International Student Satisfaction with Student Services at the Rochester Institute of Technology

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INTERNATIONAL STUDENT SATISFACTION WITH STUDENT SERVICES AT THE ROCHESTER INSTITUTE OF TECHNOLOGY

Dissertation by

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submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy

WHAT MATTERS TO INTERNATIONAL STUDENTS: AN ANALYSIS OF THEIR

SATISFACTION AND PRIORITIES WITH STUDENT SERVICES

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Abstract

While there is a significant body of literature concerned with the experience of

international student acclimatization to life and study on campuses all over the United

States, very little of this research examines their self-reported satisfaction with student

services. This study examines what services are important to international students and

what is their experience? This is a study of international students at the Rochester

Institute of Technology in Western New York and their satisfaction with programs and

activities provided to welcome, serve, retain and involve international students in mutual

intercultural learning with Americans.

The study results reveal that services related to academics provide the most

satisfaction and meet the expectations of the international students surveyed. The study

further revealed that the services registering the lowest satisfaction were: (1) Student

Financial Services; (2) Housing Operations; (3) Co-operative Education Placement; (4)

Dining Services; and (5) Transportation Services. The findings also reveal that female

international students reported the highest satisfaction and the lowest dissatisfaction.

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CHAPTER ONE

INTRODUCTION

Student satisfaction research, especially in the area of student services, has the potential to inform institutions about how to best address the needs and expectations of an increasingly diverse student population. This is a study of international students at Rochester Institute of Technology (RIT), a large, private university in Western New York. In particular it is a study of the students' perceived levels of importance and satisfaction with programs provided to welcome, serve, retain and involve these students in mutual intercultural learning with American students.

Using surveys and interviews, this study investigates satisfaction in areas related to student engagement, personal development with college services including the degree to which these international students perceive the campus to be supportive of academic and social needs. This research looks at four areas of self-reported experiences (1) **Campus support services**: Student assessment of the quality of support programs and services; (2) **Campus climate**: Student evaluation of how the institution promotes a sense of campus pride and belonging; (3) **Concern for the individual**: Assessment of student perception of the institution's commitment to treatment of each student as an individual (e.g., treatment by faculty, advisors, counselors, and staff); (4) **Student centeredness**: Measurement of the institution's attitude toward students and the extent to which they feel welcome and valued.

Importance of Student Services for International Students

A lot of effort has been put into recruiting and enrolling international students but very little has been expended on keeping these students satisfied (Lee, 2007). The needs and issues faced by international students in the United States have not received as much attention in the literature as the issues of their domestic counterparts (Leong & Chou, 1996; Lin and Yi, 1997). An increasing dilemma facing institutions of higher education is addressing international and domestic students' unique and common concerns (Arthur, 1997; Leong & Chou, 1996).

In the U.S., international students are likely to experience more problems than students from the U.S. (Kaczmarek, Matlock, Merta, Ames, & Ross, 1984) and they are likely to have access to fewer resources for coping. Many campus support services tend not to cater to the unique needs of international students despite the greater needs that they have compared to domestic students (Kher, Juneau, & Molstad, 2003).

Often these students are faced with the challenges of learning the intricacies of daily living and survival in a foreign environment without adequate information or preparation. Cultural differences present additional challenges for international students. According to Sheehan and Pearson (1995), adjustment issues are related to the degree to which a student's native culture is similar to or different from U.S. culture.

Language skills may be a significant source of stress because of the effect communication ability can have on the social and academic performance of a student (Chen, 1999; Zhai, 2002). Many international students who come to the U.S. find it difficult to adjust to the English language and the American educational system. Academic difficulties are positively correlated with adjustment difficulties (Lin & Yi,

1997). Chen (1999) suggests that a lack of English language proficiency may limit students' desires to seek out social interactions and create negative feelings about their ability to be more successful in a new environment. Therefore, they may not gain useful knowledge that may help them successfully adapt to this new culture (Zhao, Kuh & Carini, 2005). For example, international students may have difficulty adjusting to the various accents of the instructors as well as their different teaching styles. This difficulty makes these students reluctant to participate in class discussions and reach out to their American peers for assistance thereby contributing to additional academic stress.

International students also experience varying levels of adjustment difficulties to the American educational system, often complicated by difficulties arising from differences in learning styles and learning objectives. This can be compounded by difficulty in understanding classroom lectures that may make students reluctant to participate in class discussions.

Another major concern is racial discrimination and prejudice (Lee, 2007; Lee & Rice 2007; Westwood and Ishiyama, 1991). A study conducted by Lee and Rice (2007) uncovered tremendous discrimination against international students especially those from the Middle East, Africa, East Asia, Latin America and India compared to students from Canada and Europe. Due to fear of deportation, cases of discrimination are left unreported and consequently can negatively affect learning (Lee 2007).

Burns (1991) found that stress levels associated with juggling college and family responsibilities were considerably higher among overseas students when compared with domestic students. When an international student brings a spouse and young children to the U.S., he or she might be the only person in the household to speak the host country's

language fluently. As a result, the student often bears all the responsibility of taking care of household concerns such as medical needs. This can be made more burdensome by unfamiliarity with the host country's social and governmental structures.

By admitting increasing numbers of international students, colleges and universities have an obligation to welcome, serve, retain, and involve international students while ensuring that they follow appropriate immigration-related procedures (Peterson, Briggs, Dreasher, Horner, & Nelson, 1999). As the numbers and variety of international students increases, many international student services (ISS) offices find themselves in need of ways to assess both the current and future needs associated with serving a growing international student body in an environment with increasing demands. Despite this identified need, ISS offices have had difficulty integrating student evaluation into their operations (Tillman, 1990).

Since students are the *raison d'être* for higher education, a thorough knowledge of the composition and characteristics (i.e. demographics) of the student population, their expectations and satisfaction, their psychosocial/ physical development, as well as their behavior and motivation is crucial to ensuring the development and administration of the programs necessary to promote student success. Student affairs and services staff are required to be, or at least become (along with their faculty partners), the campus experts on knowledge and understanding about students and their development.

Background of the Problem

Internationalization of Higher Education

The impact and challenges of globalization on the American university has been well documented. Direct effects are felt through various global processes including the

increasing exchange of students and scholars (Rhoads & Liu, 2009). In 2007, over 2.8 million students were enrolled in higher educational institutions outside their country of origin, a 53% increase since 1999 (UNESCO, 2008). The total international student enrollment at colleges and universities in the U.S. was 623,805 for the 2007-2008 academic year, a 3% increase over the 2006-2007 academic year (Institute of International Education, 2008). International students represent 3.4% of all students in the U.S. (Digest of Educational Statistics, 2008). The Open Doors report (Institute of International Education, 2008) shows an even greater increase in the number of "new" international students, (i.e. those enrolled for the first time at a U.S. college or university in fall 2007). New international student enrollments rose by 10%, following on increases of 10% and 8% for the previous two years. The Association of International Educators estimates that international students and their dependents contributed approximately $15.54 billion to the U.S. economy during the 2007-2008 academic year (NAFSA, 2008). By any measure, international education makes a significant contribution to the U.S. economy.

The increase in international student enrollment is part of a rapid shift occurring within American society as the racial and ethnic composition becomes more diverse. Colleges and universities are searching for ways to prepare their graduates to participate in a global society as culturally competent individuals (Zhao, Kuh and Carini, 2005). To educate the next generation of students there is a need to provide them with skills, knowledge and attitudes to work effectively in an increasingly interdependent world (UW-Madison, 2008). An invaluable resource for domestic students is the international student population which brings diverse cultures and perspectives to our campuses.

Student satisfaction research, particularly in the area of student services, has the potential to inform institutions about how to best address the needs and expectations of an increasingly diverse student population. Although higher education institutions are hesitant to use customer-driven language when considering the satisfaction and attitudes towards student services, consideration of students as customers in developing and delivering quality services has been proven over and over again to increase student learning, persistence to graduation, and increased alumni giving (Lee, 2007).

Colleges and universities use student satisfaction data to better understand, improve, and change campus environments, thereby creating settings more conducive for student development. In this sense, student satisfaction is an indicator of an institution's responsiveness to students' needs and a measure of institutional effectiveness, success, and vitality (Hallenbeck, 1978; Low, 2000; Nichols, 1985; Upcraft & Schuh, 1996). According to Jacoby (1993), while nationwide studies on assessment are helpful, institutional studies are more effective, in part because understanding the needs of the specific student population in relation to an institution's mission is important for sustainable institutional improvement.

It is within the above context that I propose that research of international student satisfaction can be an effective tool for identifying what matters to international students.

Theoretical Framework

This study draws from two major sources of higher education literature. The first is the area of student engagement theory that claims theoretical roots in student development theory (Astin, 1993). Student engagement theory seeks to define quality in higher education in terms of student experiences rather than institutional reputation,

admission scores and endowments (Kuh, 2002, 2001; Kuh & Hu 2001a; NSSE, 2001; Pike 2004).

Additional research on college student development shows that the time and energy students devoted to educationally purposeful activities is the single best predictor of their learning and personal development (Astin, 1993; Pascarella & Terenzini, 1991, 2005; Pace 1980). According to Chickering and Reisser (1993), student development can be appropriately expressed as a series of seven steps or *vectors*, a term used to convey direction and magnitude. These vectors are: developing competence; managing emotions; moving through autonomy toward interdependence; developing mature interpersonal relationships; establishing identity; developing purpose; and developing integrity. Chickering and Reisser also noted that students' cognitive development parallels their capacity for movement along the different vectors. For example, as students move from dualistic to multiplistic thinking, their tolerance increases—a change accounted for in their fourth vector, developing mature interpersonal relationships (p. 509). The literature on student engagement is in agreement that engaged students are good learners and effective teaching environment sustains student engagement (Guthrie & Anderson, 1999; Pintrich & DeGroot, 1990; Skinner & Belmont, 1993). The best predictors of whether a student will graduate or not are academic preparation and motivation (Adelman, 2004; Pascarella & Terenzini, 1991, 2005).

Deans, department chairs and professors are no longer the only source of the learning experience from which undergraduate students may benefit during their academic career. However, faculty and other campus constituents have been slow to

recognize the benefits of collaboration on common educational goals and programs that would enhance student learning and engagement.

The second source guiding this study is the area of student satisfaction. Measuring student satisfaction is important for maintaining and increasing enrollment, managing attrition and retention problems, and making better-informed decisions in the area of student affairs (Hallenbeck, 1978; Kowalski, 1977; Pascarella & Terenzini, 1976; Polcyn, 1986; Ripple, 1983; Starr, Betz, & Menne, 1972; Upcraft & Schuh, 1996). Additionally, student satisfaction data have high utility as a baseline in different types of student outcomes assessment, undertaken by institutions of higher learning (Upcraft & Schuh, 1996). Therefore, it is incumbent upon college and university administrators to collect data on student satisfaction for monitoring their institution's progress in many areas of campus life and student development. By simultaneously assessing satisfaction and perceived importance, campuses can determine which areas demand their greatest attention and make decisions that will have the greatest impact on the student experience.

Research Questions

Most universities are struggling to survive amidst ongoing change. Serving international students on any given campus is complicated by new demands to meet federal regulations and the added burden of reduced resources. This situation inevitably causes great strain. The use of assessment and evaluation is thought to assist organizations with increasing their overall effectiveness (Rothwell, Sullivan, & McLean, 1995).

The research questions below are directed to the study institution but may be applied to any institution that hosts international students and/or scholars.

1. *To what extent are international students satisfied with university-provided services in comparison to their expectations?*

2. *Are there differences in satisfaction based on gender?*

Students perceive programs within and between student affairs departments as disjointed and fragmented (Lee, 2007). An increasing problem facing higher education institutions is tackling the unique and common concerns facing the growing population of international students in the United States (Arthur, 1997; Leong & Chou, 1996). To address effectiveness concerns, student affairs personnel have utilized satisfaction surveys in an attempt to understand student experiences and forge seamless campus services. This study will explore the subject institution's methods of managing student services through the lens of the international student experience.

According to Philip Altbach (1991), higher education reform is a change that results from a conscious process of planning and decision making. Because of this, higher education professionals need to have a working knowledge of the past and present demographic changes and trends that affect international students. Willer (1992) notes the important relationship between higher education professionals and international students, 'student affairs professionals must be asked to assume active roles as international educators. For their positions, expertise, and involvement with [international] students' lives makes them, in fact, key personnel ...' (p. 165).

Backed with the data from student satisfaction surveys; a knowledge of international students' unique challenges; and the charge to reform entrenched institutional policies, student affairs professionals together with their partners in

academic affairs can determine the direction of resource acquisition, resource allocation, and program planning for international student programs and support services.

Importance of the Study

Much of the research on international students tends to focus on problems they encounter regarding adjustment and forgets to study what it will take to make their experiences in the U.S. a positive one (Tseng & Newton, 2002). Related to this issue is the answer to the question: what are the student services with the greatest difference between level of perceived student importance and satisfaction? To understand the significance of this question, we must consider the following.

Firstly, why are students' perceived satisfaction and perceived level of importance with student services significant? We know that there is a relationship between student satisfaction and academic achievement determined by the percentage of students who persist to graduation (Astin, 1993; Bennett & Okinaka, 1991; Nora & Cabrera, 1996). This suggests that a focus on student satisfaction is critical to creating a climate that is more conducive to student development and academic achievement.

Secondly, satisfaction is an important component of organizational analysis. The student satisfaction approach goes hand-in-hand with the development of a culture of continuous quality improvement (Harvey, 1995). International students are an important population at any higher education institution. Due to students' need to acclimatize to a new academic system, unfamiliar culture, financial constraints, and language barriers, it is imperative that institutions ensure that international students experience a high satisfaction with student services. The existence of student satisfaction therefore

indicates that an environment that lends to the students' and institutional success has been achieved.

Thirdly, Adams (2000) reported that higher education's methods of handling student administrative details are often uncoordinated, ineffective, and a principle source of dissatisfaction among college students. The present study indirectly seeks to investigate the level of collaboration across the student affairs division at the subject institution. Rhyason (2002) suggested a collaborative vision in a non-hierarchical structure can be achieved if the institution, "…demands higher levels of commitment, interdependence, shared purpose, and tolerance for ambiguity and change" (p. 24) in order for faculty and student services professionals to focus on student development. Student service professionals must consider how **all** students develop in order to work effectively with students to attain their goals. Tinto (1982) argues that students make two commitments – the first is the long-term goal of obtaining a degree; the second is in choosing an institution.

Scope of the Study

This study will illuminate the similarities and differences between perceived levels of importance and satisfaction with student services at RIT. Within this context, student ratings of their educational experience contribute to a better understanding and assessment of the outcomes of higher education. This institution was chosen because of the representation of international students from all over the world. In the 2009-2010 school year, there were 1,400 students representing 97 countries. In addition, the university has one of the oldest and largest cooperative education (co-op) programs in the nation, and the academic programs are enhanced by close collaboration with industry.

This particular program is a major reason why international students choose to enroll. Unfortunately, with the poor economy in recent years, international students are finding it hard to gain co-op placements and employment after graduation leading to dissatisfaction with certain student services.

The role of student affairs in supporting international students through campus programs has been identified by Peterson et al. (1999) to: recruit, provide a welcoming environment, develop exchange relationships between U.S. and international students, support intercultural development of U.S. services personnel, and to create co-curricular experiences focusing on multicultural awareness and exchange. This study will examine the perceived level of importance that international students accord to student services provided and compare them to their corresponding levels of satisfaction with these services.

Tillman (1990) argued that, in many cases, higher education institutions that enroll international students do not provide the necessary support services to meet the needs of this unique group and that "[t]he development of effective support services for international students is tied to the commitment of the college to an overall strategy and set of clear goals in support of international education activities" (p. 97). The need for the designation of a specific unit to be responsible for coordinating the services provided to international students was identified as one of the determinants in gauging the effectiveness of services to international students along with provision of services to encompass international students' experiences—from arrival to the US and arrival on campus through students' pursuits of studies and their preparation for returning home (Tillman, 1990).

The work of the International Student Services staff provides a solid foundation for the study institution's commitment to international education, assisting individuals from more than 90 countries. This office advises students, faculty, clubs and departments on immigration, cultural, academic and personal matters. The staff works closely with the international student club - Global Union and the International House, the special-interest house in the residence halls for both international and American students, as well as many other ethnic clubs and organizations. Off-campus hospitality is coordinated with the Rochester International Council (RIC).

Definition of Terms

The following definitions are presented for clarification and focus on the terms as they pertain to this thesis. My hope is that by a fundamental approach at their interpretations, any potential confusion will become apparent.

