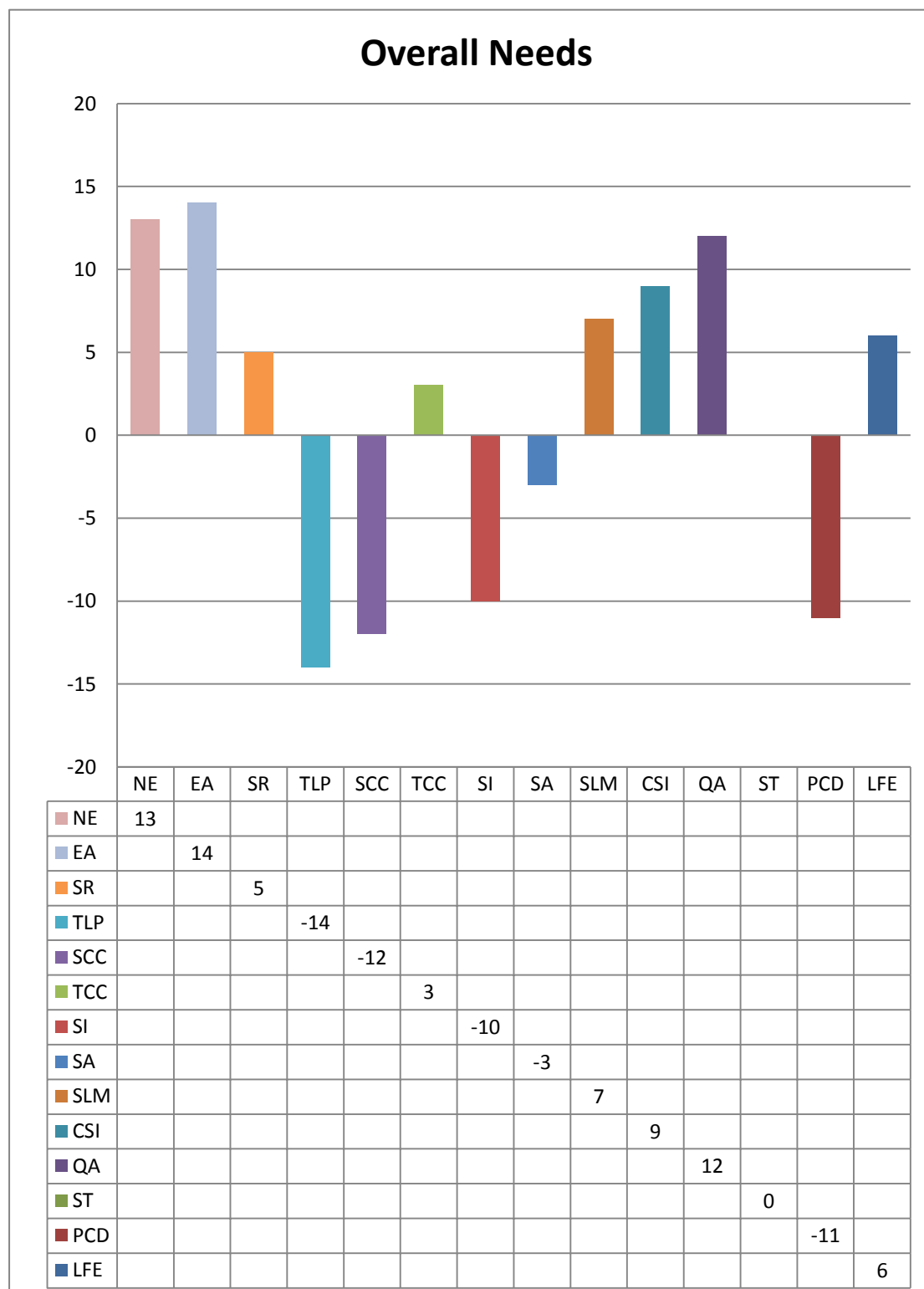|	NE	EA	SR	TLP	SCC	TCC	SI	SA	SLM	CSI	QA	ST	PCD	LFE
NE	13													
EA		14												
SR			5											
TLP				-14										
SCC					-12									
TCC						3								
SI							-10							
SA								-3						
SLM									7					
CSI										9				
QA											12			
ST												0		
PCD													-11	
LFE														6

Figure 4.3: The overall interview data. The chart represents raw counts from the overall interview data as expressed by the international medical students, teachers or administrators throughout the College of Medicine at Shihezi University. The positive scale shows the primary areas where all of the participants feel satisfied with the

program. The negative scale represents the unsatisfied factors or the program's needs as expressed by all of the participants.

One can see from the overall interview data that the school and program provided a positive educational atmosphere and a nurturing environment. In addition to this, the school also provided extremely good living conditions to these international students. However, the primary needs included school resources, teachers' English proficiency, student centered classrooms, scaffolded instruction, staff assistance, staff training, program curriculum design, quality assessments, culture and social involvement, and learner feedback and evaluation. These data, however, did not necessarily represent the primary opinions of each group of participants. Those differences will be shown and described in the following sections.

The teachers' and the administrators' perspectives

The data presented in the following graph (see Figure 4.4) provide information received in two interviews with two mainstream teachers at the school. One of them is also an administrator in the international student office; the other one is also one of the main administrators in the teaching and research group in international program. Since these participants preferred Chinese as the interview language, the author translated the Chinese version transcripts into English. All of the information described here is from these two participants' particular points of view and do not necessarily reflect the perception of the students. As with the previous data, the bar-graph does not necessarily represent the participants' exhaustive opinions; it only illustrates the coded data from the interviews.

Teacher and Administrator Needs

	CV	SR	TLP	CP	TMS	CE	LF	TFP	ES	TT	PS
CV	2										
SR		2									
TLP			-2								
CP				-1							
TMS					2						
CE						1					
LF							1				
TFP								1			
ES									-1		
TT										-2	
PS											-1
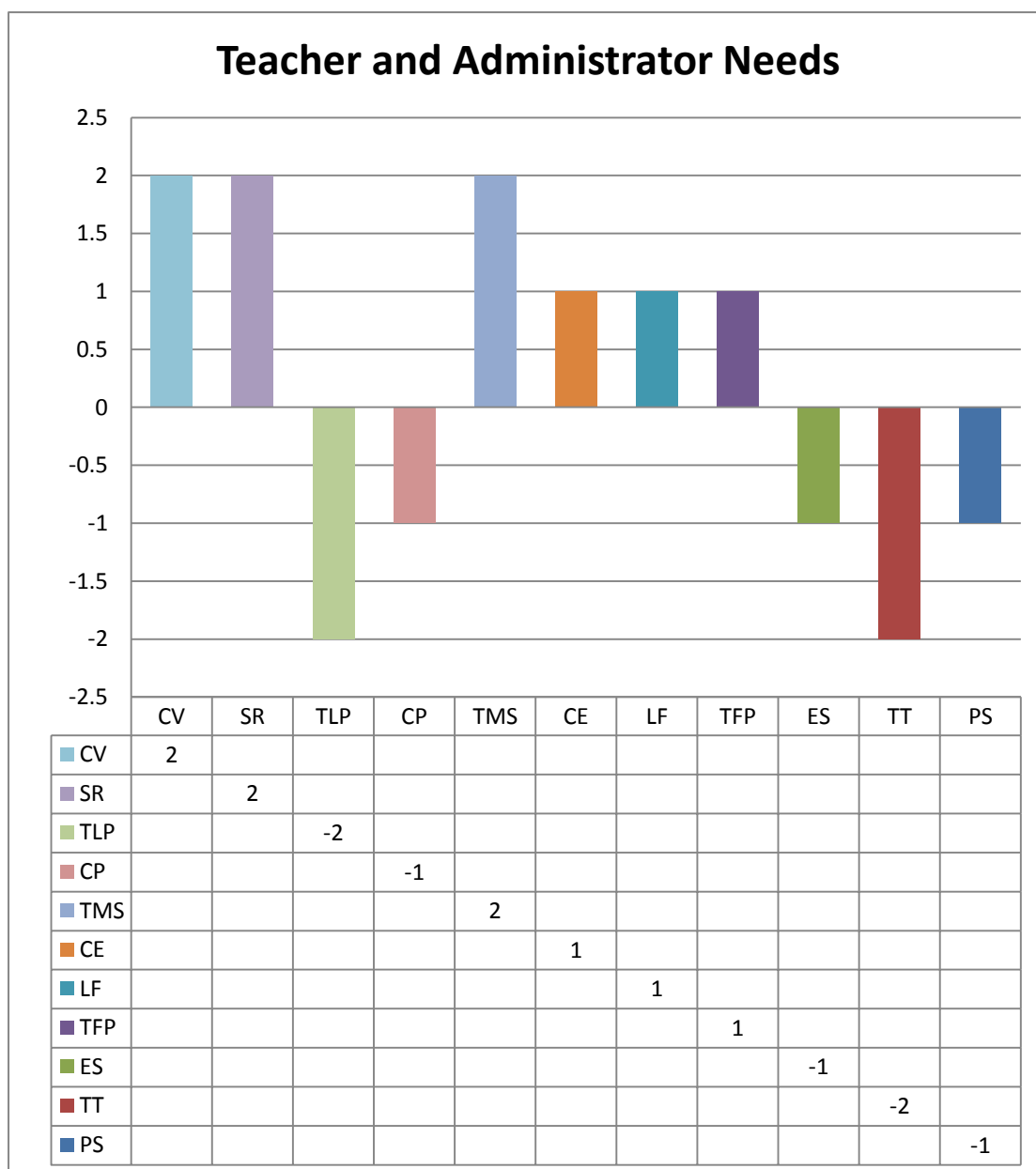
Figure 4.4: The mainstream teacher and the program administrator data. The chart represents raw counts from the interview data obtained from two mainstream teachers in the program of Shihezi University. The positive scale shows the primary areas where all of the teacher participants feel satisfied with themselves and the program. The negative scale represents the unsatisfied factors or the program's needs as expressed by the teacher participants.

One of the teachers believed that the school and program was doing a few

different things as a whole to validate the culture of the Pakistani international

medical students. The female teacher explained:

"I would say that ten years ago there was more conflict between the Chinese

students and international students. Now, international students have become a real part of the school, culturally, and professionally."

Since all of the Pakistani students are Muslim students, the school and program also tried to schedule the class to fit in the students' pray time to validate their religion and culture. According to the administrator,

"To give you an example, we did not arrange any classes on Friday, since most male Muslim students need to pray at mosque on Friday. I will also have students come up to me sometimes and tell me they want to use the lunch hour to pray and so we put them in dormitories which are very close to the Muslims' canteen."

It appears that the administrator who was interviewed understood the importance of cultural validation within the school system and the importance of informing or training teachers in such a way as to be able to understand different cultural perspectives.

The teacher also constantly mentioned several areas as being areas that the program needs to improve; those areas included teacher English proficiency, class preparation, teacher training, and professional support. One of the male mainstream teachers said, "It would be nicer to have a chance to engage in advanced studies at another university or abroad. I think all the teachers in this international program need to go further with their education either in the fields of teaching methodology, or in the areas improving English proficiency. Since we are not ESP teachers or English teachers, sometimes I can see students want us to improve our English, but the fact is that the heavy professional workload does not allow us to pay any more attention to

language skills. If the school could provide us an opportunity to attend a regular

teacher training, that would be super helpful for us." This teacher went on to say that,

"You know for our Chinese medical students, we use the Chinese version textbook

and taught them in Chinese, but in this international program, all the textbooks,

teaching materials, and classroom language must be in English. Every time I prepared

the class, I was frustrated with even one lesson because I needed to spend much more

time working on preparation. I have not only to read everything in English, but also

have to design the various class activities. Most of my colleagues in their old age will

not try to teach in this program, because their English proficiency cannot reach the

height of the teaching requirements. I am wondering if the professional teachers could

work with English teachers, or if they could prepare class together."