International student(s). Students from countries other than the United States who are not U.S. citizens or permanent residents of this country. Although some students travel abroad mainly to improve their language skills, others travel to advance their specialized studies. Still others study abroad because suitable tertiary education is either in short supply or unavailable altogether in their home countries. In addition, in many parts of the world, a foreign degree, especially if earned from certain countries, is honored more than a local one. These students are known to move past their cultural differences and learn a new language as well as new cultures. These students provide colleges with an opportunity to learn how to deal with issues of diversity (Cieslak, 1955).

Student affairs. Student affairs is one of the major departments of any university, with oversight of all issues and resources related to student life. Student services are

typically a cluster of units designed and devoted to serve all students, and to make sure that the learning and living environment on campus is conducive to attaining academic goals. For students, this means the basics like getting financial aid, housing and health services. But it also includes efforts to make every student feel important within the campus community. Many support services for students are offered, including specialized support for re-entry students, and students with disabilities. In addition, student affairs professionals are charged with the daily tasks of developing programs and researching techniques that benefit all students.

Student services. These are the services provided by a university that have direct out-of-the-classroom impact on students and can include: academic advising; commuter support; graduate student office; college health; international students office; fraternity & sorority life/Greek affairs; orientation and first-year programming; disability support; residential facilities management; counseling centers; recreation and intramurals; residence life; student activities; judicial affairs; career support; athletics; and public safety or university police.

Student satisfaction. There is no single agreed-upon definition of this concept yet all higher education institutions are in some way or another studying it. Student satisfaction has been defined and will be defined for the purposes of the present study as quality enhancement tool designed to improve the quality of the student experience (Harvey, Plimmer, Moon, & Geall, 1997, p. 3), an ever-present campus variable (Betz, Menne, Starr, & Klingensmith, 1971, p. 99) and, a key outcome of higher education (Astin, 1993; Sanders & Chan, 1996).

Colleges and universities use student satisfaction data to better understand, improve and change campus environments thereby creating settings more conducive for student development. In this sense, student satisfaction is an indicator of an institution's responsiveness to students' needs and a measure of institutional effectiveness, success, and vitality (Hallenbeck, 1978; Low, 2000; Nichols, 1985; Upcraft & Schuh, 1996).

Limitations and Assumptions

The validity and credibility of self-reports have been examined extensively in the literature (Baird, 1976; Berdie, 1971; Pace, 1985; Pike, 1995; Pohlmann & Beggs, 1974; Turner & Martin, 1984). Student self-reports are subject to the halo effect, which is defined as a type of bias where one characteristic of a person or one factor in a situation affects an evaluation of another person or experience (Strickland & Gale, 2001). In this research there is the possibility that students may slightly inflate certain aspects of their behavior or performance or the amount that they gain from attending college.

To the extent this halo effect exists, it appears to be relatively constant across different types of students and schools (Pike, 1999). This means that while the absolute value of what students report may differ somewhat from what they actually do, the effect is consistent across schools and students so that the halo effect does not appear to advantage or disadvantage one institution or student group compared with another.

Another limitation of this study was that it only took into consideration the perceptions of the students who responded to the survey. There is currently no accountability for the experiences from the viewpoint of the students who did not respond to the survey.

Other limitations include the lack of randomization, manipulation, and control that characterize experimental studies. The randomization process in this case was beyond my control, as is customarily the case in educational settings, since the participants belong to an "intact group" and are administratively defined.

Finally, this study relates to the experiences of international students of a single institution and therefore may not be illustrative and generalizable.

Description of Dissertation Chapters

Chapter Two provides a review of the unique and common challenges experienced by international students in the U.S., followed by a discussion of student development theory and the role of student services in higher education with particular emphasis on international students. The final section of Chapter Two is a review of assessment literature in higher education with a focus on student satisfaction data collection.

In Chapter Three, the research rationale and methodology used to examine international student participation and satisfaction with programs provided at the study institution is discussed. This study will use a sequential explanatory mixed-methods design and consists of two distinct phases: quantitative followed by qualitative (Creswell, 2007). The rationale for this approach is that the quantitative data and their subsequent analysis provide a general understanding of the research problem(s). The qualitative data and their analysis refine and explain those statistical results by exploring participants' views in more depth (Tashakkori and Teddlie 1998; Creswell 2003).

In Chapter Four, a brief history and description of RIT is provided with the demographics of international students. Chapter Five is the description of the services

rated lowest by international students. Comparative results of the performance gaps in student satisfaction and perceived importance across demographics are presented. Interview data related to the lowest-rated services is also presented in this chapter. Chapter Six presents the highest-rated services, the performance gaps and qualitative results related to these services. Chapter Seven details the implications of this research, recommendations and contributions to the field of international student satisfaction.

CHAPTER TWO

KEY BACKGROUND FACTORS AND REVIEW OF THE LITERATURE

Introduction

Higher education is now a global service with institutions competing for students and finding ever more creative ways to satisfy student needs and preferences. This means that student populations have moved from being homogenous and captive to local restrictions and expectations, to being multicultural, dispersed and subject to many constraints and expectations. Best practice insists upon the emergence of a multicultural imperative and approach to higher education (Grieger, 1996).

At the heart of this dissertation is the intersection of three topics. The first topic is the shared and unique experiences of international students, their demographics and global mobility patterns. The second topic is the role of student services plays in college student development with particular emphasis on international students. The final topic is assessment in higher education with a focus on student satisfaction data collection.

The intersection of these three topics provide a buttress to this research, a combination of qualitative and quantitative inquiry on the international student experience in a large private institution in Western New York state. Explicably, it is necessary to have some background information on the mobility of international students, the reasons why they leave their home countries in search of higher education and their common experiences when they arrive in the U.S. Notable are the potential benefits of having international students in our institutions. These students are linked to skill migration, economic growth, public diplomacy and more importantly to research and

innovation for a knowledge society.

Although these students enroll to gain an academic credential, their co-curricular experience supports this endeavor and is central to student engagement and success. From their review of the college outcomes research, Pascarella and Terenzini (1991) observed that "not all students benefit equally from the same experience (p 634). In part this can be attributed to the fact that out-of-class experiences influence student learning and development (Kuh, 1995). Examining students' experiences is important because student engagement in educationally purposeful activities has desirable effects on student learning and success during college (Astin, 1977, 1993; Feldman and Newcomb, 1969; Kuh, Pace, and Vesper, 1997; Pace, 1990; Pascarella and Terenzini, 1991). Based on their review of 20 years of research, Pascarella and Terenzini (1991, p. 610) concluded, ''one of the most inescapable and unequivocal conclusions we can make is that the impact of college is largely determined by the individual's quality of effort and level of involvement in both academic and non-academic activities.''

It follows that if students are engaged in their academic and co-curricular experiences, then institutions should be able, in an ongoing effort, to demonstrate student satisfaction with the services provided. Universities and colleges garner feedback from students to try and understand students' experiences and satisfaction. This is an important effort to enrich the student experience and to make the university more student-centered. Satisfaction surveys can provide institutions with an overview and serve as a diagnostic tool to make improvements in programs and services. There are many ways to collect this information and therefore a summary of this topic area is of importance to this research.

Overview of International Student Movement and Demographics

There is a large body of literature on international student mobility (Altbach, Kelly and Lulat, 1985; Altbach and Wang, 1989; Altbach, 1991; Altbach 2004; Agarwal and Winkler, 1985; Barber, Altbach and Myers, 1984; Hull, 1979; Klineberg and Hull, 1979; Lee and Tan 1984; McMahon 1992; Mazzarol and Soutar 2001; Smith, 1985). The global flow of students is "complex and multidirectional" (Altbach, 1991), as there are many reasons why students choose to further their education abroad. Historically student mobility can be traced as far back as the medieval period but international student exchange began to flourish only after the Second World War (Barnett and Wu, 1995). These exchanges were seen as a means to foster democracy and rebuild economies (1996).

International students are defined here as those who leave their country or territory of origin and move to another country or territory, of which they are not a permanent resident, with the objective of studying. McMahon (1992), Mazzarol and Soutar (2002), suggest the flow of students internationally results from a combination of push and pull factors defined as the interplay of home versus host country factors. Most of the movement of students is from third world countries to second and first world nations (Altbach, Kelly and Lulat, 1985; Altbach 1991, Agarwal and Winkler 1985; Barnettt and Wu, 1995; Chen and Barnett, 2000; Haug, 1996; Teferra and Altbach, 2004; Teichler, 1999; van den Bor and Shute, 1991). While the United States and some Western countries have remained popular host countries for international students, Asian and Middle Eastern countries are increasing their foreign student numbers while African countries are more peripheral (Barnett and Wu, 1985; Teferra and Altbach, 2004).

"Push" factors or the forces that drive people to leave their country of origin to seek higher education include the opportunity to broaden cultural and intellectual experiences; to escape institutions with little or no resources and; a lack of program selection in the home country. Simultaneously, 'pull' factors impact students' choices of destinations. There are some countries, like Australia, that actively recruit students all over the developing world. In other countries, like the U.K. and the U.S.A., institution reputation and program selection attract students to study. In both of these countries, international students are charged a higher rate of tuition. Due to increased competition in enrollment, individual institutions spend resources to attract mobile students to their programs.

In 2007, over 2.8 million students were enrolled in educational institutions outside their country of origin (UNESCO, 2009). It is projected that there will be 7.2 million international students by 2025 (Boehm, Davis, Meares, and Pearce, 2002). This increased student mobility is based on projected growth in household wealth, increased demand for higher education, the lack of capacity in some countries to meet this demand, and growing interest in studying overseas (Boehm, Davis, Meares, and Pearce, 2002).

Many high-growth countries do not have the resources to educate everyone and therefore have resorted to sending increasing numbers of students out of the country to study. The top ten countries with the most students studying abroad include China (421, 100 students); India (153,300); Republic of Korea (105, 300); Germany (77,000); Japan (54,500); France (54,000); U.S.A. (50,300); Malaysia (46,000); Canada (43,900) and; Russian Federation (42,900) (UNESCO, 2009). These 10 countries account for 37.5% of the world's mobile students (UNESCO, p. 36).

Figure 2.1: Countries with the most Mobile Students
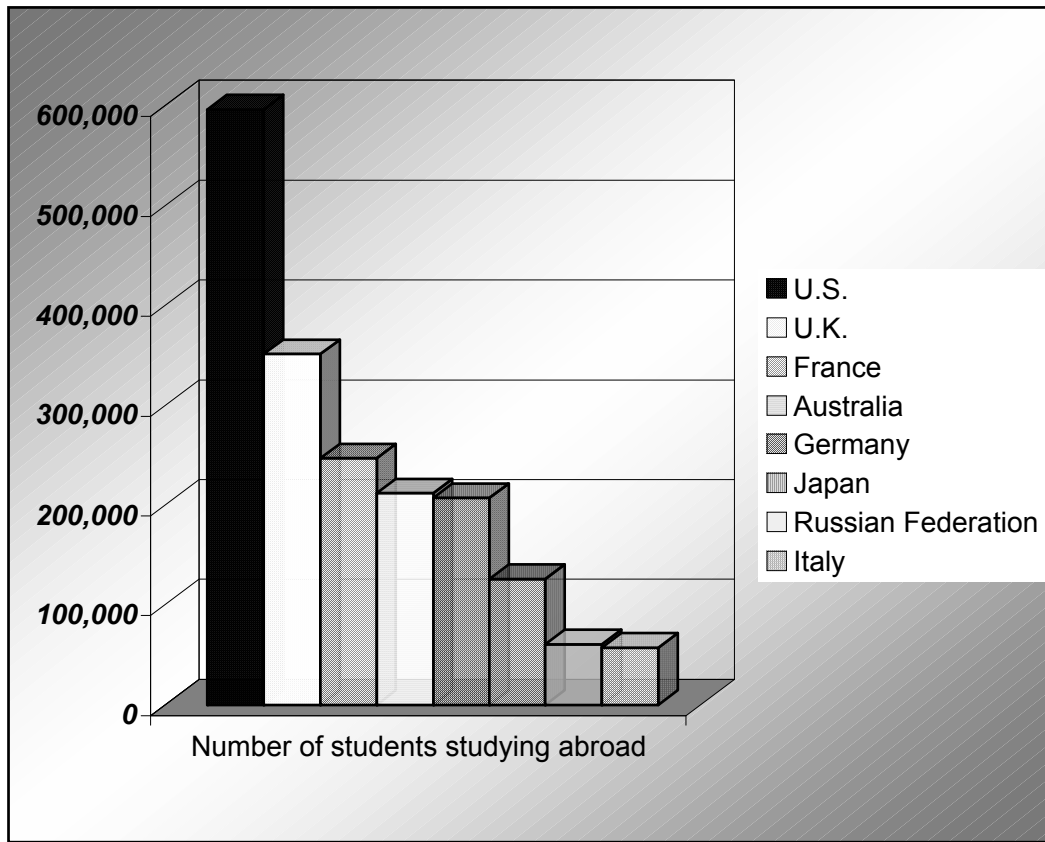
On the other hand the countries that host the largest number of the world's mobile students are as follows: U.S.A. (595,900); U.K. (351,500); France (246,600); Australia (211,500); Germany (206,900); Japan (125,900); Canada (68,500, South Africa (60,600); the Russian Federation (60,300) and; Italy (57,300) (UNESCO, 2009). These 11 countries host 71% of the world's mobile students (UNESCO, p 37).

Figure 2.2: Top Host Countries of International Students
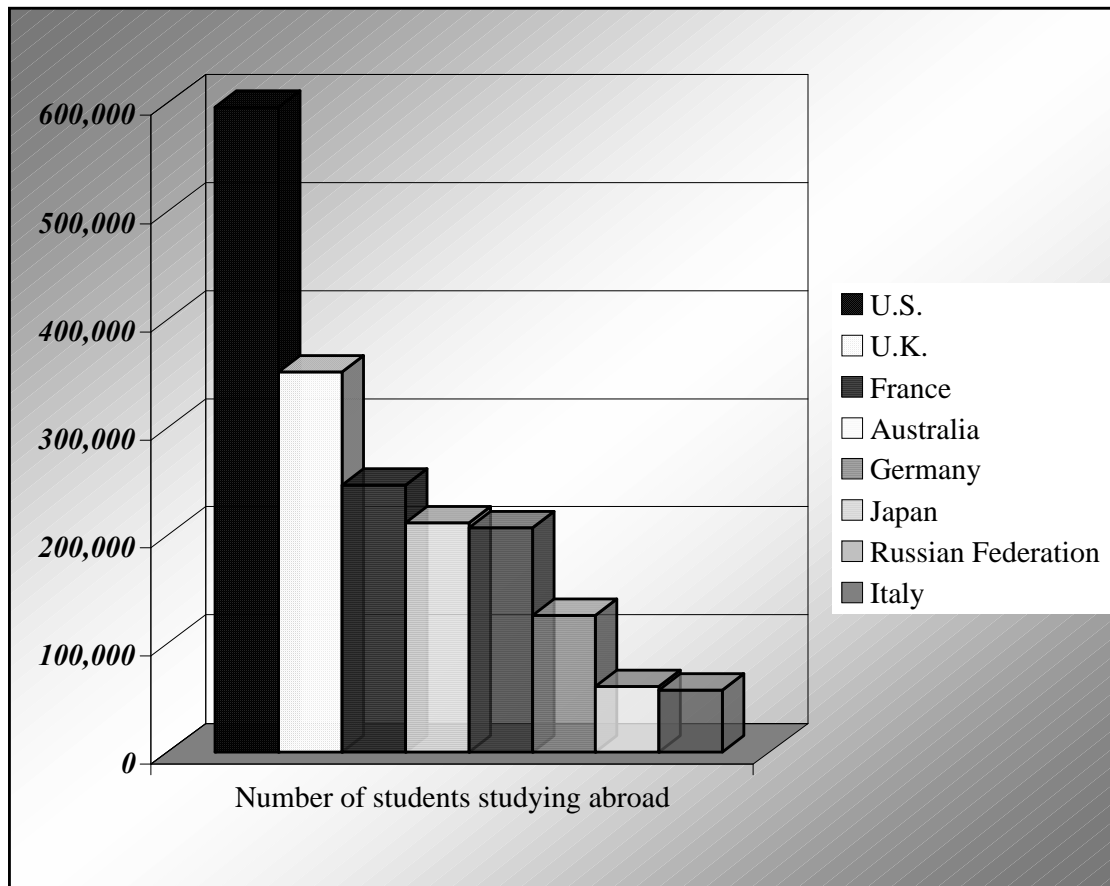
There is an emerging pattern of regional outbound mobility of higher education

students. Students are increasingly staying within their region of origin for example, in

Latin America and the Caribbean, the percentage of mobile students remaining within the

region rose from 11% in 1999 to 23% in 2007. In East Asia and the Pacific, two out of

every five mobile students (42%) remained within the region in 2007 compared to 36% in

1999. Western Europe (77%) and North America (39%) showed little change in

comparison to 1999 (UNESCO, 2009).