The needs for more teacher training, professional support, and English

proficiency improvement were mentioned at least three times each by the

administrator and the teacher. The focus was on having more chances to improve

teaching skills and language proficiency. Obviously, improvement of teachers'

English proficiency has become the number one perceived need which should be

considered in the whole program development. Furthermore, the co-teaching or

collaborative teaching method was also another important issue that the mainstream

teachers wanted to try. They need support from a group of teachers from the English

department during the class preparation or in-class teaching. They also need a group

of experienced teachers to share their teaching experiences with them, train them in

changing their teaching methods from a teacher centered classroom model to a student

centered classroom model, which means that all the teachers must know the learners' needs, analyze them, and meet those needs.

The students' perspectives

A total of 12 Pakistani international medical students were interviewed for the present study. For all of the participants, this experience was their first educational exposure in China. All 12 of the students have been in China for a minimum of six months, and all of them have received some form of education in their native language and English.

One can see from the data obtained (see Figure 4.5) that the Pakistani international students feel that the school is not only providing a positive educational atmosphere, but also appears to be providing a nurturing environment and cultural validation. However, on the negative scale, it can be seen that these international students still have more needs with teachers' English proficiency, student centered classroom, scaffolded instruction, and program curriculum design.
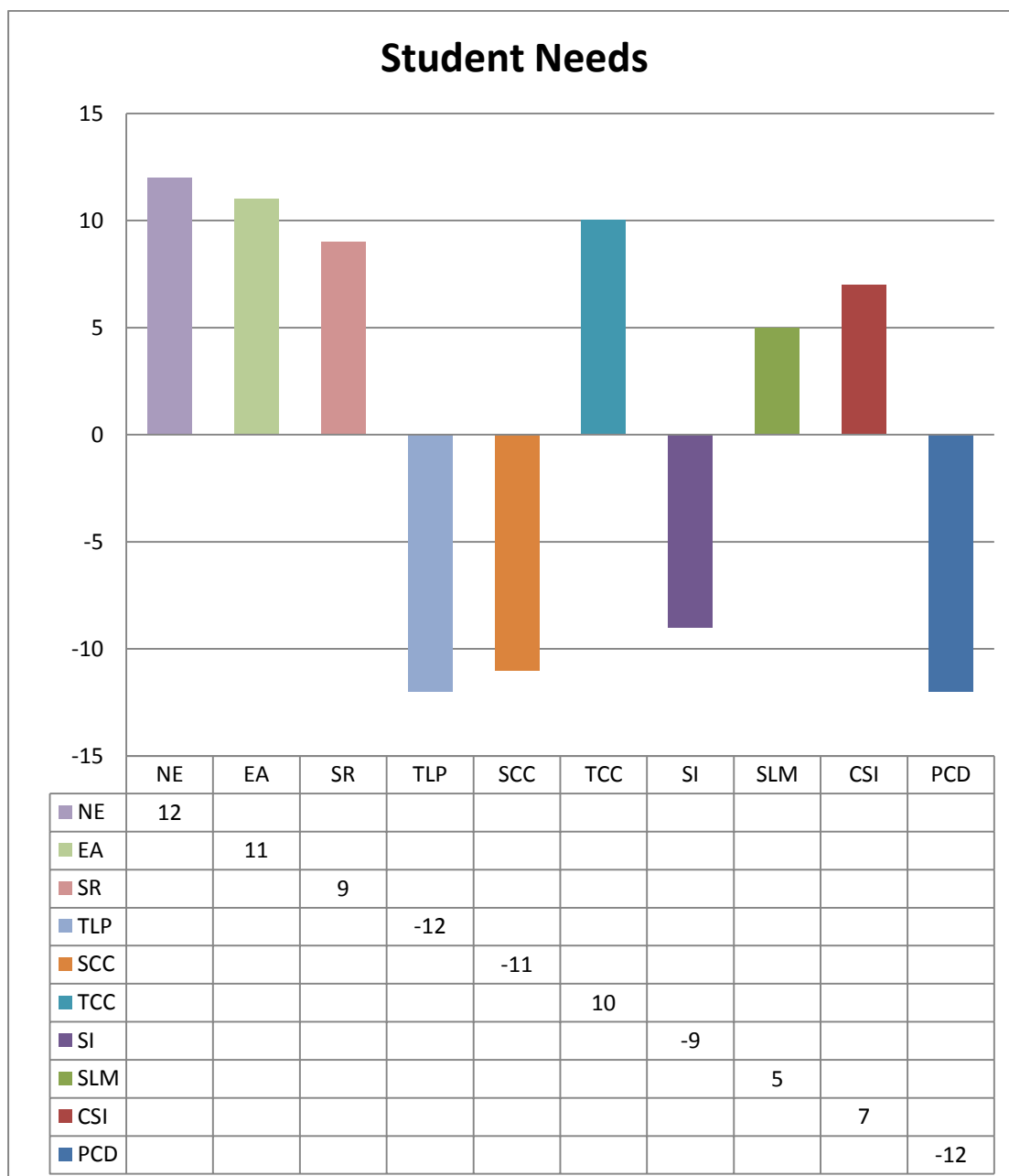
Figure 4.5: The overall Pakistani international medical student data. The chart represents raw counts from the interview data obtained from 13 Pakistani international students studying in the international medical program at Shihezi University. The positive scale shows the primary areas where the students feel the program is doing an excellent job. The negative scale represents the unsatisfactory factors or the program's needs as expressed by the student participants.

The educational atmosphere seems to be a very positive program trait for the

Pakistani international medical students. One Pakistani student said, "Oh, yes! I love

to study here, and I like all my Chinese friends and teachers on campus." Another

student, when asked, "what do you like the most about Shihezi University?" replied,

"The whole learning atmosphere!" Most of the international students reflected the opinion that they love to study medicine in China rather than in their own country. It can be seen that the Pakistani international students are happy with their educational atmosphere in China as a whole.

The Pakistani international medical students also believed that the program offered them a nurturing environment. According to one of the international students, "My teachers encouraged and helped me a lot. They treated us like friends." A different international student stated, "Our teachers help us to overcome these challenges; they are very good teachers. We need them." Related to the issue, these international students only had positive things to say about their teachers and the nurturing environment where they study. Furthermore, the international students also had positive opinions about school resources. For example, one student said, "The house condition is good and comfortable. The public facilities are also very good. We can go by school bus. The Muslim food is very good."

However, the international students mentioned three areas where they believed there are still needs. First, they mentioned teachers' L2 proficiency in their mainstream classes as being a need. One student stated, "Only one thing, language area. Language is the main problem. Some teachers are really good; they can explain everything. They are teaching so good, and they are excellent and helpful. They know everything, but they don't know how to explain it in English. I'm looking experts to learn English. They are making efforts to learn English. They teach someone other languages. Definitely, they have to learn their English. If from the beginning, they

study English, and give them exams to study for them, it would be better." It seems

that they all have trouble understanding their professional teachers in class.

Second, the international students said after class they need more time and space

to digest what they have learned in class. But, due to the tight class schedule,

eight-hour in-class studying has already made them exhausted. One student said,

"Every day we have 3 classes, from 10 o'clock to 2 o'clock and 4 to 8 o'clock. So we

have classes every day. We have 8-hour classes every day. Many of them are required

classes. We study more and more. We have some elective classes, maybe some about

medicine and maybe go to surgery. We spent every day even. But I think that is too

much for us. I cannot bear it anymore." Another student said, "There are 3 classes, 6

hours one day. Sometimes we have extra classes. All of our classes are required, even

some classes we don't want to study. We have no elective classes. I think we don't

need elective classes." It can be seen that most of the students are overwhelmed with

the amount of studying. They want the curriculum designer to be more thoughtful for

their class arrangement.

Third, the international students were also concerned about student-centered

classrooms and scaffolded instruction. They want their teachers to help the students

become more responsible for their own learning and help each other through group

work and activities to learn the materials. They also want a teaching methodology

designed to make the class content more comprehensible to students. In consideration

of these Pakistani learners' backgrounds, they are more willing to show activeness

and positiveness in class. So they have difficulty just listening to teachers' lectures

while silently taking notes. Like one student said, "In class, teachers ask questions, and we should give them answers, then giving lectures, we can also ask any questions and practice. Most teachers use PowerPoint and just read the slides. I don't remember if there are activities. Teachers just open the slides and give some detailed speeches." In this case, teachers have the responsibility to make the teaching varied, effective, active, and comprehensible, which depends on what class activities they can offer.

Conclusion

The data obtained in this study through a survey and interviews have given great insight into the needs and the strengths included in the international medical program in College of Medicine at Shihezi University. The data and results will serve in assisting the international students and the whole program. In chapter 5, final conclusions will be revealed and solutions will be offered to assist the medical school with the further development of their international medical program.

Chapter 5

Conclusion

Introduction

The purpose of this study was to figure out what factors should be considered in designing a more effective program for international medical students, what types of methodologies and class activities are appropriate for Pakistani international medical students studying medical content in an English medium school in China, and how we can provide support services to further develop this international education program. Literature was reviewed on English for specific purposes (ESP), needs analysis, co-teaching and collaborative teaching, content-based teaching, and teacher training. The data obtained through a survey, and interviews indicated the perceived needs of this international medical program. This chapter will discuss the strengths and immediate future needs of the program, and also the limitations of this study and possible future research.

Immediate Needs

Through the relevant obtained data, the author not only found the general idea of how the program operated, but also made clear the needs of students, teachers, and the program as a whole. By analyzing the data, the most prominent feature in the answers to the survey and interview questions from different students and teachers is that these answers are strikingly similar. In the study, the author found consistency and urgency in the participants' present needs. In the following subsections, the results of the data analysis are presented in relation to the research questions and the two main groups of

participants. The result of the students' perceptions of their needs was explored first. Following the students' section, the results of the instructors' and administrators' interviews was presented and compared with that of students.

a) The first research question dealt with factors that should be considered in designing and developing an effective program for Pakistani international medical students. Similar to many other researchers' findings (cf. Chantrupanth, 1993; Deutch, 2003; Nation, 2000) the findings revealed that there are many factors one should take into account including (1) the learning needs of the students, (2) learners' present knowledge and knowledge gaps, (3) the objectives of the course, (4) the resources available in terms of staff, materials, equipment, finance and time constraints, and (5) teachers' skills and knowledge of the specific area. If such factors are not considered, the design of the course may be unsuitable for the situation and the expected results may not be achieved. As was revealed in the results, students indicated that their teachers' English should be improved so students can understand every detail that teachers attempted to teach them, clearly and accurately. The other concern from students is that they felt the program curriculum design should be similar with that in their country. For example, students complained the course scheduling is too tight, and they do not even have any time to review and think deeply after class. In this case, the immediate needs of students are the improvement of teachers' English proficiency, and rescheduling of the course setting. According to the results from teachers, the same language proficiency needs were reflected by all the teachers. Additionally, teachers are also willing to attend a teacher training group or program to improve their

teaching skills for an ESP international program, especially in this very complicated situation. They felt the teaching group could be more organized and effective. For instance, they would prefer if all of the teachers who teach the same course could prepare class together, share teaching resources and materials with each other, get support from the English teachers in the English department at the same university, and implement co-teaching in the professional classes.