International Students in the United States

Introduction

    The U.S. has enjoyed the distinction of being first in the world to actively engage and retain international students (Paige, 1990).   In 2007, there were 2.8 million international students worldwide, an increase of 4.6% (123,400 students) since 2006 (UNESCO, 2009). However, after decades of growth in international student enrollment in higher education, the total number of international students studying in the United States leveled off and even dropped slightly between 2002 and 2006, the first decline in over 30 years. In the wake of the September 11, 2001, terrorist attacks, the United States tightened its immigration policy, making it difficult for international students to come to the United States (GAO, 2007).

    Although international enrollment has rebounded, and the United States continues to be the leading destination for international students, the U.S. image has declined in both the Muslim world and among many of America's oldest allies, thereby affecting foreign relations and national interests. In the U.S., Asian students comprise over half (56%) of all international students, followed by students from Europe (14%), Latin America (12%), the Middle East (7%), Africa (6%), North America and Ocenia (5%) (IIE, 2008).

    Increasing international student enrollment has provided institutions with an added benefit for their domestic students. There is an increased awareness of the need to provide students with a global consciousness and with experience in other countries to prepare them for competition in the global economy (Altbach, 2004). Global awareness is an important prerequisite for a well-rounded education in the 21st century.

Reasons for International Study

Many high-population growth countries do not have the resources to educate everyone and therefore have resorted to sending increasing numbers of students out of the country to study. For example, in 2007, China was the largest sending country, with 421,100 students pursing higher education studies outside of their home country. As a group, students from China make up 14 percent of the total worldwide international student population (UNESCO, 2009).

Faced with limited access and prospects for domestic higher education opportunities, students tend to look at overseas institutions as an alternative (Altbach, Kelly & Lulat, 1985). Despite the obstacles to education in the US for foreign nationals, international graduate students continue to make up almost half of total enrollment in the science and engineering fields (National Science Board, 2006). The total number of applicants to graduate programs in these fields dropped in 2003–04 and 2004–05, but recovered in 2005–06 (Council of Graduate Schools, 2004, 2005, 2006). International students in this category do not differ from domestic students in their desire to acquire the necessary knowledge and skills that will adequately equip them for a professional role in society.

The economic value of a university degree is significant in the United States. It is even more pronounced in many other parts of the world and in particular the increased earning potential of female graduates. Academe has opened up to women almost everywhere, with more women obtaining degrees and joining the academic profession than ever before. The same can be said for historically disenfranchised groups worldwide. Inequalities remain, but progress has been impressive (Altbach, 2000).

Table 2.3: Key Variables Affecting the Personal Decision to Study Abroad by Third World Students

Key Variables Pertaining to Home Country (Push Factors)	Key Variables Pertaining to Host Country (Pull Factors)
1. Availability of scholarships for study abroad	1. Availability of scholarships to international students
2. Poor-quality educational facilities	2. Good quality education
3. Lack of research facilities	3. Availability of advance research facilities
4. Lack of appropriate educational facilities and/or failure to gain admission to local institutions	4. Availability of appropriate educational facilities with likely offer of admission
5. Politically uncongenial situation	5. Congenial political situation
6. Enhanced value (in the marketplace) of a foreign degree	6. Congenial socioeconomic and political environment to migrate to
7. Discrimination against minorities	7. Opportunity for general international life experience
8. Recognition of inadequacy of existing forms of traditional education.	

Source: Altbach, P.G. (1986). The foreign student dilemma. *Teachers College Record, 87(4),* 549-610.

International students are also very important for the economic viability of US higher education institutions and their communities, spending $13 billion dollars annually for tuition and living expenses (IIE, 2006). Many graduates who return home become political and economic leaders with fond memories and ties to their institutions and the US. Althen (1984), observes that most foreign students are not in the United States as the result of this country's charity or generosity but because this nation's higher educational institutions offer something they, or their sponsors are willing to pay for.

If student affairs leaders are to retain more international students they must be receptive to the needs and concerns of their prospective and current students. These students make important contributions to their institutions. "There is no substitute for direct contact with talented people from other countries and cultures. We benefit from

international student; they drive research and teaching in new directions that are very fruitful" (Rudenstine, 1997).

Institutions that take international students for granted, only appreciating their monetary contribution, do so at their detriment. US colleges and universities need well-run international programs with professional staff. Moreover the international program staff must collaborate with other professionals, faculty, American students and community volunteers to create a welcoming environment for the international students and their families. One would surmise that satisfied international students and graduates will recruit relatives, friends, co-workers and others to U.S. schools. There is no quick fix for international success. All faculty and staff must work together on behalf of all students (Peterson, Brigs, Dreasher, Horner & Nelson, 1999).

The Effect of September 11 on International Student Enrollments

While the U.S. remains preeminent in foreign student numbers, global competition for international students is growing. A major shift in U.S. international enrollments occurred after the events of September 11, 2001 which triggered the first decline in international student enrollment in U.S. institutions after more than 30 years of continuous growth (Institute of International Education, 2005).

A number of factors contributed to this decline, including perceptions that the United States is unwelcoming to international students; competition from other countries for example the stepped up efforts in Europe to harmonize higher education through the Bologna Process; the high cost of U.S. higher education; increasing higher education capacity in countries that traditionally send a large number of students to study overseas, such as China and India; and increased anti-American sentiment around the world.

Other factors have let to other countries' growth in international student enrollments including strong financial incentives for international students provided by such countries; geo-political concerns; and the need for immigrant labor in high-tech areas. Many leading host countries now have national coordinated efforts and substantial budgets for attracting international students, including the U.K., Australia, France, Sweden, Netherlands, South Africa, China, Japan and Germany. America's approach remains decentralized, with a limited federal role and shrinking budgets on campuses.

Currently the number of international students attending American colleges and universities has completely rebounded from a slump that followed the 2001 attacks (IIE, 2007). During the 2007-2008 academic year, nearly 595,900 international students took classes at US schools, over 3,000 more than the record enrollment set just before 9/11 (IIE, 2008).

Unique and Common Challenges Faced by International Students

International students who attend colleges and universities in the United States face common concerns and difficulties in adjustment (Leong & Chou, 1996; Lin & Yi, 1997; Sheehan & Pearson, 1995). Leong (1984) divided adjustment concerns of international students into three areas: (a) common difficulties that are shared by students of color and international students, (b) issues common to most international students, and (c) those issues unique to international students based on country of origin.

Before reviewing the needs of international students, it is important to note how an international student is different from an American racial or ethnic minority group member. International students comprise a group of individuals who temporarily reside in a country other than their country of citizenship in order to participate in international

educational exchange as students (Lin & Yi, 1997). A critical distinguishing factor is the differences in sociopolitical factors that influence the experiences of international students. The acculturation experiences of international students also seem to be substantially different from the experiences of American racial and ethnic minority groups, both collectively and with respect to country of origin (Sodowsky & Plake, 1992). There is a need for student affairs professionals and other service providers to understand these particular student needs and make appropriate adjustments.

Often these students are faced with the challenges of learning the intricacies of daily living and survival in a foreign environment without adequate information or preparation. Furnaham and Boschner (1982), stress that it is important to recognize that not all of the stressors faced by international students are the result of their international status. For example, typical difficulties all late adolescents and young adults face along with academic stressors can be common issues all students experience. Nonetheless, these issues have implications for international student retention because as the number of international students studying in the US increases, service delivery professionals need to learn how to design and implement appropriate programs.

Access to US Higher Education and Visa Restrictions

After the attacks of 9/11 and the revelation that two terrorist gained entry to the US on M-1 student visas, changes in visa regulations and access to student records were made through the Providing Appropriate Tools Required to Intercept and Obstruct Terrorism Act (USA PATRIOT Act) and the Enhanced Border Security and VISA Entry Reform Act. The Student and Exchange Visitor Information System (SEVIS) tracks international students and requires all to maintain a full course load and report annually to

authorities. Some programs require students to gain security clearance that must be maintained throughout the course of study and places restrictions on travel outside the US.

Anyone who has gone through the process of applying for a student Visa at a US consulate distinctly remembers the anxiety of all the requirements and detailed documentation, the prohibitive visa fees, and the very short and intense interview with stern consular staff. If a student is successful in obtaining avisa, there is the distinct awareness of one's movements being tracked by the US government upon arrival. With every student who is denied a visa to study in the US there are several more who are discouraged to attempt after hearing particulars of the ordeal.

Culture Shock/Culture Differences

Cultural differences present additional challenges for international students. According to Sheehan and Pearson (1995), adjustment issues are related to the degree to which a student's native culture is similar or different in comparison with US culture. The literature on adjustments issues experienced by international students, as a group, also explores the significance and influence of culture shock. It is critical to examine the role that culture shock plays on the cultural adjustment of international students. Although a study of culture shock is beyond the scope of this study, it has been discussed extensively within the literature (Furnham & Bochner, 1982; Leong, 1984; Leong & Chou, 1996).

Sowdowsky and Plake (1992) indicate that acculturation options differ among minority groups depending on their socio-cultural characteristics and that it is important to investigate the overall effects of a specific culture on a group and supplement it with

efforts to examine within-group differences. This study recognizes that in order to understand the effects of culture shock on international students it is relevant to study students' collective experiences combined with the unique situation of the individual from the cultural context of a specific country of origin.

It is of great consequence that the within-group differences among international students are understood by university support personnel (Luzio-Lockett, 1998).   For example, students from countries in Asia may have concerns that are different from international students from Africa. Sodowski and Plake's (1992) study revealed that European international students embrace bicultural attitudes, whereas African, Asian, and South American students tend to prefer their cultural values and practices of their own nationality group. Furthermore, researchers have found that there are differences in adjustment among students from various countries within the same continent (Jacob, 2001). For example, there may be unique issues faced by an international student from Japan as opposed to India, within the continent of Asia.

Language Challenges

Language skills may be a significant source of stress because of the effect communication ability can have on the social and academic performance of a student (Chen, 1999; Zhai, 2002). Many international students who come to the US find it difficult to adjust to the English language and the educational system. Academic difficulties are positively related with adjustment (Lin & Yi, 1997). Chen (1999) suggests that a lack of English language proficiency may limit a student's desire to seek out social interactions and create negative feelings about their ability to be more successful in their new environment.

Furthermore, language proficiency may be such an important factor that it could affect the self-concept and self-efficacy of an international student's performance (Surdam & Collins, 1984; Zhao, Kuh & Carini, 2005). This can in turn affect their tendency to seek out social interaction within the host culture (Constantine et al, 2005; Antwi & Ziyati, 1993). Therefore, they may not gain useful knowledge that may help them successfully adapt to this new culture (Zhao, Kuh & Carini, 2005). For example, international students may have difficulty adjusting to the various accents of the instructors as well as their different teaching styles. Such difficulties make these students reluctant to participate in class discussions or reach out to their American peers for assistance thereby contributing to additional academic stress.

Difficulty Seeking Assistance

International students, especially those from Asian countries are often stereotyped as quiet, reserved, and non-assertive (Lin & Yi, 1997). This stereotype arises from the fact that many international students from Asian countries are reluctant to share their feelings or emotions, express their options or oppositions to anyone, especially authority figures (Luzio-Lockett, 1998). As a result, many Asian international students feel uncomfortable with the individualism and the competitiveness associated with the American culture (Lin & Yi, 1997). Thus instead of emphasizing personal rights and assertive communication, Asians tend to emphasize the importance of patience, harmony, respect and deference (Olivas & Li, 2006) which may lead to reluctance in seeking assistance.

Adjusting to U.S. Educational System

International students also experience varying levels of adjustment difficulties to the American educational system, often complicated with difficulties in learning styles and objectives. This can be compounded by difficulty in understanding classroom lectures that may make students reluctant to participate in class discussions. According to Arthur (1997), developing cross-cultural friendships and relationships can also be challenging, which also leads to feelings of isolation and loneliness.

Financial Factors

Financial concerns are a practical and critical issue in international students' daily lives. Without adequate financial resources, basic survival becomes an issue (Chen, 1999). Financial factors have been cited as one of the essential elements that form stressors during international students' adjustment to their new environments (Idowu, 1985; Oropeza & Fitzgibbon, 1991). With the added burden of not being authorized to work in the U.S., outside of training within their field or on-campus jobs, international students (unless funded by a government scholarship) must rely on their families or guardians outside of the US.

Racial Discrimination and Prejudice

Another major concern is racial discrimination and prejudice (Lee, 2007; Lee & Rice 2007; Westwood and Ishiyama, 1991). A study conducted by Lee and Rice (2007) uncovered tremendous discrimination against international students especially those from the Middle East, Africa, East Asia, Latin America and India compared to students from Canada and Europe.

Racial discrimination against ethnic minorities still exists and may largely be generated by unintentional prejudice in the host culture (Pedersen, 1991, 1995; Sue & Sue, 1990). Pedersen (1995) and Lee (2007) contend that racism is still highly visible in social and political institutions, in policies such as the Patriot Act, and in U.S. universities. Due to fear of deportation, cases of discrimination are left unreported and consequently can negatively affect learning (Lee 2007).

Also impacting the issue of discrimination is that fact that in some circles, discussions regarding the impact of international students on academic honesty still exist. In other words, there have been implications that, with increasing numbers of international students, there is a decrease in the quality of academic programs. According to Lulat (1993), one's cultural or racial or national origin seems to have little or no significance other than with regard to competence in the language of instruction. Not only must the phenomenon of racial discrimination be recognized, but its influence in personal and social life should also be acknowledged (Wan, Chapman & Biggs. 1992). Lee (2007) rightly concludes that, to overcome mistrust, "The onus is on educators, administrators, and domestic students to encourage genuine and positive international exchange within the classroom and abroad" (p. 37).

Family Adjustment

In juggling college and family responsibilities, Burns (1991) found that stress levels were considerably higher among overseas students when compared with domestic students. When an international student brings a spouse and young children to the U.S., he or she might be the only person in the household to speak the host country's language fluently. As a result, the student often bears all the responsibility of taking care of

household concerns such as medical needs. This can be made more burdensome by unfamiliarity with the host country's social and governmental structures.

Student Development and the International Student Experience

Tinto's Model and International Student Assimilation/Acculturation

The past two decades have witnessed significant change in the demographic profile of the nation's college student population. Today's student population is more diverse than previous generations. According to Ramirez (1993) understanding these demographic changes is imperative for "building the institutional… strength for coping with both the turbulence and the promise of diversity" (p. 430). El-Khawas (2003) identifies two dimensions of diversity in the student population: diversity of background and diversity of experiences. Both are relevant to understanding student transition experiences and needs.

Research on international student assimilation/acculturation and academic persistence has focused on the benefits of assimilation/acculturation and student social integration (Berry, 1997; Bradley, Parr & Lan, 1995; Furnham & Bochner, 1982; Par, Bradley & Bingi, 1992). These studies maintain that preserving students' cultural integrity is essential to student success. A study on international student persistence (Andrade, 2007), demonstrates that the international students surveyed saw integration as positive and did not view their integration as assimilation. The students felt that they had preserved their cultural integrity.

It is worthwhile at this point to note the linkage between Tinto's interactionalist theory and the assimilation/acculturation perspective. Interactionalist theory is concerned with the impact of person-centered and institution-centered characteristics on a particular

phenomenon (Caplan & Nelson, 1971, Braxton, Sullivan, & Johnson, 1998). Tinto's model contends that integration, not cultural preservation is necessary to student persistence.

Caplan and Nelson (1971) provide important distinctions between person-centered and situation-centered problems, noting that the way a problem was identified gave way to specific solutions. For example, researchers focusing on person-centered problems would focus on individual characteristics as the root of the issue and the target of the solution, while ignoring other relevant factors. A person-centered definition only identifies the pathology as residing with minority group characteristics (Rendon, Jalomo & Nora, 1999). Conversely, Caplan and Nelson (1971) noted that situation-centered problems have a system-change orientation.

On the other hand, assimilation required a process of separation, a cultural adaptation that required minority individuals to break away from their traditions, customs, values, language, etc. in order to find full membership in the predominantly, white American society. However, during the 1970s and 1980s, critics contested this perspective citing problems such as the use of mainstream cultural norms as evaluative criteria, as well as the problematic assumption that minority group norms and cultural patterns were inferior, deviant, and self-destructive when compared to those of the majority culture (de Anda, 1984).

In the present analysis, the research conducted will move beyond the "person-centered" approach and explore the experiences of international students in the context of utilizing student services at the research institution. This "situation-centered" approach

will endeavor to collect evidence that student satisfaction with student services promotes integration with the campus community and contributes to student persistence.

International students have diverse cultural, social, religious and political backgrounds, they share the characteristic of individuals who are in transition in a foreign country. Their feelings of alienation on a college campus and in relation to staff and administrators will ultimately affect their academic and personal success (Noel Levitz, 2003).

The Role of Student Services Personnel and the International Student's Experience

Multinational student involvement has emerged as an important feature in U.S. education. By admitting increasing numbers of international students, colleges and universities have an obligation to welcome, serve, retain, and involve international students while ensuring that they follow appropriate immigration related procedures (Peterson, Briggs, Dreasher, Horner, & Nelson, 1999). However, to foster such a campus environment, has placed "a whole new set of responsibilities" has been placed on institutions' student affairs administrations (Ping, 1999). Student affairs personnel play a dual role in an institution's success: they offer essential services (housing, health, counseling, etc.) and contribute to the learning and development of individual students. The primary purpose of student affairs according to Upcraft and Schuh **(***1996***)** is to contribute to the academic enterprise and to meet the institution's needs for basic services.

Tillman (1990) argued that in many cases, higher education institutions that enroll international students do not provide the necessary support services to meet the needs of this unique group and that "[t]he development of effective support services for

international students is tied to the commitment of the college to an overall strategy and set of clear goals in support of international education activities" (p. 97). The need for the designation of a specific unit to be responsible for coordinating the services provided to international students was identified as one of the determinants in gauging the effectiveness of services to international students along with provision of services to encompass international students' experiences—from arrival to the U.S. and arrival on campus through students' pursuit of studies and their preparation for return home (Tillman, 1990). According to Tillman (1990), the ideal array of services should include: (1) administration of the foreign-student advising office; (2) consultation and advisement with faculty and staff; (3) development of programs; (4) participation in academic-guidance programs; (5) coordination of financial aid; 6) fulfillment of immigration requirements; (7) advising and counseling, (8) coordination of community relations; (9) development and support of student activities; (10) maintenance of liaison with non-university agencies; (11) coordination of responses to emergencies; and (12) provision for personal services.

Evaluations may provide insight into an international student services office. Mines, Gressard, and Daniels (1982) presented a "metamodel framework for selecting evaluation models in student affairs and student services in order to assist practitioners in determining the merits, limitations, and utility of the various models and to guide decision-making of which model to choose in evaluating a particular program or organization" (p.195). This model provides specific questions regarding the intent, involvement in and formation of the evaluation purpose and procedures.

Student Services Response and Knowledge of International Students and International Student Cultures

It may seem obvious that the most important knowledge required of staff working in the area of student affairs/services should be a thorough knowledge of the students with whom they work. Since students are the *raison d'être* for higher education, a thorough knowledge of the composition and characteristics (demographics) of the student population, the broad diversity, their expectations and satisfaction, their psychosocial/ physical development, as well as their behavior and motivation is crucial in ensuring the development and administration of the programs necessary to promote student success (Mines et. al., 1982)

Student affairs and services staff members are required to be, or at least become (along with their faculty partners), the campus experts on knowledge and understanding about students and their development. Through careful analysis of existing data, the staff needs to develop a comprehensive and accurate socio-cultural picture of their student population, identifying inadequate or missing information elements so that they can initiate appropriate action and inform campus administrators, faculty, student leaders, and government officials of the nature of the student body.

Although work in this area readily gives staff a feel for students needs and wants - a sort of phenomenological understanding – it is crucial that scientific instruments and methods be used to supplement this view and provide a wider sociological perspective of the student body. In this sense, surveys, focus groups and panels, among others, provide the appropriate context to better understand the data on the student population.

Assessment of Student Service Satisfaction and Expectations

Assessment in Higher Education

Assessment has become an integral part of the national higher education landscape as a result of greater accountability demanded by federal and state governments, the general public, alumni, and boards of trustees. The amendments of the Higher Education Act, which Congress passed in 1992, represented a major effort to enforce accountability among institutions that receive federal funding (Dickeson, 1999). Higher education must be accountable for its accessibility, cost effectiveness, quality, and results.

Traditional assessment practices in higher education have focused on student outcomes such as grade point average (GPA), attrition, and graduation rates. However, the past two decades have witnessed a trend in assessment of college student satisfaction that is assessment of the student experience while in college, with particular emphasis on its impact on student retention (Gray, 1997).

In order to adapt to and address the needs of a diverse student population, an institution must employ a comprehensive approach which includes evolution of programs and services offered to students, advocacy for students and research (Jacoby, 1993). Research on the student experience can inform institutional efforts to address the needs of diverse student populations and to adapt to the changing climate in higher education.

Even though satisfying the wants and needs of customers is not a new organizational concept (Cutlip, 1971), customer orientation has been underemphasized in college and universities compared to profit-oriented organizations. However, the increased competition in higher education has moved university administrators to utilize a more customer-oriented philosophy in delivering their services, and those who

understand these principles will have a better chance of achieving their objectives more effectively (Kotler & Fox, 1995).

In many institutions, student services departments have taken a role that is important to maintaining enrollments and addressing the changing environments (Garland & Grace, 1993). Student satisfaction plays an important role in student engagement, retention, and learning (Hallenbeck, 1978; Kowalski, 1977; Pascarella & Terenzini, 1976; Polcyn, 1986; Ripple, 1983; Starr, Betz, & Menne, 1972; Upcraft & Schuh, 1996). An understanding of the consequence of what students expect and what they experience is a primary benefit of student satisfaction assessment.

Additionally, student satisfaction data have high utility as a baseline in different types of student outcomes assessment undertaken by institutions of higher learning in response to external pressures for accountability (Upcraft & Schuh, 1996). Therefore, it is incumbent upon college and university administrators to collect data on student satisfaction for monitoring their institutions' progress in many areas of campus life and student development.

Measuring student satisfaction is important for maintaining and increasing enrollment. For many tuition-driven universities and colleges, a drop in student retention without a compensating enrollment increase impacts operating budgets. Therefore, the need to manage retention and graduation has become increasingly important (Seymour, 1993). Research has demonstrated that it costs more to attract the shrinking number of prepared students than it does to retain one (Gemme, 1997).

Research on student satisfaction also indicates that institutions with more satisfied students have higher graduation rates, lower loan default rates, and higher alumni giving

(Noel-Levitz, 2004). Satisfaction with an institution includes a combination of academic factors as well as areas related to campus services.

While assessment of student satisfaction and the resulting research have served to enhance institutional assessment and improvement efforts, they have focused almost exclusively on undergraduate college students as a whole and failed to address the unique needs of international students. As competition for international students is increasingly fierce not only in the U.S. but all over the world, we see industrialized countries like Australia, the United Kingdom and Canada spending a lot of resources to attract and retain foreign students to the detriment of US institutions. A willingness to address student satisfaction issues enables institutions to systematically improve and offer more educational value to students.

Measures of Student Satisfaction

According to Astin (1993), student satisfaction with the institution is one of the most important indicators of an institution's effectiveness. He argues that higher education administrators should consider student satisfaction with the same level of importance as other educational outcomes such as retention and cumulative GPA scores. Astin states,

> Given the considerable time and energy that most students make in attending college, their perceptions of the value of that experience should be given substantial weight. Indeed, it is difficult to argue that student satisfaction can be legitimately subordinated to any educational outcome. (Astin, 1993, p. 273).

Since the early 1970s, student satisfaction surveys have been widely used by colleges and universities to obtain information about student satisfaction. These surveys have evolved to measure what students expect, need and want. They are similar to

customer satisfaction surveys conducted by many businesses, and with similar purposes. For example, one of the earliest in the genre, the College Student Satisfaction Questionnaire (CSSQ), was adapted by Betz, Klingensmith, and Menne (1970), from a business employee satisfaction inventory (Betz et al., 1971; Betz, Starr, & Menne, 1972).

Traditionally, student satisfaction studies measure student satisfaction in isolation, or in relation to educational outcomes (Ewell, 2002). In order to provide institutions with more comprehensive information, it is more useful to measure student satisfaction in relation to student expectation, that is, ratings of the importance of the college experience being measured.

The Student Satisfaction Inventory (SSI) administered by USA Group Noel-Levitz (Low, 2000), is currently one of the most disseminated inventories used in the U.S. today. There is an SSI version for both two-year and four-year institutions. This survey yields data on student satisfaction with different campus experiences as well as student ratings of the importance of these experiences.

The College Student Survey (CSS) is administered by the Higher Education Research Institute (Astin, 1993). This instrument asks questions about numerous student characteristics, college experiences, and outcomes, including student satisfaction in and out of the classroom.

These three widely-used satisfaction inventory instruments use different satisfaction scales and differ in the number and content of satisfaction items. As a result, institutions that use different instruments make policy decisions based upon different interpretations of student satisfaction. This could be avoided if a universal measure of student satisfaction were developed.

Satisfaction starts with identifying what students need or want compared to what the organization delivers. Once recognized, student services leaders should commit to decrease or eliminate the gaps in service. Leaders should also realize the difference between unrealistic student expectations and unexpected service failure (Fitzsimmons & Fitzsimmons, 2006).

The Importance of Measuring Student Satisfaction

Campuses cannot afford to waste resources but do so by not knowing what their top priorities are. Tracking student satisfaction and priorities plays a critical role in using resources efficiently and effectively. True and comprehensive student satisfaction is the sum of a student's positive interaction with student service providers; involvement with an academic area, extracurricular activities, fellow classmates and faculty. Student satisfaction is a key component of student life and learning and can be used to gauge whether an institution is providing a worthwhile experience. By simultaneously assessing satisfaction and priorities, campuses can determine which areas demand their greatest attention and make decisions that will have the greatest impact on the student experience.

However, there is no one student population on one campus. Different genders, ethnicities, class levels and other sub-populations will often express varying satisfaction levels, even if they have had similar college experiences. Understanding the differences among these populations will strengthen satisfaction among these diverse groups.

International students often come to the U.S. in the hopes of receiving a better education, which will allow them more opportunities in their future professional lives. However, these opportunities come with unique challenges that are not experienced by

American students. For international students, these challenges often result in less satisfying college experiences (Zhao, Kuh, & Carini, 2005).

How do quality and satisfaction intersect? An institution's pursuit of student satisfaction occurs as the organization finds its distinctive way of attaining the goal of quality education, student development, and retention of students (Shumate, 2001). Studies have shown that student retention and academic success is influenced by the student's sense of satisfaction, or the degree to which their institution meet their needs and expectations (Krehibiel & McClure, 1997).

Conclusion

As the numbers and variety of international students increases, many institutions find themselves in need of ways to assess both the current and future needs for serving a growing international student body in an environment with increasing demands. Despite this identified need, faculty and staff have had difficulty integrating student evaluation into their operations (Tillman, 1990).

University administrators are required to be, or at least become (along with their faculty partners), the campus experts on knowledge and understanding about students and their development. Through careful analysis of such data, faculty and staff need to develop a comprehensive and accurate socio-cultural picture of their student population, identifying inadequate or missing information elements so that they can initiate appropriate action and inform campus administrators, faculty, student leaders, and government officials of the nature of the student body.

To gain such understanding, a thorough knowledge of the composition and characteristics (demographics) of the student population, the broad diversity, their

expectations and satisfaction, their psychosocial/ physical development, as well as their behavior and motivation is crucial. Although work in this area readily has given staff a feel for students needs and wants – a sort of phenomenological understanding – it is crucial that scientific instruments and methods be used to supplement this view and provide a wider sociological perspective of the student body. In this sense, surveys, focus groups and panels provide an appropriate context to better understand the data on the student population as opposed to individual students.

CHAPTER THREE

METHODOLOGY AND PROCEDURES

Introduction

The purpose of this chapter is to present the research methodology used to study international students' participation in, satisfaction with and perceived importance of services provided at Rochester Institute of Technology, a private institution in Western New York.

Method

To gain an in-depth understanding of the complexity of the international student satisfaction with and perceived importance of student services, a sequential explanatory mixed-methods design as set forth in Creswell (2007) was used. Stand-alone quantitative or qualitative studies are not sufficient to study international student expectations, cultural references, acculturation, and educational background. Therefore the sequential explanatory method was selected to provide a means to bring the voices and experiences of the international students into the discussions about their unique needs.

This methodology consists of two distinct phases, an initial quantitative data collection phase followed by secondary qualitative data collection phase to follow-up the quantitative results as described by Creswell (2007). In this design, I first collected and analyzed the quantitative data which measured the international students' participation, satisfaction and level of importance. During the qualitative data phase, open-ended interviews were performed which helped explain and elaborate on the quantitative results obtained in the first phase. The second phase built on the first phase, and the two phases were connected in the intermediate state in the study as recommended by Ivankova,

Creswell and Stick (2006).

The rationale for this approach is that the quantitative data and their subsequent analysis provide a general understanding of the research problem. The qualitative data and their analysis refine and explain those statistical results by exploring participants' views more in depth (Clandinin & Connelly, 2000; Creswell, 2003; Eisner, 1991; Merriam, 2001; Rossman and Wilson, 1985; Tashakkori and Teddlie, 1998).

The sequential approach of the two methodologies enhanced and informed the discussion about international student experiences at the subject institution. The resulting statistical data and supporting narratives provided a truer picture and insights that are not available when a pure qualitative or quantitative approach is used, thereby taking advantage of the strengths of each (Creswell, 2007; Green, Caracelli, and Graham, 1989; Miles and Huberman, 1994; Newman & Benz, 1998; Tashakkori & Teddlie, 1998).

Population

The population for this research consisted of 2,307 international students. This was the entire population of international undergraduate and graduate students enrolled in the Spring of 2009 including students on their co-operative experience. Other demographic characteristics can be found below in Table 3.1**.**

Table 3.1: Enrollment of International Students by College

College	Number of International Students
Business	183
Engineering	295
Liberal Arts	23
Applied Science and Technology	1117
NTID**	20
Imaging Arts and Sciences	160
Science	154
Computing and Information Science	295
Other	60
Total	2307 or 14.4% of Total Enrollment

**National Technical Institute for the Deaf.   Source: Institutional Research Fall 2008 Report

Quantitative Instrument

The questionnaire consisted of 94 items covering the full range of university services. In a first portion of the survey, respondents answered questions measuring their participation with the services. In a second portion of the survey, students were asked to respond twice to each item – first by indicating how important it is that their expectation be met, and then again to indicate how satisfied they are that the expectation is being met. The items in this second portion were indicated by Likert-type statements on a 7-point scale ranging from "Not Important at All" or "Very Dissatisfied," to "Very Important" or "Very Satisfied." 26 items measured student participation of services; 26 items measured student satisfaction; and 26 items measured the student level of importance of the services. An open-ended question was used to request respondents' comments and suggestions (see Appendix A for the survey instrument).

Additional survey questions were clustered into sections for demographic and frequency analysis. In the demographic section, information was gathered about student age, gender, country of origin, year level, college, cumulative GPA, enrollment,

education level, and current residence.

At the beginning of the survey, the consent section clearly identified how the collected information was to be used and that all responses would be confidential i.e., survey respondents can be linked with other data, but personally-identifiable information was removed before the data were analyzed. Respondents were also advised that the data would be reported in a manner that prevents the identification of individual respondents. The survey was piloted with ten international students at the university were asked to evaluate the content validity and terminology used in the survey.

Quantitative Data Collection Method

Limited time and the difficulty of in-person access to a large population of international students, including those engaged in their cooperative education, determined a web-based survey as the best method. The student satisfaction questionnaire was administered and collected during a four-month period of the Summer quarter (2009) during the months of May through July, and a one month period during the Fall quarter in August 2009. This survey was administered using **SurveyMonkey,** an on-line, easy-to-use tool.

A paper copy of the survey was sent to a sub-set of non-respondents to the online web survey during the month of August 2009. All remaining non-respondents received another email reminder, during that same month, to take the online survey. This web-plus-paper administration mode was utilized as this was the first international students satisfaction survey performed at this institution and I was not sure how likely it was that students would respond online.

Quantitative Data Analysis

Data collected from the online questionnaires was analyzed using SPSS 16.0 (Statistical Package for Social Sciences) software. Student responses were averaged to obtain an importance score and a satisfaction score for each of the 26 items. The performance gap was calculated by subtracting the satisfaction score from the importance score. Results were interpreted based on Noel-Levitz's (2000) gap analysis matrix:

- High importance/high satisfaction areas - high performance areas (also referred to as institutional strengths)

- High importance/low satisfaction areas - areas that need improvement (also referred to as institutional weaknesses)

- Low importance/high satisfaction - low priority areas

- Low importance/low satisfaction - low priority areas

Analyses of service areas: For each of 26 services (see Appendix B), a percent of responses indicating satisfaction ("strongly agree" and "agree") was calculated across gender and enrollment status (graduate and undergraduate).