   b) The second research question dealt with finding out what type of content, methodology, and class activities are most appropriate for Pakistani international medical students. Almost one-third of the students expressed their dissatisfaction with the teachers' English proficiency, the teaching methodology used, the method of evaluation, the amount of professional content taught in the class, and the content of the textbook. At the same time, two-thirds of the students in different classes felt that they were moderately satisfied with the aforementioned issues. More attention needs to be paid to course design. Both the students and teachers thought that class activities could be more active and various, rather than teacher giving lectures and students simply listening to them and taking notes. Group work, pair work, and in-class discussions should be considered as the important teaching methods within the learning and teaching process.

   As has been echoed in the literature, ESP courses are not designed and/or implemented consistently in terms of syllabus, materials, methodology, and expected English proficiency level on entry. Each university offers these courses independently of others. Likewise, although the textbook, an English version for international

students use, is the same, the different instructors do not use their materials uniformly and in some departments, especially where the instructors are subject specialists, instructors either compile their own materials or select articles to adapt for their classes at their own discretion. Clearly, some expertise must be brought to the scene to make the ESP teaching practices more consistent with meeting students' needs.

c) The third research question explored the potential support services that could be provided to develop this international education program. The findings of the study support the view that the students 'greatly' need to increase their professional proficiency in English, such as medical terminology and medical professional communication language. Most of the students felt that the current content courses are sufficient in terms of the data analyzed, but reported that they had expected to be offered specialized English courses throughout their undergraduate studies in order to fulfill their short-term needs. Similarly, teachers also think the courses are sufficient in terms of the data analyzed, but they need more space to develop their professional English and their teaching skills.

There was a consistency of opinions among instructors across different classes that the students 'moderately' need to develop their general study skills. A solid majority of the instructors also reported that the students need to develop their general communication skills in their professional fields, and they agreed that the students should be helped to increase their repertoire of professional terminology in order to be able to read extensively in their specialized classes.

More significantly, most of the students reported that they needed to use both

Urdu and English sources when studying their subject courses. The students seemed

to have clear perceptions of their special language needs not the general language for

academic study and their future careers. They emphasized that medical terminology

and relevant communication are challenges for them, even that of in their native

language. The students wanted to improve special language proficiency in the medical

area.

Most of the respondents stated that they preferred to have a specialized English

course in three one-hour sessions per week. Students also perceived that medical

instructors lack high English proficiency for teaching specialized English courses.

Nevertheless, all subject specific instructors indicated that ESL instructors should

work with subject specific instructors in ESP courses. Additionally, half of the

subject-specific instructors were of the opinion that ESL instructors must have basic

knowledge of the specialized medical vocabulary, while the rest perceived that ESL

instructors should have knowledge of specialized medical vocabulary as well as

general vocabulary. This confirms the recommendation of Atai (2002, p. 13) that

''EAP instructors reconsider their roles in struggling with EAP contexts and to widen

their repertoires of language teaching strategies.'' It does not, of course, in any way

address the impracticality of these expectations.

Future Needs

The perceived future needs consist of teachers' higher English proficiency, more

classes on professional communication skills courses, more opportunities for

professional instructors' professional development, more ESL teacher assistance,

scaffolded instruction within mainstream classes, and a better educational atmosphere.

The purpose of this study was to investigate a solution to improve students' learning, teachers' teaching and whole program effectiveness. The solution should not only focus on collaborative curriculum design, but also on curriculum implementation. Additionally, teachers' commitment to cooperative teaching evolves from its benefits for students as well as for teachers. The teachers are able to contribute skills to the educational contexts as well as to draw on the skills of others. They are able to provide specific instruction in the curriculum and learning environment in which students are expected to perform. However, instituting a co-teaching approach to the support of international students is a complex, sensitive, and professionally demanding exercise. Even the most enthusiastic and enterprising teacher finds that all of the details that should be planned can make them frustrated and overwhelmed.

Based on what was revealed by the study, the EAP-ESP course for Pakistani international medical students, similar to other subject-specific English courses in this international program, is conducted without consultation or collaboration with the content departments and without having assessed students' learning needs – which is the indispensable first step in curriculum development for academic or specific academic purposes. Likewise, the program designer should take it seriously to think about who will be qualified for this teaching position, either in the language fields or in professional fields- who can judge if they are qualified or unqualified.

One of the results of this study suggest that the goals of the course are unrealistic, and its provision inadequate to prepare the students to face the challenges and

demands posed by their specialist departments unless serious measures are taken to resolve some major problems revealed by this study.

Recommendation

According to the research results in chapter 4, teachers' English proficiency did not meet the students' needs. The results of this study also revealed how difficult it is for language and subject matter teachers to implement content-based teaching. Therefore, it is recommended that teachers' English proficiency could be improved by opening extensive teacher training classes, meeting with the English teachers regularly, and trying to implement co-teaching or collaborative teaching approaches. And also, the language teachers should undergo professional development that includes basic knowledge of medicine. Both content and language teachers need also to be made aware of how to use language as a tool for learning, not simply as a conduit for transferring facts.

The second recommendation is this international medical program needs a new curriculum. The program should conduct a survey, or use other research method in order to figure out students' and teachers' needs before operating the program. For example, how many classes could be offered, how many content teachers and language teachers might be employed, what teaching methods should be applied in classroom teaching, and what factors should be considered as the points of program development, etc. Yet, not all methods proposed are suitable in any kind of program. The program should find a way to make an effective and comfortable atmosphere for both students and teachers.

The third recommendation is recognizing and promoting the importance of cultural diversity in medical professions is a necessary step in removing any obstacles or constraints on developing program. The school should provide more opportunities for these international medical students to experience Chinese medical culture. It is the hope that this study makes a contribution to developing the ESP program in order to help university international students, who have specific needs, achieve a higher level of personal and professional satisfaction.

Limitation of the Study

This study has its limitations. Inferences made in qualitative studies are easily influenced by the lens of the researcher. For this reason the author deliberately discussed the results of the analysis of this study within a research team. In addition, since the participants of this study involved only the three of five academic year students, perhaps future research could also analyze the special needs of students from all of the five academic years to benefit both medical students' specific linguistic needs and to facilitate their content course learning.

Due to some political issues, before the author conducted interviews, the interview questions were reviewed by the administrator of the school and an officer of the security department of the city of Shihezi in Xinjiang province. So, the questionnaires and interview questions might not cover all the problems and needs of the whole program. Some sensitive topics were circumvented during the interview and will not be revealed in this paper.

Another limitation of this study is that only two teachers participated, and the

other teachers could not be interviewed for many complex reasons. One teacher is not only a regular teacher, but also the head of professional courses division. The other teacher has multiple-job titles as well as the regular professional teacher and the director of the international student office. The low teacher interviewee turnout might influence the objectiveness of their answers, although they are the people who know the program better than other teachers.

For students' questionnaires and interview questions, some of the questions were too one-dimensional. For example, when the author asked them the admission requirements, all of the answers were the same. So in the future, the author should design more careful and effective questions to the interviewees. In addition, the author actually interviewed more than 30 international students, but due to the limitation of internet connection and sound quality, only 12 interviews were transcribed by the author and were used into this study. The time difference between the interviewer and interviewees was another difficulty when the interviews were conducted.

Further Research

Reviewing the literature has highlighted a variety of complex and interacting challenges for Pakistani international medical students with ESL backgrounds in adjusting to a new culture and using the advanced and technical English of higher education and healthcare. Mixed results regarding the needs of the whole program demonstrate that further research is needed to develop and refine language support that will promote the development of the program. With increasing cultural diversity in medical care, international medical students with ESL backgrounds will become

more valuable in providing culturally competent care, and it is essential that they be given appropriate support to develop their program, not only to achieve in their academic programs but also to communicate effectively in a clinical setting.

Conclusion

The purpose of this project was to attempt to understand the learning and teaching context sufficiently to provide suggestions for better programming in the College of Medicine at Shehezi University. Under the learning circumstance of ESP, the needs of these Pakistani international medical students must be met by the specific design of an English medium international medical program. Through a survey and interviews, the general problems and the needs of the program at Shihezi University were determined, and suggestions were made that could assist the school in better serving its international students.

More research needs to be done on the design and implementation of this international medical program and, especially, more research needs to be done at the school to more accurately determine the needs of the students, teachers and the program as a whole. The present study should, however, provide a basis for further research into the design and implementation of those Pakistani international medical students and this program at Shihezi University in China.

Appendix A

Student Survey Questions

<u>Students' Questionnaire</u>

Dear Participants,

The following questionnaire is part of a research project that investigates the

needs of international medical science students taking their courses in English and

the development of this international education program.

Background Information

1. Age:

2. Sex:

3. Department in the Medical Science college of Shihezi University:

Questions:

1. Are all the professional courses teaching in English?

   (a) Yes   (b) No

2. When you enter this university, does it have any requirements with language level

in Chinese?

    (a) Yes   (b) No

3. Have you passed the General English test?

   (a) Yes   (b) No

4. Have you enrolled for specialized English course?

   (a) Yes   (b) No

5. Do you have lots of classes to finish each semester?

(a) Yes   (b) No

6. I prefer to work and study _____

(a) individually   (b) in pairs   (c) in small groups

7. Do you need specialized English course?

(a) Yes   (b) No

8. If Yes, do you think how long should specialized English course be offered to

students?

(a) one semester   (b) two semesters   (c) throughout the five years of their

studies

9. I prefer to be taught by _____

(a) Native English instructors

(b) Chinese English instructors

(c) Subject specialist instructors

(d) Both of the English language teachers and the subject specialist instructors

10. It is important for me to learn my subject lessons _____

(a) through my native language and sources

(b) through English books and sources

(c) through both of them

11. Do you like class activities and methodologies that your teacher applied in class?

(a) Yes   (b) No

12. Do your teachers have you do any projects or group work as learning tasks?

(a) Yes   (b) No

13. If yes, is that helpful for you to gain professional knowledge?

   (a) Yes   (b) No

14. Do your teachers have office hours?

   (a) Yes   (b) No

15. If yes, do you use them and think they are helpful？

   (a) Yes   (b) No

16. If not, do you need them?

   (a) Yes   (b) No

17. Do you think your textbook is your main tool of learning?

   (a) Yes   (b) No

18. Do you think your teachers have active attitudes of their teaching?

   (a) Yes   (b) No

19. Do you often study in the library and borrow books from there?

   (a) Yes   (b) No

20. Does your teacher test you with quiz or exam?

   (a) Yes   (b) No

21. Do you have use of a medical lab？

   (a) Yes   (b) No

22. Do you have any academic event, such as academic conference or lecture by professor each semester?

   (a) Yes   (b) No

23. If yes, do you use them and think they are helpful？

(a) Yes   (b) No

24. If not, do you need them?

(a) Yes   (b) No

25. Do you need any pre-work training before you do your internship?

(a) Yes   (b) No

26. Do you participate in a lot of campus events?

(a) Yes   (b) No

27. Are you satisfied with the housing condition?

(a) Yes   (b) No

28. Do you have Chinese friends?

(a) Yes   (b) No

29. Do you share your culture with your Chinese friends?

(a) Yes   (b) No

30. Does this program have anyone who helps provide day-to-day life services to you?

(a) Yes   (b) No

Appendix B

Interview questions for students

General Questions:

1. Gender　　Age　　Country　　Grade　　Major

2. How long have you lived in China (Shihezi)?

3. Why did you leave your home country? What did you do in the home country?

4. Why did you choose Shihezi University and study medicine here?

Questions for studying area:

(Language study)

5. How did you enter this university? Does it have any requirements with language level in English? In Chinese?

6. How many languages do you speak? When did you start learning these languages?

(Medical content study)

7. How many classes do you have this semester? How many of them are required and how many are elective?

8. What class activities or methodologies do your medical content teachers use?

9. Do your teachers have you do any projects or group work as learning tasks? Is that helpful for you to gain professional knowledge?

10. Do your teachers have office hours? If yes, do you use them and think they are helpful？If not, do you need them?

11. What textbook do you use? How many hours do you spend reading them each week?

12. How often do you borrow books from library? What types of books? How

important is the library for you?

13. What is the most challenging or difficult part of your medical content studying?

14. What are you doing to help yourself be successful during your medical content

learning process?

15. Do you have any suggestions for this program that they can support your learning

(in or out of the classroom)? What is the challenge to them?

16. What are your teachers doing to support your learning? What could they do

better?

17. Does your teacher test you with quiz or exam? How often do they do it? How

useful is this to your learning?

18. Do you have use of a medical lab？ How is the equipment there?

19. Do you have any academic event, such as academic conference or lecture by

professor each semester? If yes, do you use them and think they are helpful？ If

not, do you need them?

20. Do you need any pre-work training before you do your internship? Why or why

not?

Questions for day-to-day life:

21. Do you like China / Xinjiang Province / Shihezi? Why or why not?

22. How is your classroom culture different from that you have in your home country?

Is it influencing your performance in class?

23. Do you participate in a lot of campus events? Why or why not? Do you feel you

have any opportunity to socialize outside?

24. Are you part of the International Students Association?

25. Are you satisfied with the housing condition?

26. Do you have Chinese friends? Do those friends affect you?

27. Do you share your culture with your Chinese friends? Why or why not?

28. Do you think people in China have a positive view of your country?

29. What specific goals are you working on right now? Do you have any short-term

and long-term goals? What are they?

30. Are you religious? How is your religious experience in China?

31. Do you think people in China treat you differently because you are not Chinese?

How?

32. What are your expectations for this program?

33. Does this program have anyone who helps provide day-to-day life services to you?

If so – who and how helpful is that? Is there a way to help support you more?

Appendix C

Interview questions for teachers

1. Could you introduce your basic background information?

   (Major, teaching years, English language level, education background)

2. What class do you teach? Do you teach class in both Chinese and English?

3. How do you prepare class?

4. What teaching materials do you use? How do you use them?

5. What class activities and teaching method do you employ in class?

6. What book do you use and why you choose these books?

7. How do you assign homework to your students?

8. Could you describe how your students learn in class, or do they have some special learning features?

9. In your opinion, what problems does this program have so far? Do you have any suggestion for this program?

10. Do you have office hour for your students? How often do you meet with your students? What problems do they usually have and how do you facilitate their studying?

11. Does this program have any teacher training session for teacher? Do these teachers have teaching group? Is that useful for them to improve their teaching abilities?

12. Do you have any academic support from other university or research center?

References

Atai, M.R. (2000). ESP revisited: a reappraisal study of discipline-based EAP programs in Iran. Unpublished Ph.D. dissertation, University of Esfahan, Esfahan, Iran.

Basturkmen, H. (2006). *Ideas and options in English for specific purposes*. Mahwah, New Jersey: Lawrence Erlbaum Associates.

Bauwens, J., & Hourcade, J. J. (1991). Making co-teaching a mainstreaming strategy. *Preventing School Failure, 35*(4), 19-28.

Bauwens, J., Hourcade, J., & Friend, M. (1989). Cooperative teaching: A model for general and special education integration. Remedial and Special Education, *10*(2), 17-22.

Brinton, D. M., Snow, M. A., & Wesche, M. B. (1989). *Content-based second language instruction*. New York: Newbury House.

Chantrupanth, D. (1993). In designing a short course in ESP. Paper presented at the Annual SEAMEO Regional Language Center Seminar (28th, Singapore, April 19e21, 1993), (pp. 1e11). Retrieved December 18, 2006, from (ERIC Document Reproduction Service No. ED 367 189).

Chen, T. Y. (1998). ESP in technology colleges: Instruction and investigation. In Paper from *the Seventh International Symposium on English Teaching in the Republic of China* (pp. 279-288). Taipei: The Crane Publishing Co Ltd.

Chen, Tsai-Yu. (2000). Self-training for ESP through action research. *English for Specific Purposes*, *9*(4), 389-402.

Chi, G. (2008). ESP course design: An intensive, non-assessed, in-service oral

business English course for intermediate business people. *Sino-US English

Teaching, 5*(8), 13-17.

Chia, H. U., Johnson, R., Chia, H. L. & Olive, F. (1999). English for college students

in Taiwan: A study of perceptions of English needs in a medical context.

English for Specific Purposes, 18(2), 107–119.

Tsai, C. H. (2005). Integrating oral and writing tasks in a college ESP. *Selected

Papers from the Fourteenth International Symposium on English Teaching*(pp.

797–808). Taipei: Crane Publishing.

Denzin, N. K. (1970). *The research act*. Chicago: Aldine.

Dexter, L. A. (1970). *Elite and specialized interviewing*. Evanston, IL: Northwestern

University Press.