Analyses of situational and background questions: Responses to the situational and demographic questions were summarized by calculating the frequencies and percentages of each response. Correlational analyses, Analysis of Variance (ANOVA) and chi-square tests were performed to identify associations and differences between/among demographic groups (gender and enrollment status).

Content analysis: A content analysis was performed to identify themes from students' comments.

Qualitative Instrument

In preparation for the second, qualitative phase I used results collected in the first, quantitative, phase to structure the interview questions. The questions were open-ended and corresponded to 5-8 significant service areas demonstrating high importance-high satisfaction and high importance-low satisfaction as determined from the first, quantitative, phase. The format of the questions are as follows (see Appendix B):

"The student satisfaction survey that was recently administered revealed that [undergraduate/graduate] international students consider [name of student service with performance gap] as a high priority but registered low satisfaction.

  i. How important is this service to you?

  ii. Why do you think that this service is a high priority for undergraduate/graduate international students?

  iii. How does this service affect your day-to-day life at this institution?

  iv. Have you experienced an event in regards to this service?

  v. Are there any experiences at this institution that you would like to discuss?"

Qualitative Data Collection

All international students who completed the online survey were invited to participate in the research interviews. From these responses twenty international students were selected as was recommended for grounded theory research (Creswell, 1998, p.113). Each selected student received an Interview Consent Form describing the research and requesting a signature (see Appendix D).

The final demographic of students interviewed was as follows: 2 first-year students, 2 second-year students, 2 third-year students, 2 fourth-year students, 2 fifth-year students, and 10 graduate students. This demographic mirrored the international student body percentages at the institution (see Appendix C for interview questions).

All interviews were audio-taped and transcribed verbatim (Creswell, 2003). The overall analytical approach adopted followed the conventions of template analysis, where the researcher produces a list of codes (template) representing themes identified in the textual data (King 2004).

Qualitative Data Analysis

Using template analysis (King 2004), transcripts were coded into broad themes based on the research objectives and interview questions. Each broad theme was then subjected to a more detailed manual analysis leading to the formation of more specific categories within each theme.

The broad higher-order codes helped provide a general overview of the direction of the interview, while detailed lower order codes enabled fine distinctions to be made, both within and between cases.

The final step of the analysis was to build a valid argument for choosing the themes and was done by referring back to the literature review. This allowed me to make inferences from the interview sessions. Once the themes were collected and the literature was studied, I formulated theme statements to develop a story line that enhanced the data collected in the quantitative survey.

Mixed Methods Data Analysis Procedures

The first connecting point of the research was the integration of this sequential explanatory mixed-method design during the intermediate stage of this research as prescribed by Hanson et al. (2003).

This first point of connection occurred after the analysis of the first or qualitative stage, when the data was used to develop the interview questions for the qualitative data collection based on the results of the discriminant function analysis (Creswell et al. 2003).

The second connecting point occurred when the participants were selected for the interviews. The students interviewed were selected from those who responded to the survey in the first, quantitative phase.

I mixed the quantitative and qualitative approaches at the study design stage by introducing both quantitative and qualitative research questions and I integrated the results from the quantitative and qualitative phases during the interpretation of the outcomes of the entire study.

Figure 3.2: Visual Model for Mixed Methods Sequential Explanatory Design

Phase	Procedure	Product
QUANTITATIVE Data Collection	• Web-based survey (n=2190)	• Numeric data
QUANTITATIVE Data Analysis	• Data screening (univariate, multivariate) • Factor analysis • Frequencies • Discriminant function analysis • SPSS software v. 13	• Descriptive statistics, missing data, linearity, homoscedascticity, normality, multivariate outliers • Factor loadings • Descriptive statistics • Canonical discriminant functions, standardized and structure coefficients
Connecting Quantitative and Qualitative Phases	• Purposely selecting participants from each group (n=20) based on responses and maximum variation principle • Developing interview questions	• Cases (n=20) • Interview protocol
Qualitative Data Collection	• Individual in-depth interviews with 20 participants	• Text data (interview transcripts)
Qualitative Data Analysis	• Coding and thematic analysis • Within-case and across case theme development • Cross-thematic analysis	• Visual model of multiple case analyses • Codes and themes • Similar and different themes and categories • Cross-thematic matrix
Integration of the Quantitative and Qualitative Results	• Interpretation and explanation of the quantitative and qualitative results	• Discussion • Implications • Future research

Challenges of the Design

The weaknesses of this mixed-methods design have been widely discussed in the literature: (Creswell, Goodchild and Turner, 1996, Creswell, 2003, 2005, 2007; Green and Caracelli, 1997; Moghaddam, Walker and Harre, 2003).   A disadvantage commonly voiced by qualitative researchers is the loss of depth and flexibility that occurs when qualitative data are quantitized. To mitigate this disadvantage the qualitative codes chosen were multidimensional, meaning they provide insights into a host of interrelated conceptual themes or issues during analysis (Bazeley 2004). Codes were also revisited during analysis in an iterative analytic process, to allow for the recognition of emergent themes and insights.

The two-phase approach required considerable time to implement and resources to collect and analyze both types of data. A significant amount of time was built into the study plan especially between collection of the quantitative and collection of qualitative data. There was a 10-week span between when the initial web-based questionnaire was first sent and the first interview.

After the qualitative data were collected, the results were rich with noteworthy findings. One challenge of this design is that the researcher needs to decide which data to use from the qualitative phase to build the quantitative instrument and how to use this data to generate quantitative measures. In this case, I decided to use the performance gap calculated by subtracting the satisfaction score from the importance score (Noel-Levitz, 2000) and focused on areas of high importance/low satisfaction which indicated areas in

which the institution needs improvement. I then used this data to construct the questions

for the qualitative phase.

On the other hand, the advantages of the dual phases of this design include

straightforwardness and opportunities for the exploration, description, and reporting of

the results in greater detail as evidenced by the following chapters.

CHAPTER FOUR

BACKGROUND ON STUDY INSTITUTION & DEMOGRAPHICS

This chapter is an overview of the study institution, its international student population and the demographics of the respondents. It also presents the academic and social setting of the institution to provide a backdrop for the study's results.

Description of the Study Institution – Rochester Institute of Technology (RIT)

Internationally recognized as a leader in imaging, technology, fine and applied arts and education of the deaf, RIT has established a tradition of excellence in professional and career education.

In 1829 Colonel Nathaniel Rochester, for whom Rochester is named, and other Rochester community leaders founded the Rochester Athenaeum "for the purpose of cultivating and promoting literature, science, and the arts." The Rochester Athenaeum offered public lectures and debates and became a popular cultural hub of the community. Distinguished speakers included Charles Dickens, Frederick Douglass and Ralph Waldo Emerson. Eighteen years later, the Athenaeum merged with the Mechanics Literary Association to form the Athenaeum and Mechanics Association and continued the tradition of public lectures, debates and book reviews. The institution was changed to its current name several years later and was accredited as a university in 1912.

RIT now enrolls nearly 12,000 undergraduate students and roughly 2,500 graduate students in more than 260 career-oriented and professional programs. In 1912, the first President of the Institute, Carleton B. Gibson started the oldest and largest

cooperative programs in the nation. Today, the academic programs are enhanced by close collaboration with industry and the co-operative education remains a distinguishing feature of the institution.

The university is divided into eight colleges: Engineering; Science; Applied Science and Technology; Computing and Information Sciences; Imaging Arts and Sciences; Business; Liberal Arts; and the federally funded National Technical Institute for the Deaf which was established by Lyndon B. Johnson. This institution has a proud history of its teaching focus with an emphasis on applied research in selected focus areas: imaging, microsystems, information technology, and manufacturing. Many programs are unique and enjoy worldwide recognition, including state-of-the-art programs in software engineering, information technology and microelectronic engineering.

In 1990, RIT established its first Ph.D. program – Imaging Science. This Ph.D. program was the first of its kind in the U.S. In 1996 an undergraduate program in software engineering, another first of its kind in the U.S., was established. In the last five years, the university has launched cross-disciplinary Ph.D. programs in microsystems, computer science, and astrophysics. The university also has a broad range of established programs including information technology and telecommunications, engineering, computer graphics, photographic illustration and biomedical photography, biotechnology and bioinformatics, printing management, international business, and imaging science.

In addition to a long history of male-dominated programs, such as engineering and computer science, the institution has a tradition of giving women equal opportunities

for advanced study. During World War II, female students were recruited for programs including machine shop, drafting, inspection and management to assist in the war effort. In 1960 Edwina Hogadone was appointed the first dean of the College of Business. Not only was she the first female dean at the university, she was also the first woman named to head a college of business. In 1998, the Kate Gleason College of Engineering became the first engineering school in the country named for a woman. Kate Gleason (1865-1933), an engineering and business pioneer, was a member of a Rochester family associated with the Institute since the late 1800s.

Although RIT has historically been a career-oriented university, in recent years the institute has been redefining career in broader terms to include academia and those requiring Ph.Ds. The current 2005-2015 institutional strategic plan places greater importance on student and faculty research and scholarship as vital components of the curricula, career education and student success.

Internationalization Policy

Internationalization in academe is a response to globalization: the growing interdependency of countries, economies, and cultures (Wilson, 2009). It reflects the university's focus on the whole of human knowledge and shapes a cosmopolitan vision of human communities and assists students and faculty to live and work meaningfully in a complex yet connected world (Wilson, p. 7). The following discussion about the subject institution's internationalization policy is divided into three parts: (1) an overview of

internationalization policies; (2) the study abroad program; (3) overseas satellite campuses; and (4) international students.

Overview of Internationalization Policies.

Attracting international students or sending American students abroad and hiring international faculty are just the first steps in the globalization of a university. The university also has to create conducive academic and cultural atmosphere in order to make the process of internationalization successful and to enhance global citizenship (Wilson, 2009).

RIT underwent an internal review process in the fall of 2009 regarding its internationalization policies. Three reports resulted: (1) The "Winkworth Study Abroad Report and Recommendations" compiled by Gladys Winkworth and presented in August 2009; (2) "Internationalization Report" compiled by David Wilson and presented in September 2009; and (3) International Education Abstract, presented in October 2009. These three reports together represent the study institution's current internationalization policy. The Wilson Report encompasses other reports and will be referred to below.

The three reports agree that RIT has made progress towards internationalization but they point out that the university's internationalization efforts are mainly characterized by *ad hoc* activities. The Wilson Report (2009) states that internationalization is not yet part of the fabric of the university and therefore lacks a cohesive and holistic vision and strategy for moving forward (p 14).

The Wilson Report, indicates that "comprehensive internationalization" (p. 14) of the study institution should comprise a holistic approach to internationalization and should include: (1) "a clearly defined vision/strategy/action plan; (2) course offerings with an international dimension; (3) robust study abroad program; (4) robust work abroad program; (5) exposure to international students; (6) international teaching requirements for tenure; (7) diverse study teams; (8) an international requirement for graduation; (9) program officer for Fulbright scholarships; (10) internationally active faculty; (11) integration into all aspects of the institution; (12) a robust 'Center for International Studies'; and (13) metrics."

The Wilson Report (2009) proposes that a moratorium should be placed on the establishment of additional campuses in any country where the study institution is not currently located (p.9). The report goes on to suggest that emphasis should be given to increasing the number of students studying abroad at the existing campuses or through the establishment of exchange programs with partner institutions.

Study Abroad

A large component of internationalization is study abroad. However, surprisingly, less than 200 students studied abroad in 2008/9 (RIT Study Abroad Website, 2010). The major reason for the low number of study abroad students is the "prohibitive quarter system and unique sequential curriculum" to which the institution has adhered (Wilson, 2009). In February 2010, the institution made the decision to move to a semester system by 2015.

Currently the majority of students studying abroad do not use existing programs at the RIT's overseas satellite campuses primarily because of the restricted course offerings. Instead these students use well developed programs at other universities like Syracuse or NYU (Wilson, 2009). There is, however, an increasing trend for small cohort groups accompanied by a professor to study abroad for credit (Wilson, p. 5).

Overseas Satellite Campuses

American University in Kosovo (AUK).

In 2003, the College of Applied Science and Technology established a new program in collaboration with the American University Foundation in Kosovo. Students pursue course work in service management, business development, economics, marketing among other programs.

AUK opened its doors in 2003 in Prishtina using a temporary facility. In 2005, after generous contributions by the Municipality of Prishtina and Mr. Behgjet Paccolli, President of the Mabetex construction group, AUK moved to a permanent location in the former Shkolla Normale campus at Germia.

The first undergraduate class of 57 students entered in 2003 and graduated in 2007. In the 2008-09 academic year, the undergraduate enrolment stood at 464, with an additional 55 students in Masters degree programs. With the freshmen class of 2009, the undergraduate population surpassed 500 students for the first time. Students come from 20 countries, and from every major ethnic community in Kosovo.

The Wilson Report (2009), indicates that after the initial success of the Kosovo campus, there is now dwindling enrollment. The study institution is considering disconnecting from their collaboration with the American University Foundation and moving this satellite campus to Zagreb, Croatia.

American College of Management and Technology in Dubrovnik, Croatia.

In 1997, the American College of Management and Technology (ACMT) opened in Dubrovnik. This is a collaborative effort between RIT's College of Applied Science and Technology and Velecillste Dubrovniku, the Polytechnic of Dubrovnik. The study institution was chosen from among several prestigious American universities to be the academic model for revitalizing the Croatian hospitality sector. The college offers an associate degree and a bachelor of science degree in hospitality and service management, a master of science degree in service management, and several certificate programs to serve the local tourism industries.

According to the Wilson Report (2009), Croatia earns RIT the most money. This is surprising as there are no permanent faculty teaching and the program is administered remotely by a department at the study institution.

International Center for Innovation in Technology and Management in the Dominican Republic

RIT's relationship with the Dominican Republic began in 1996 when the institution collaborated with Pontificia Universidad Catolica Madre y Maestra. At that time, a small group of students from Pontifica came to study industrial engineering and

business. Since then, more than 250 Dominican students have completed degrees in disciplines related to the economic development of the country. There are currently more than 40 students from the Dominican Republic studying in bachelor's, master's and doctoral programs. An additional 50 students are completing master's degree programs in networking and systems administration and service management.

In 2006, the study institution and Pontificia Universidad established the International Center for Innovation in Technology and Management. The initiative is designed to provide support and to build capacity in the areas of technological infrastructure, human resource development, collaborative research and innovation in the manufacturing and service sectors.

In 2007, the Dominican government joined the university partnership and pledged significant financial support for programs through the Center. This three-way partnership supports the government agenda to increase competitiveness of the country, with an emphasis on enhancing cyber-infrastructure, innovation in manufacturing and international business development.

According to the Wilson Report (2009), the satellite campus in the Dominican Republic is "breaking even." The report notes that the relationship with Pontificia Universidad is worthwhile because of the number of students who come to RIT.
Dubai Campus.

The Dubai campus was established in 2008 to provide programs in the United Arab Emirates for students and professionals from the Middle-East, North Africa and

South East Asia. This campus is a collaboration between the RIT and the Dubai

government which provided much of the funding. The campus is part of Dubai Silicon

Oasis. The Dubai campus offers the same accredited degrees that are offered by the RIT.

Currently, the only Masters programs are being offered is in: (1) Finance, (2) Service

Leadership and Innovation, (3) Electrical Engineering, (4) Mechanical Engineering, and

(5) Networking and Systems Administration.

According to the Wilson Report (2009), the Dubai campus's initial offerings were

shaky. Students at the Dubai campus were first offered programs that included remote

learning with real-time, on-line classes plus 2 weeks on-site. The report indicates that

students registered satisfaction with this arrangement. However, after one academic

quarter, real-time, on-line classes were not offered. The report goes on to state that

students have registered much lower satisfaction with this new arrangement.

China.

RIT has an interest in starting a campus in China but there has been little progress

due to licensing issues. According to the Wilson Report (2009), a presence is needed on

the ground to make progress on the licensing problems. Furthermore, Wilson seems to

think that the study institution is in the wrong place (Suzhou, Jiangsu Province) and may

need to move to a more hospitable location where the local government is more

cooperative.

United States Business School in Prague (USBSP).

In 1989 the university sponsored the ill-fated United States Business School in

Prague, with a program leading to an MBA degree for students in the Czech Republic and

other Central and Eastern European countries.