Dudley-Evans, T., & St John, M. J. (1998). *Developments in English for specific

purposes-an inter-disciplinary approach.* Cambridge: Cambridge University

Press.

Ellis, M., & Johnson, C. (1994). *Teaching Business English.* Oxford: Oxford

University Press.

Grabe, W., & Kaplan, R. (1986). Science, technology, language and information:

Implications for language and language-in-education planning. *International

Journal of the Sociology of Language, 59*, 47-71.

Guhde, J.A., 2003. English-as-a-Second Language (ESL) nursing students: strategies

for building verbal and written language skills. *Journal of Cultural Diversity*

10(4), 113e117.

Hutchinson, T., & Waters, A. (1987). Course design. In Hutchinson, T., & Waters, A., *English for specific purposes: a learning-centred approach*(pp. 53-64). Cambridge [Cambridge shire]: Cambridge University Press.

Huang, S.Y. (1997). The ESP component in English programs for non-English majors at universities in Taiwan. T*he Fourteenth Conference on English Teaching and Learning in the Republic of China, 14*, 367–378.

Jasso-Aguilar, R. (1999). Sources, methods and triangulation in needs analysis: a critical perspective in a case study of Waikiki hotel maids. *English for Specific Purposes, 18* (1), 27-46.

Kamhi-Stein, L. D. (1999). Preparing non-native professionals in TESOL: Implications for teacher education programs. In Braine, G., *Non-Native Educators in English Language Teaching*(pp. 145-158)*.* Mahwah, N.J.: L. Erlbaum Associates.

Krashen, S. (1981). *Second language acquisition and second language learning.* Oxford: Pergamon Press.

Krashen, S. (1982). *Principles and practice in second language acquisition.* Oxford: Pergamon.

Lee, C. Y. (1998). English for nursing purposes: A needs assessment for professional-oriented curriculum design. Selected Papers from *the Seventh International Symposium on English Teaching* (pp. 615–625). Taipei: Crane Publishing.

Liang, L. L. (2007). An ESP course for leisure management students of technological colleges. *Selected Papers from the Sixteenth International Symposium on English Teaching*(pp. 467–473). Taipei: Crane Publishing.

Liu, J. (1999). From their own perspectives: The impact of non-native ESL professionals on their students. In Braine, G., *Non-Native Educators in English Language Teaching*(pp. 159-176). Mahwah, N.J.: L. Erlbaum Associates.

Long, M. H. (2005). Methodological issues in learner needs analysis. In M.H. Long (Ed.), *Second language needs analysis* (pp.19-76). Cambridge: Cambridge University Press.

Malu, K.F., Figlear, M.R. (1998). Enhancing the language development of immigrant ESL nursing students: a case study with recommendations for action. *Nurse Educator 23* (2), 43e46.

Master, P. (1997). ESP teacher education in the USA. In R. Howard, & G. Brown, *Teacher education for LSP* (pp. 22-40). Clevedon: Multilingual Matters Ltd.

Mazdayasna, G., & Tahririan, M. H. (2008). Developing a profile of the ESP needs of Iranian students: The case of students of nursing and midwifery. *Journal of English for Academic Purposes, 7,* 277-289.

McDonough, P.M. (1997). *Choosing Colleges: How Social Class and Schools Structure Opportunity*. Albany: SUNY Press.

Munby, J. (1978). *Communicative Syllabus Design.* Cambridge, U.K.: Cambridge

University Press.

Putnam, R. P., & Borko, H. J. (2000). What do new views of knowledge and thinking have to say about research on teacher learning? *Educational researcher, 29*(1), 1-15.

Richards, J. C. (2001). Needs analysis. In Richards, J. C., *Curriculum development in language teaching* (pp. 51-69). Cambridge, U.K.: Cambridge University Press.

Robinson, M. F. (1991). *ESP today: A practitioner's guide.* New York: Prentice Hall.

Roth, W-M., Masciotra, D.,& Boyd, D. (1999). Becoming-in-the-classroom: a case study of teacher development through co-teaching. *Teaching and Teacher Education, 15,* 771-784.

Rice, D., & Zigmond, N. (2000). Co-Teaching in secondary schools: Teachers reports of developments in Australian and American classrooms. *Learning Disabilities Research & Practice (Lawrence Erlbaum), 15*(4), 190-197.

Sifakis, N. (2003). Applying the adult education framework to ESP curriculum development : an integrative model. *English for Specific Purposes, 22*(2), 195-211.

Shao, Y. (1992). A perspective for ESP reading course. *Foreign Language Teaching and Research 4*, 23–25.

Tan, M. (2011). Mathematics and science teachers' beliefs and practices regarding the teaching of language in content learning. *Language Teaching Research, 15*(3), 325-342.

Tarone, E., & Yule, G. (1989). *Focus on the language learner.* Oxford: Oxford

    University Press.

Voogt, J., Westbroek, H., Handelzalts, A., Walraven, A., & McKenney, S. (2011).

    Teacher learning in collaborative curriculum design. *Teaching and Teacher*

    Education. 27 (8), 12-35.

Walther-Thomas, C. S. (1997). Co-teaching experiences: The benefits and problems

    that teachers and principals report over time. *Journal of learning disabilities,*

    30, 395-407.

Weiss, R. S. (1994). *Learning from strangers: The art and method of qualitative*

    interviewing. New York: Free Press.

West, R. (1994). Needs analysis in language teaching. *Language Teaching*, 1-19

    January.

Yogman, J., & Kaylani. C. T. (1996). ESP Program Design for Mixed Level Students.

    English for Specific Purposes, *15*, 311-324.

Zengin, B., Erdogan, A. R., & Akalin, S. (2007). Acquisition of Latin Roots with

    Implications for EAP. *Journal of Language and Linguistics Studies*, *3*(1), 11–

    31.