In 2005 USBSP terminated its cooperation with RIT and entered a new

partnership with the University of Pittsburgh - Joseph M. Katz Business School. The

partnership of the two institutions is now known as the Center for Executive

Development Praha.

International Students

With its strong emphasis on the science, technology, engineering and mathematics

(STEM) disciplines, the university attracts international applicants and consequently

makes significant contributions to worldwide science, technology, engineering and

mathematics (STEM) workforce (RIT, 2009a). International student enrollments

between 2005 and 2007 have increased from 1,118 to 1,533 students – 27% (RIT, 2009a)

of the university's total enrollment which is significant compared to the increase of the

total enrollment (9.8%) for the same period (see Appendix F for additional

demographics).

Before 2005, international undergraduates at this university outnumbered their

graduate counterparts. Since then, international graduate enrollment has increased by an

additional 384 students compared to a very modest increase of 22 international

undergraduate students in the same time period. This result could be due in part to the

cost of this university's undergraduate degree. Firstly, as most programs require 5 years of study, inclusive of a year-and-a-half of co-operative education, many applicants would rather go to a university that requires the standard 4 years of study. Secondly, many unique graduate programs, for example Microsystems Engineering (College of Engineering) and Sustainability (College of Science), have been added within the past 7 years and have attracted international students. Finally, the university has agreements with governments of the Dominican Republic, Kazakhstan and Malaysia to admit students who have been awarded government scholarships. Most of the students who have taken advantage of this program have been graduate students and scholars.

Figure 4.1: International Student Full-Time Enrollment 2005-2009

	2005	2006	2007	2008	2009
■ Uni. Total	10345	10529	10956	11311	11465
□ Int. Total	1118	1243	1345	1545	1533
▦ Int. Underg.	570	606	579	616	601
▨ Int. Grad.	548	637	766	929	932
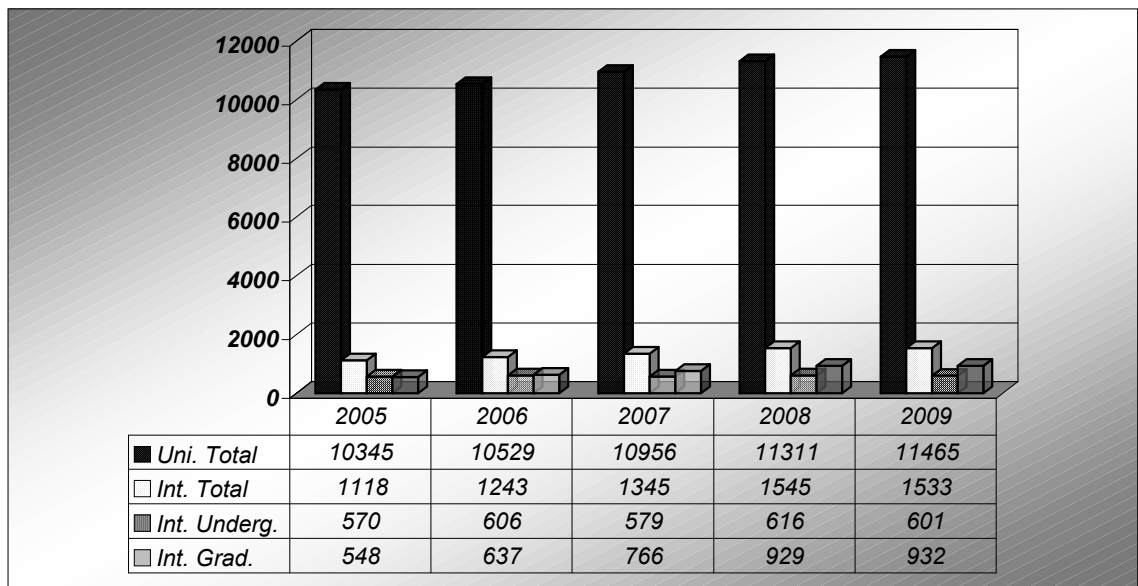
International Student Program Enrollment

At the study institution, the top three programs enrolling the largest number of international students in 2009 are: computing and information science with 362

international students; engineering with 275 international students; and applied science and technology with 225 international students (Table 4.2 below).   Overall, these three programs account for 56.23% of the total international student population. The college of computing and information science is the largest admitting program and has a total of 2995 students with 12% of this enrollment being international students. The smallest college at this institution is the college of liberal arts with a total of 698 students and international students constitute 3.3% of their enrollment.

Figure 4.2: 2009 International Student Enrollments by Program

International Student Enrollment 2009

	CAST	CIAS	COLA	COS	COB	ENG	NTID	CCIS
■ Series1	225	198	23	197	179	275	21	362
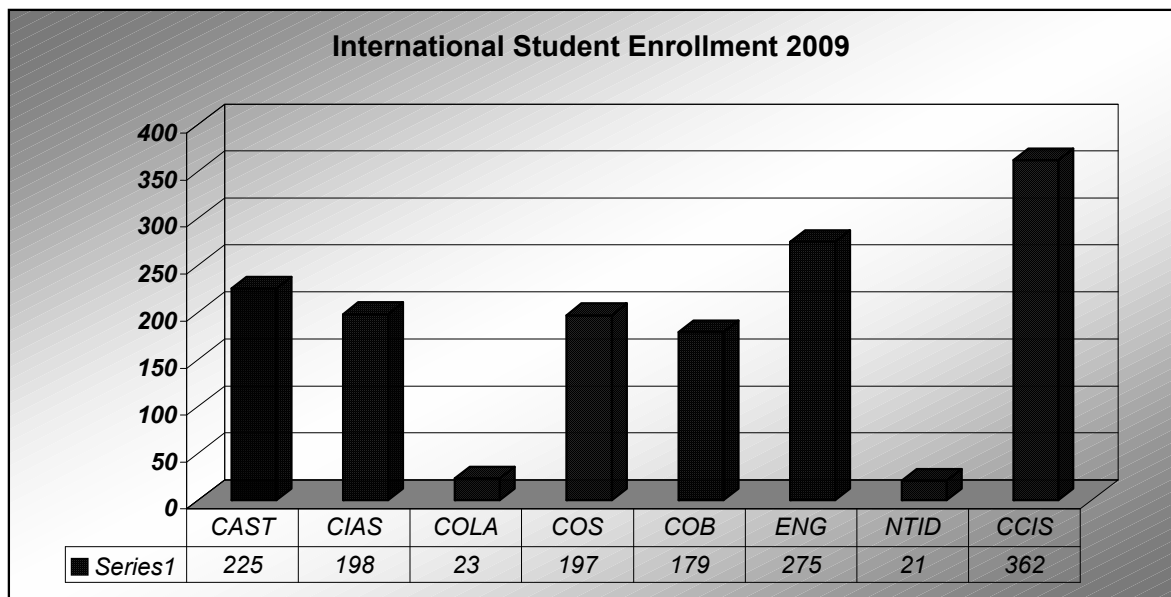
Source: Institutional Research and Policy Studies (2009)

Key: CAST – College of Applied Science and Technology; CIAS College of Imaging Arts & Sciences; COLA – College of Liberal Arts; COS College of Science; COB – College of Business; ENG – Engineering; NTID – National Technical Institute for the Deaf; CCIS – College of Computing and Information Science.

The science program experienced one of the largest year-over-year increases in offers of admission, rising 17% in 2009 after only a 2% increase in 2008. Business

admission offers grew 15% in 2009 after no change in 2008, and imaging arts and science admissions offers rose 7% in 2009 after an 8% gain a year earlier.

Engineering saw a relatively steep decrease, however, falling 13% in 2009 after an increase of 14% in 2008. Nonetheless, the overall results suggest that the fields of study that have traditionally attracted the largest number of international students to this institution may have begun to regain their popularity after experiencing slower growth or declines in previous years.

Countries Represented by International Students

The countries sending the highest number of students are depicted in Table 4.3 below. As noted above, the institution has accepted students from 107 different countries and has agreements with the governments of the Dominican Republic, Kazakhstan, and Malaysia to admit students who have been awarded scholarships.

Table 4.3: Countries Sending the Highest Number of International Students 2009

Country	Student #s	Country	Student #s
India	538	Taiwan	51
China	196	Dominican Republic	49
Malasia	81	Japan	24
South Korea	76	Nigeria	24
Canada	65	Saudi Arabia	31
Kazakhstan	61	Peru	14

Source: RIT Institutional Research (2007)

International students are supported by the International Student Services office (ISS). The work of the International Student Services staff provides a foundation for the institution's commitment to international education (RIT website, 2009b). This office advises students, faculty, clubs, and departments on immigration, cultural, academic, and

personal matters. The staff works closely with the student group 'Global Union' and

International House - the special-interest residence hall for both international and

American students, as well as many other ethnic clubs and organizations. Off-campus

hospitality is coordinated with the Rochester International Council (RIC).

Respondents' Demographics

Selected demographics for the survey respondents are contained in Table 4.4 and

in the bulleted list below. Overall 1071 participants, 504 (47%) female and 567 (53%)

male students responded to the survey which constituted a response rate of 69.9%.

Comparative figures from the institutional research office suggests that the students who

completed the survey were generally representative of the international student

population as a whole, although the percent of female respondents is higher (47%) than

the figure (32.6%) reported based on headcount of enrolled full-time students.

Table 4.4: Respondent Demographics

	Female	%**	Male	%***
Undergraduate Respondents	204	40.4%	170	30%
Graduate Respondents	272	54%	377	66.5%
No enrollment status indicated	28	5.6%	20	3.5%
Total	504	100%	567	100%

Table 4.4 above depicts the overall count and percent (per group) of the

respondents. While not a perfect match to the broader population, the respondents

reflected the institution's population on several demographic characteristics.

Undergraduate women were somewhat more likely to respond than men, raising the

female role in the undergraduate results. Male and female 4th year students and 5th year

students were over-weighted amongst respondents while 1st years were less likely to respond. Graduate students were over-represented among respondents, particularly so for male graduate students which explains why students living in off-campus housing were also more likely to respond than those living in the residence halls.

In terms of a potential effect on the results, class level is probably the most significant variable as responders tended to be more advanced in their schooling (4th & 5th years; and graduate students). This tendency is perhaps explained by the fact that they have experienced more as they navigated the institution's services.

Table 4.5: Respondents by Class Level and Gender

	Female	% **	Male	% **
First Year Respondents	11	1.02%	9	0.84%
Second Year Respondents	18	1.68%	15	1.40%
Third Year Respondents	39	3.64%	31	2.89%
Fourth Year Respondents	64	5.98%	56	5.23%
Fifth Year Respondents	72	6.72%	59	5.501%
Total UG Respondents	204	19.05%	170	15.87%
Total Graduate Respondents	272	25.40%	377	35.20%
No enrollment status indicated	28	2.61%	20	1.87%
Total	504	47.06%	567	52.94%

**% of all student respondents. UG=Undergraduate

Other demographic data collected include:

- A majority of respondents (53%) were age 19-24; 8% were younger and 39% were older.

- Two-thirds of respondents were day students and one-third were evening students.

- Seventy-three percent of respondents reported status as full-time students and 27% reported that they were part-time students (e.g. on co-op). Co-operative

education is considered Curricular Practical Training (CPT) by the United States Citizenship and Immigration Services (USCIS). CPT is a type of employment authorization that allows student to complete internship/training off-campus. CPT is defined as any required co-ops/training that is an integral part of the established curriculum for a program of study. Only co-ops that are required or are essential for the completion of a degree and are directly related to the curriculum qualify as CPT.

- Fifty-four percent of the respondents were employed part-time; 27% were employed full-time (co-op); and 19% were not employed.

- For 82% of respondents, this university was their first choice. 12% indicated that this was their second choice and 6% indicated that this was their 3rd or lower choice of university.

- Respondents represented 70 different countries with students from India representing at the highest rate (37%), followed by China (24%) and Uzbekistan (11%).

- Thirty-seven percent of respondents reported receiving financial aid from the institution; 19% were on a government scholarship (as indicated above the institution has relationships with the governments of Kazakhstan, Malaysia and the Dominican Republic); and 44% were paying full tuition.

- Forty-seven percent of the respondents were students in the engineering department, which slightly over represents this department. The liberal arts (9%)

and imaging science (13%) majors are somewhat under-represented. Important to note is the significant correlation between enrollment status and program area, with 68% of graduate respondents concentrated in Engineering. This finding should be taken into account when considering results presented by enrollment status.

Description of Qualitative Subjects

As stated in Chapter 3, the second level of data collection and analysis was in the form of interviews of twenty (20) selected international students (10 undergraduate and 10 graduate). The students interviewed filled out the online survey and volunteered to participate in the qualitative component of this research. Initially 39 students signed up to participate. Ten undergraduates and ten graduate students were selected based on the following characteristics: (1) gender – 10 female and 10 male students were chosen; (2) country of origin – the countries with the highest number of international students were identified and subsequently interview subjects from these countries were invited to participate; and (3) enrollment status.

Telephone and e-mail contact information was sent to all identified participants. An alternate list of 10 students was kept (5 undergraduate and 5 graduate students) in the event that some students in the first group may not be able or may not want to participate. Only one student from the alternate list was used. Table 4.6 below depicts the gender, class year and country of origin for the students interviewed.

Students were chosen from countries with more than 5 nationals represented in the student body so as to conceal identities. Furthermore, additional demographic information, such as program, is not depicted in the table below for that very reason – as to protect identities –some programs have very few international students.

Table 4.6: Demographics of Students Interviewed

Undergraduate Students Interviewed			
Student #	Gender	Class Year	Country of Origin
Student 1	Female	First-year	Zambia
Student 2	Female	Second-year	India
Student 3	Female	Third-year	Ireland
Student 4	Female	Fourth-Year	Turkey
Student 5	Female	Fifth-year	Japan
Student 6	Male	First-year	Russia
Student 7	Male	Second-year	Malaysia
Student 8	Male	Third-year	Haiti
Student 9	Male	Fourth-Year	Canada
Student 10	Male	Fifth-year	Kazakhstan
Graduate Students Interviewed			
Student #	Gender	Class Year	Country of Origin
Student 11	Female	Graduate	China
Student 12	Female	Graduate	South Africa
Student 13	Female	Graduate	Nigeria
Student 14	Female	Graduate	India
Student 15	Female	Graduate	Korea
Student 16	Male	Graduate	Honduras
Student 17	Male	Graduate	China
Student 18	Male	Graduate	Dominican Republic
Student 19	Male	Graduate	Saudi Arabia
Student 20	Male	Graduate	Vietnam

Conclusion

Internationalization is an important consideration at the study institution as evidenced by the three internal reports on the issue in the fall of 2009. The increased discourse on internationalization has highlighted the institution's need to adapt the

curriculum, encourage the flow of students across borders, support international collaboration in research, and utilize modern communications technologies.

The number of international students at the study institution has tripled in the past twenty years with 1,533 students enrolled in 2008/2009. As stated above there were 1071 participants, 504 (47%) female and 567 (53%) male students responded to the survey which constituted a response rate of 69.9%.

Whether the variables were considered together or independently, gender, class level, program and age exerted the most influence on satisfaction ratings. The relationship between class level and overall satisfaction was the strongest of the variables, closely followed by gender and program. For satisfaction and importance analysis presented in the following chapters, all the respondents were organized into four (4) major groups based on their enrollment status and gender: (1) undergraduate females; (2) undergraduate males; (3) graduate females; and (4) graduate males.

CHAPTER FIVE

SERVICES THAT PROVIDED THE LOWEST SATISFACTION TO INTERNATIONAL STUDENTS

The on-line survey and interview transcripts of were analyzed in order to generate the findings in chapters five and six. Chapter five is directed to a discussion of student services that provided international students the lowest satisfaction but registered high importance. Chapter six, on the other hand, describes services that generated the highest satisfaction by international students.

This chapter begins by presenting the lowest-rated services for the entire population followed by a discussion of group comparisons for undergraduate and graduate satisfaction data of lowest-rated services. A definition of "performance gap" is provided. Group comparisons for the results of the performance gap analysis are depicted next. Results from the qualitative data related to the lowest-rated services are presented at the end of the chapter.

Findings in this chapter are presented for the overall population, with statistically significant results for various groups discussed where applicable. Groups identified for these analyses were based on gender, year of study and program area. Analysis of Variance (ANOVA) was used to identify significant differences between the groups' responses.

Introduction

Student satisfaction is a key component of student life and learning, and a gauge of whether an institution is providing an experience that students deem worthwhile (Noel-Levitz, 2009). By simultaneously assessing satisfaction and importance, areas that require the greatest attention can be identified so that institutions can decide what services should have the greatest impact on the student experience. Numerous articles related to student satisfaction with the overall college experience have been written and published (Leong & Chou, 1996; Lin & Yi, 1997; Sheehan & Pearson, 1995; Surdham & Collins, 1984; Zhao, Kuh & Carini, 2005).

Different genders, ethnicities, class levels and other subpopulations, like international students, will often express varying satisfaction levels, even if they have had similar college experiences. Bean and Vesper (1994) investigated gender differences related to student satisfaction and reported that social/relational factors were important for women, but not for men. Additionally, they found that a student's major and occupational certainty were significantly related to satisfaction for men, but not for women. For both genders, confidence in being a student and having access to attractive courses was important (p. 194).

Through the analysis of the satisfaction survey and the interviews, the following chapter explores the differences among the subpopulations within the international student community at the institution, and presents a snapshot of their opinions regarding

their experiences with institutional services. In particular this chapter reports on the services where students' expectations were not being met.

Services that Provided the Lowest Satisfaction to International Students

Overview

International students registered the lowest satisfaction with the following services in rank order: (1) student financial services; (2) co-operative education placement [co-ops]; (3) housing operations; (4) dining services; and (5) transportation services.

This ranking is based on results of the on-line survey that asked students to rate their perceived level of their satisfaction with these services using a scale of 1-7 (with 1 representing the lowest level of satisfaction, 7 the highest level of satisfaction). Students also rated importance of each service, from 1 (least important) to 7 (most important). This double measurement provides a more complete picture of how students evaluate their college experience.

Mean values (or simply "means") which are used throughout this study to indicate satisfaction and importance, were calculated by summing the respondents' ratings for individual items, and dividing the total by the number of respondents. Mean values for importance are typically in the range of 5 to 6 and mean values for satisfaction were typically in a range of 2 to 4. A performance 'gap' was determined by calculating the difference between the importance rating and the satisfaction rating and will be discussed in great detail later in this chapter.

Figure 5.1: Services with Lowest Satisfaction
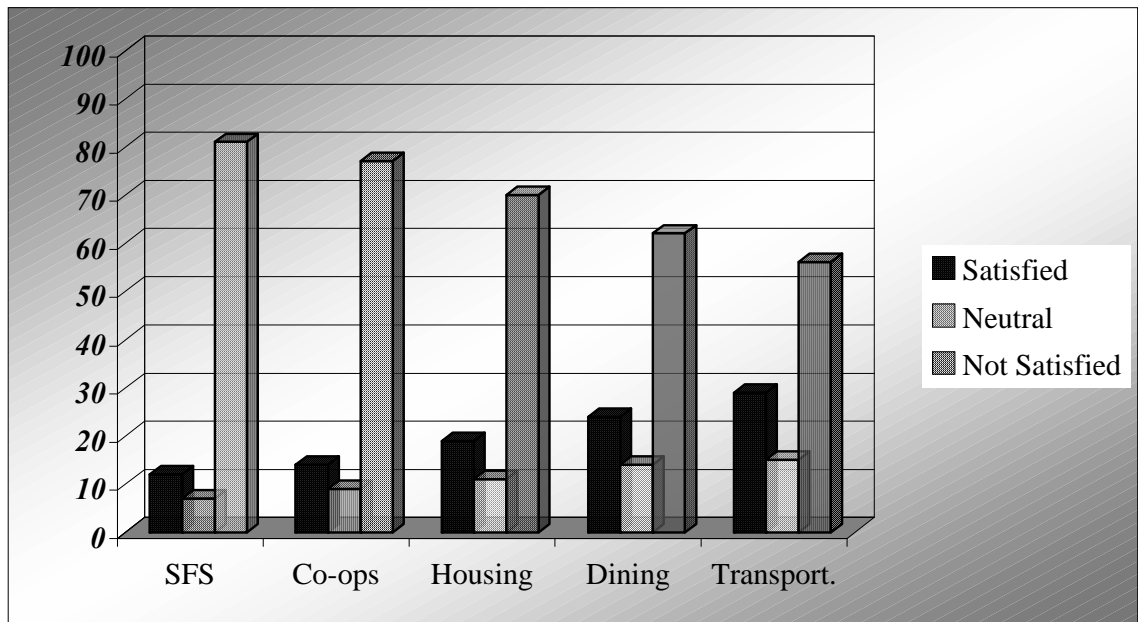
Key: SFS=Student Financial Services; Co-ops=Co-operative Education Placement; Housing=Housing Operations; Dining=Dining Services; Transport.=Transportation Services

Interestingly, the lowest-rated services, as depicted above in Figure 5.1 all fit into the category of non-academic support services, also described by a graduate student from Chile as "critical," registered high importance with the lowest satisfaction. Importance mean-scores for these services ranged from 6.26 (co-operative education placement) to 5.99 (dining services). These services were very important to both undergraduate and graduate students, and reflect the unique challenges international students face as they acclimatize to life in the U.S.

On the other hand, satisfaction means for these services, based on results for all respondents, were low and ranged from 2.15 (co-op placement services) to 2.99 (student financial services). Not surprisingly, given these results, only 19 percent of survey

respondents described acclimating to student life as just right, while 72 percent perceived it as too hard and just under 10 percent felt it was too not challenging at all. Further analysis revealed that students from developing countries and those whose previous language of instruction was not English were more likely to report a higher level of acclimating challenge compared to students from developed nations (67.7% vs. 8.1%).

Figure 5.2 below, indicates that undergraduate students were less satisfied with the student financial services, co-op placement and dining services than their graduate counterparts. Meanwhile graduate students were less satisfied with transportation and housing options than undergraduate international students.

Analysis of the follow-up interviews with graduate students revealed the connection between housing and transportation. Due to the cost and complexity of gaining housing at the university, many graduate international students opt to live off campus and commute. Inexpensive apartment living in the area where the university is located is hard to find and therefore students find housing a fair distance away.

In addition, on and off-campus transportation provided by the institution was reported to lack convenient routes and schedules to transport students from off-campus housing and many international students do not have the funds to purchase cars. Combined with the cold winters of Western New York, these factors make travel to and from the university very difficult.

*Figure 5.2:* Group Comparisons of Satisfaction Scores
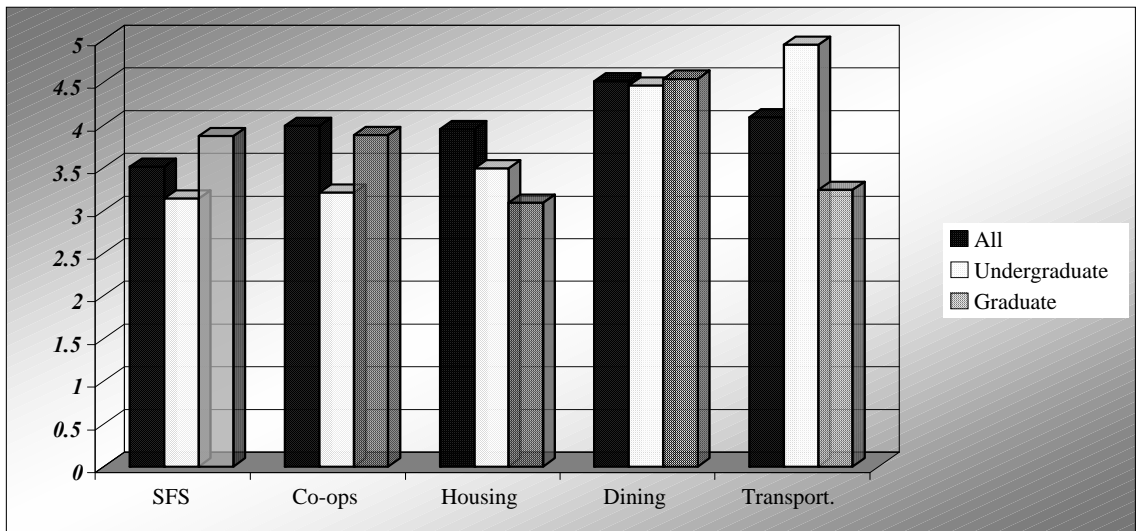
Key: SFS=Student Financial Services; Co-ops=Co-operative Education Placement; Housing=Housing Operations; Dining=Dining Services; Transport.=Transportation Services

A female graduate student from India said:

"I realized quickly that I could not afford to live in the graduate

apartments and so I decided to move to an apartment in Rustic Village.

It is about 5 miles from campus and so I first thought that it was not too

far for me. I was wrong. There were no direct buses from Rustic

Village and it is too far to walk in the winter. So when I had an early

class or I had to come to college for an interview[for co-op], I would

use a taxi which would cost me $30 one way. After many students

complained about the lack of housing for graduate students and the

poor transportation, the university opted to start a free shuttle from

Rustic Village."

This experience was not unique to this student. All graduate students interviewed talked about housing and transportation problems as a stressor.   Only 5 of 10 undergraduate students interviewed talked about housing and transportation as a major inconvenience.

The following is a discussion of each of the above identified five (5) lowest rated services.

Student Financial Services

The Student Financial Services office provides services such as tuition collection, fee rates, billing payment options, loan repayment, and educational tax credit information (University website, 2009c). Many international students experience problems paying tuition and are subject to currency exchange and other factors beyond their control. For example, a male graduate student from Congo (Kinshasa) described how difficult it was to pay his tuition because of governmental restrictions placed on the amount of foreign currency allowed out of the country:

> "We can only send out a certain amount of dollars per person, per
> month. The tuition here is beyond the foreign currency allotment so I
> have to ask family members I can trust to wire dollars to my account
> here. And then when it is all accounted for I pay my tuition. This
> arrangement can take up to one month. Most of the time I am late to
> pay my tuition. I have incurred a lot of late charges and this is very
> expensive to me."

In addition to the logistical problems experienced by international students, they must contend with paying full tuition with few or no opportunities for grants and scholarships. Full tuition at this university is $32,000 per academic year. After adding the room and board bill, books, health insurance, and other living expenses, the yearly bill approximates $45,000. This is especially hard on undergraduate students who complete their degrees in 5 years (with one year spent on co-op requirements) and doctoral students whose programs can take up to seven years.

Some policies of the Student Financial Services office were seen as prohibitive and were highlighted in the interviews conducted with the international students. Most complaints regarding student financial services came from undergraduate students (10 out of 10 students) with only 5 out of 10 graduate students having negative experiences with this service.

Figure 5.3: Student Satisfaction with Student Financial Services: Comparison by Enrollment Year
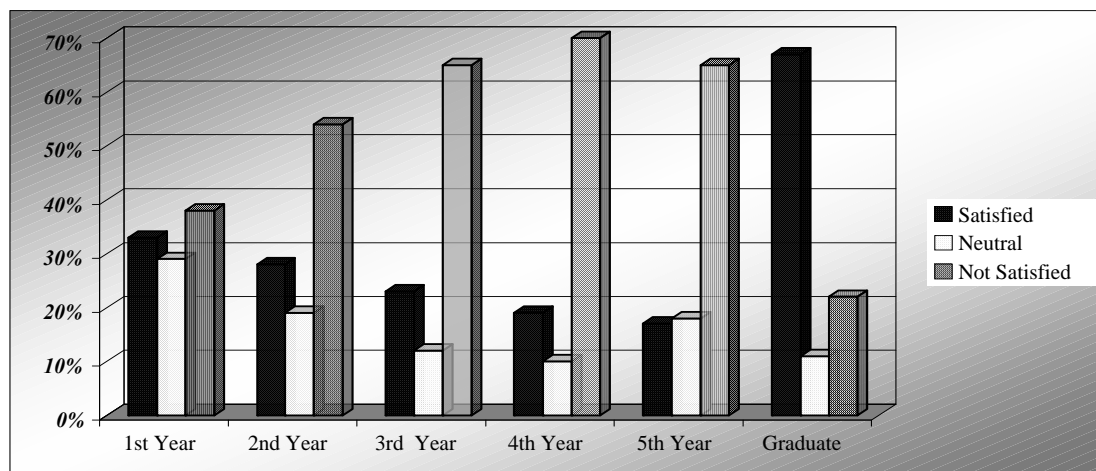
An interesting trend that was observed was that undergraduate satisfaction with the Student Financial Services office decreases with the increase of class level. Thirty-three percent of first-year respondents registered satisfaction compared to only seventeen percent of fifth-year students. This decrease in satisfaction could be a result of upper-class students' dissatisfaction with the yearly increase in tuition.

Co-operative Education Placement

The Co-op Education Placement and Career Services office provides assistance to students and alumni in obtaining employment appropriate to their career objectives and personal goals (University website, 2009d). Co-op education is one of the most attractive aspects of this university to international students. Co-ops offer an opportunity for students to gain professional experience and get university credit for it. However with the downturn of the economy, many international students find it very hard to get any co-ops. Most international students have harder times obtaining co-ops than their American counterparts and experience stress and disappointment. Many students complained of potential employers excluding international students from their candidate pool for employment. A male Indian undergraduate student on this issue said:

> "I have worked so hard for the grades I be having and now I cannot
>
> find a decent co-op. Most companies are not hiring international
>
> students even on an internship basis. In my area of computer security,
>
> all companies are telling us (international students) that it is a too much

of a risk to employ us… what does this mean? I wish the co-op office

would find companies that can employ international students."

Undergraduate students registered lowest satisfaction with co-op placement services (see Fig 5.4 below). Additional analysis revealed that those respondents with three years or more of undergraduate study reported higher levels of dissatisfaction with the quality of their co-op advisement compared to those with less than two years of study.

Fifth-year (89%) and fourth-year (70%) students were the least satisfied with co-op placement. Importantly, students rarely go on co-op before their 3rd year of studies and by the fifth and fourth years, students are at the end of their studies and have attempted to obtain between 3 to 6 co-ops. This likely explains why first-year students are more neutral (90%) on this issue, registering a 5% dissatisfaction with co-op placement.

Figure 5.4: Student Satisfaction with Co-operative Education Placement Comparison by Enrollment Year
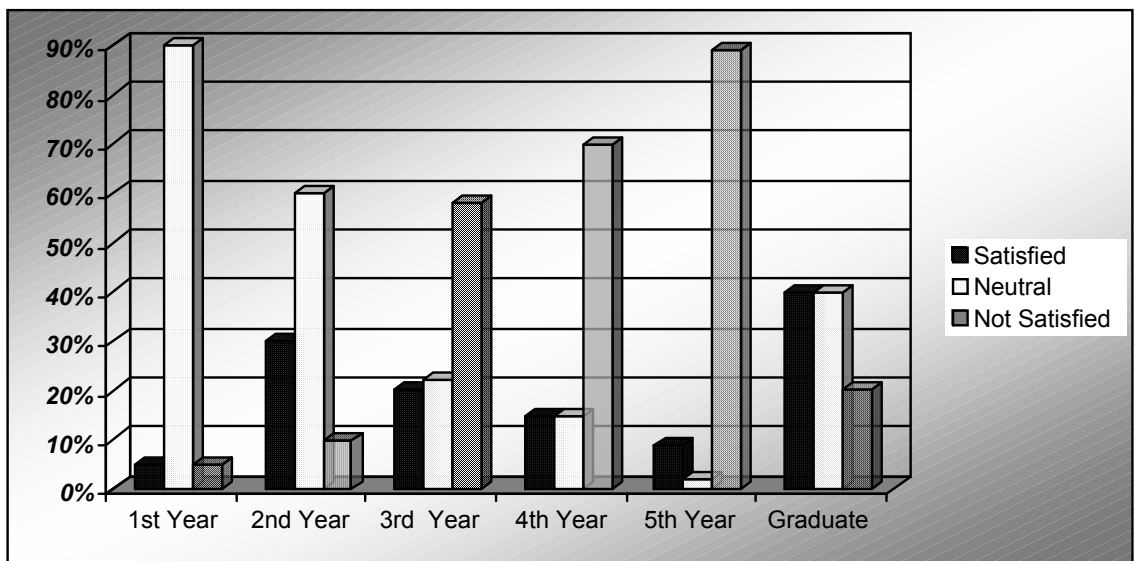
Forty percent of graduate respondents were satisfied with the quality of services provided by the co-op office. Over 73% of graduate respondents were satisfied with the accessibility of their co-op representative advisors, the availability of co-op opportunities and ease of navigating the co-op site.

Only 20% of graduate students were dissatisfied with the services provided by the co-op placement office. It is important to note that a majority of the graduate programs at this institution do not require a co-op for completion of studies. Many graduate students elect to go on co-op to gain professional experience in the U.S. before leaving for their home country. This may explain why as many graduate international students were satisfied (40%) with the co-op placement office as those who were neutral (40%) towards it.

Housing Operations

The Housing Operations office makes university housing assignments and maintains residence halls and apartments (University website, 2009e). It is difficult to assign housing to incoming international students for three reasons: firstly, international students can only confirm their intent to attend the university after they have obtained a student visa. This process can be arduous and most international students cannot get their visa paperwork finalized until late in the housing process. This results in most international students being placed in temporary housing. Secondly, the cost of housing is prohibitive to many international students and so most opt for the least expensive option which in many cases is in the residence halls which are not as comfortable as the

apartments. Thirdly, international students are limited in the amount of belongings they can travel with to the U.S. and so many of them have to contend with less than they are used to until they can afford some comforts. A male graduate student from Honduras said:

> "I have always lived at home even when I was going to the university
>
> in Honduras. I did not know that I had to provide my own sheets and
>
> blankets when I arrived here. I came completely unprepared to spend so
>
> much money on getting things for my room. I was shocked that the
>
> Housing office does not have emergency bedding for situations like
>
> mine. It was very hard to get ready for classes and try and figure out
>
> where to get a pillow to sleep on at the same time."

Housing placement at this institution is also made more difficult by the number of students who come and go on co-op every quarter. According to a housing operations employee due to the unpredictability, in some academic quarters, there is housing availability for only 66% of students.

Table 5.5: Group Comparisons of Housing Operations by Class Year
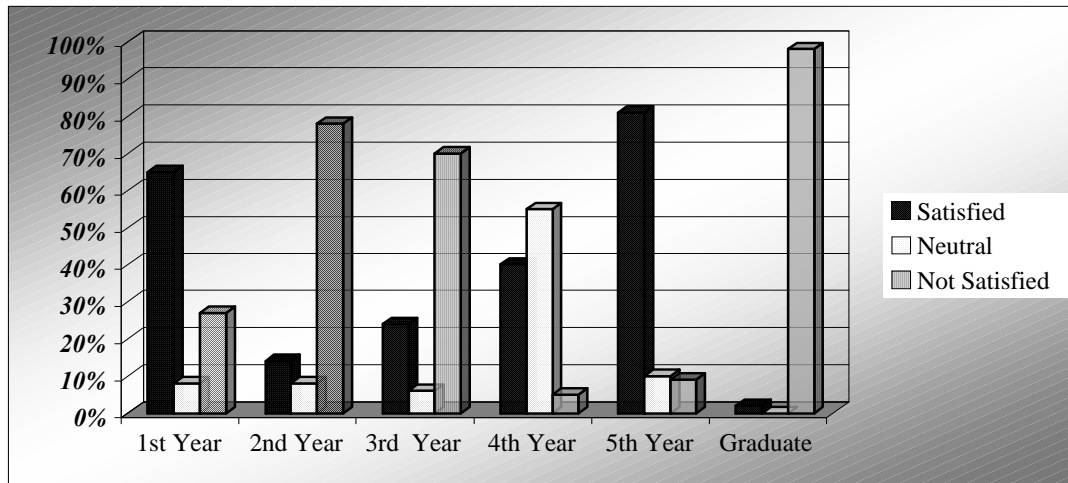
As indicated in Table 5.5, graduate respondents were least satisfied with the services provided by the Housing Operations office. Further analysis revealed that graduate students were least satisfied with housing options (mean=3.34), followed by the cost of housing at the institution (mean=3.48).

Second-year students reported the next lowest satisfaction with Housing Operations. Second-year undergraduate students were least satisfied with the availability of housing (mean=3.49) most likely because students in the second year have the lowest rank during housing selection and many of them do not get their first or second choice.

Dining Services

The Dining Services department provides students, faculty, staff, and guests with dining options on campus (University website, 2009f). There is a vast array of dining choices: Gracie's Dining Hall is the all-campus residence hall offers unlimited seconds and also provides ethnic cuisine options; The Commons, casual dining area, serves pizza from a stone-fired oven, and is popular with students from the National Technical

Institute for the Deaf; the on campus sports bar - Ritz Sports Zone (SAU); Brick City Café, frequented by faculty and staff serves traditional fare and cuisine from Pakistan, Thailand, China, and Mexico; the Ctrl Alt Deli; and the Café and Market at Crossroads (University website, 2009f).

Both undergraduate (73%) and graduate (86%) female students reported dissatisfaction with dining services. The levels of dissatisfaction were almost double their undergraduate (32%) and graduate (44%) male counterparts. Another significant result was that full-time students were also more likely to report dissatisfaction with dining services (69.3% vs. 30.7%) compared to part-time students.

Table 5.6: Group Comparisons of Dining Services by Gender
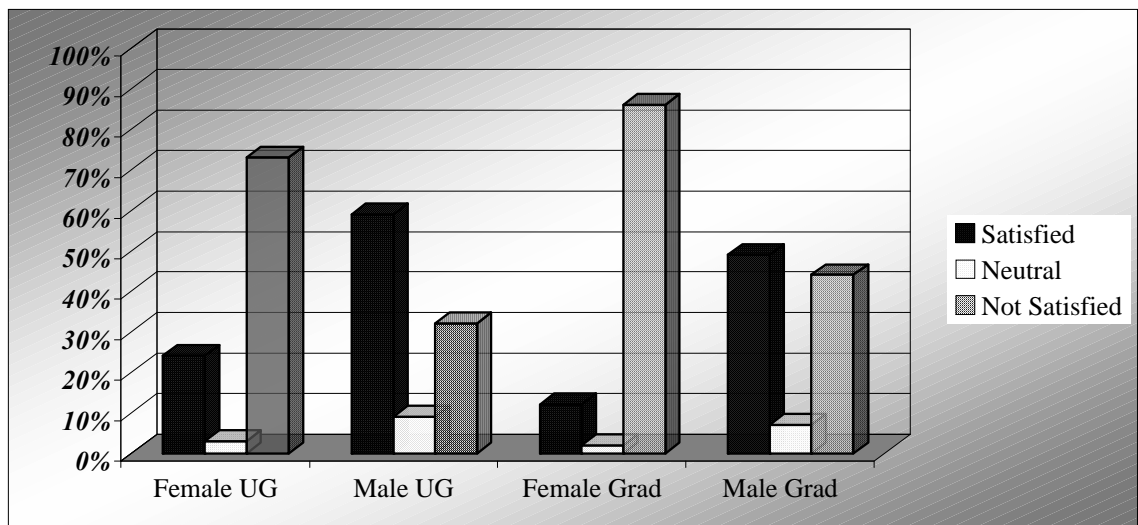
Key: Female UG=Female Undergraduate student; Male UG=Male Undergraduate student;
Female Grad=Female Graduate student; Male Grad=Male Graduate student
The most significant results related to Dining Services were provided by the

Undergraduate students on meal plans were asked to rate their dining experience and provide additional comments. Ninety percent suggested expanding menu variety,

97% suggested lowering prices, and 83 % suggested improving quality.   During the interviews, all students on meal plans (13 students) complained about how meal plans were not consistent with their eating needs, the lack of healthy food options, and the inequity of students on the meal plan paying an overhead while those not on a meal plan do not.

Transportation Services

University transportation services provides free, accessible transportation on campus and in some neighboring areas through buses and vans (University website, 2009g).   Many students are dissatisfied with University-sponsored bus routes to campus, saying that overcrowding was leaving students in the cold and forcing them to re-adjust their schedules to allow for the unpredictability.

The Transportation Office replaced the bus routes at the beginning of the 2008-2009 academic year after the opening of a new mixed-use development with more than 300 apartments, restaurants, bars, retail and a Barnes and Noble campus bookstore. Disorganized service in September 2008 raised complaints about frequent overcrowding, missed buses, inadequate shelter, confusion over stops, poor customer service, and an inconvenient schedule. A female undergraduate student from Japan, who lived in a campus apartment, said she typically had to allow for a 20-minute wait for the bus in the morning, more than the amount of time it would take her to walk to class.

"Between 8:30 and 9:30 it's really hard to get to class from the

[university] apartments. The buses are always overcrowded. By the

time it gets to the last stop [in the apartment complex], the bus is full—

this is before the bus starts collecting people from the parking lots."

A male undergraduate student from Canada expressed similar frustration with the bus service:

"There've been a couple of times when I've been standing out in the

cold for 20 minutes, and I can't even get on. Our stop's really close to

the start of the line, so I can't even imagine what it's like near the end.

It's really annoying and it's really frustrating."

Students who live off-campus experienced similar hardships. Public transportation, maintained by the city lacks convenient routes and schedules to transport students from the surrounding areas. There are a few direct bus routes from the major city to and from campus. This presented a problem for getting settled and for daily living. Most of these students found that the combined cost of cars, insurance, and tuition prohibited car ownership. A male graduate student from Saudi Arabia said:

"There are lots of things [the university] can do, like providing

transport. . .for commuting purposes from college to their locality. . .

They are paying expensive tuition here. . . they might not be able to

afford a car . . . So international student office should give us more

services we can use."

Referring to Table 5.7 below, among undergraduates, second-year (75%) and third-year (77%) students were most dissatisfied with the quality of the transportation

services. First and fourth-year respondents were almost equally dissatisfied with

transportation, 22% and 27% respectively; however these students were more neutral

toward the quality of this service. Group comparisons revealed that undergraduate

students, when compared to graduate students, were less likely to use the transportation

services (37% vs. 89%).

Table 5.7: Group Comparisons of Transportation Services by Class Level
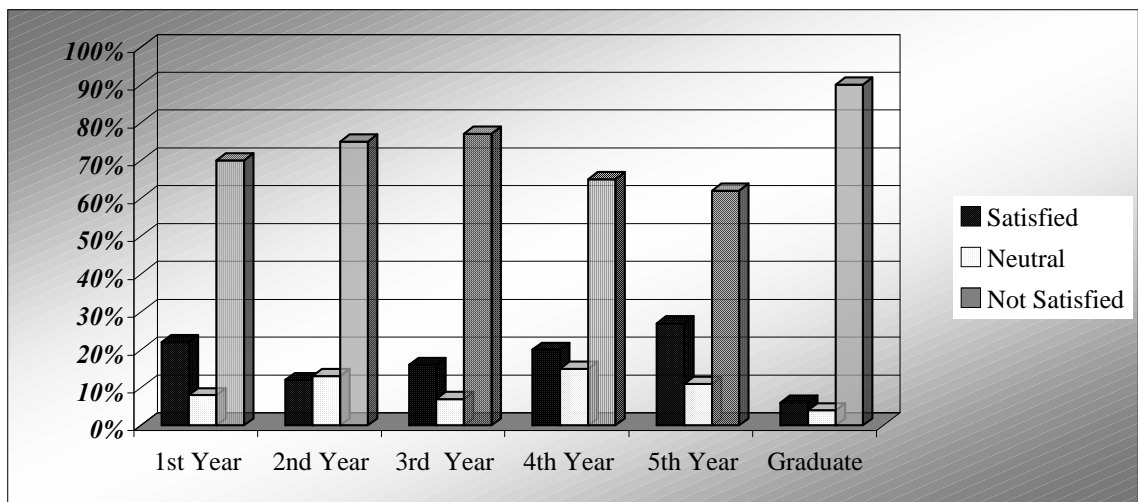
Of the 20 interviews conducted, 13 international students described some level of

frustration with city transportation and all were opposed to the proposed city plan to stop

bus service on-campus to save money. The plan recommended providing bus service to

the edge of campus. A female graduate student from Mexico said:

"I think that it is essential to have more buses running to campus as

many students who live off-campus use the [city] buses daily to get to

and from campus. The walk to the edge of campus [to get the more

frequent city bus] is only between 10-20 minutes for most us, it's

another 5-10 minutes to get to main buildings on campus. Therefore if

more city buses stop at the edge of campus (as proposed), it greatly

reduces the usefulness of the [city busses] entirely. While it may be

worth it to wait a few minutes for the bus if its takes you right to your

destination, when it only takes you half or two-thirds of the way, it

becomes less desirable."

Group Comparison of Lowest Rated Services by Undergraduate and Graduate Status

Undergraduate students registered lowest satisfaction with the following services

in rank order of importance (1) student financial services; (2) dining services; (3) co-op

education placement; (4) registrar; and (5) housing operations.

Table 5.8: Rank Comparison of Lowest Rated Services for Undergraduate and Graduate
Students

Undergraduate		Graduate	
Service	Rank	Service	Rank
Student Financial Services	1	Transportation Services	1
Dining Services	2	Student Financial Services	2
Co-operative Ed. Placement	3	Co-operative Ed. Placement	3
Registrar	4	Housing Operations	4
Housing Operations	5	Dining Services	5

The Registrar's office is the only service generating a sizeable amount of

dissatisfaction by undergraduate students while their graduate counterparts registered

high satisfaction. Sixty-two percent of the undergraduate respondents rated the Office of

the Registrar as fair or poor and almost as many (58%) rated this service as very

important. In interviews with undergraduate students, all 10 students complained that many courses were closed at the time of registration (i.e., the number of people the course was originally created to hold was already reached). Undergraduate students do not appear to be satisfied with the current registration process. It is important to note that there does appear to be a significant amount of neutrality in this area, perhaps indicating that most upper-class undergraduate students are not as concerned with this aspect of their education.

Many students interviewed talked about the Registrar's policy that requires students to contact the instructor to see if they can allow students to register for the class even though it is full, as preferential to their American counterparts. In an interview with a female student in the college of computing and information science from Canada commented:

> "I had one required class left before I could go on co-op. I could not get into the class I wanted because it was full. I tried to explain to my professor that I needed to get into the class and his section was the only one that fit into my schedule. He said he could not help me. I later found out that he let in another student after I met with him. I contacted my [hockey] coach and told him the situation. Coach had to pull the "athlete exception" on the professor and I finally was let into the class a week late. I think this situation hurt my performance in the course."

On the other hand, graduate students ranked lowest satisfaction with student services as follows: (1) co-operative education placement; (2) student financial services; (3) transportation; (4) housing operations; and (5) dining services.

Gender comparisons for co-op placement found that female graduate students were somewhat more likely to be dissatisfied with procedures for awarding graduate assistantships compared to male graduate students (56.1% vs. 44.4%). However, when considering the procedures for awarding graduate assistantships, roughly 44 percent of international students were dissatisfied, compared to only 15.3% of non-international students (University website, 2008).

Compared to graduate students, undergraduate respondents were more likely to be dissatisfied with co-op placement (87% vs. 20%). In light of the recent downturn of the economy, it is not hard to understand why this service has low satisfaction. According to the students interviewed, companies are not hiring for two major reasons. Firstly, the downturn of the economy and secondly, companies view hiring an international worker over an American as toxic. Congress recently made it harder for institutions receiving federal "bail-out" money to hire foreign workers. The overall numbers of institutions affected were small, but the law had a chilling effect.

Finally, comparisons by program area indicate that while those in the colleges of engineering and science may be least satisfied with their academic experience, but they were most satisfied with all of the co-op placement variables. For example, 67 percent of

these students were satisfied with departmental support for attending professional meetings, compared to 58 percent of those in the colleges of liberal arts and business.

Performance Gap Analysis

Definition of Performance Gap Analysis

Students are seen as individuals who have definite expectations about what they want from their campus experience (Noel-Levitz, 2006). From this perspective, satisfaction with college occurs when an expectation is met or exceeded by an institution. The performance gap analysis is the calculation of the discrepancy between the expectation (importance score) and the reality (satisfaction score). Questions 21-93 of the quantitative online survey measured students' satisfaction with a range of college services.

As indicated above, students rated each item in the inventory on an importance scale of 1 to 7. Importance was rated 1 if the service was "not important at all" and 7 if it was "very important." Satisfaction was rated 1 if the student was "not satisfied at all" and 7 if the student was "very satisfied."

After data analysis, there are three different scores for each item: (1) an importance score rating reflects how strongly students feel about the expectation (the higher the score, the more important it is to a student, therefore the stronger the expectation); (2) satisfaction ratings show how satisfied students are that the institution has met the expectation (the higher the score, the more satisfied the student) and; (3) performance gap scores (importance rating minus satisfaction rating) show how well the

university is meeting the expectation overall. Large performance gaps (e.g., more than or equal to 1.0) indicate that the service is not meeting students' expectations. Small gaps (e.g., less than or equal to 0.50) indicate that students' expectations are being met, and negative gaps (e.g., greater than or equal to negative 0.25) indicate that expectations are being exceeded. Performance gaps below or equal to 0.5 are defined as "meeting expectation." As shown in Figure 5.9 the results of the analysis allow services to be located in 4 different quadrants according to importance and satisfaction.

Figure 5.9: Matrix for Prioritizing Action
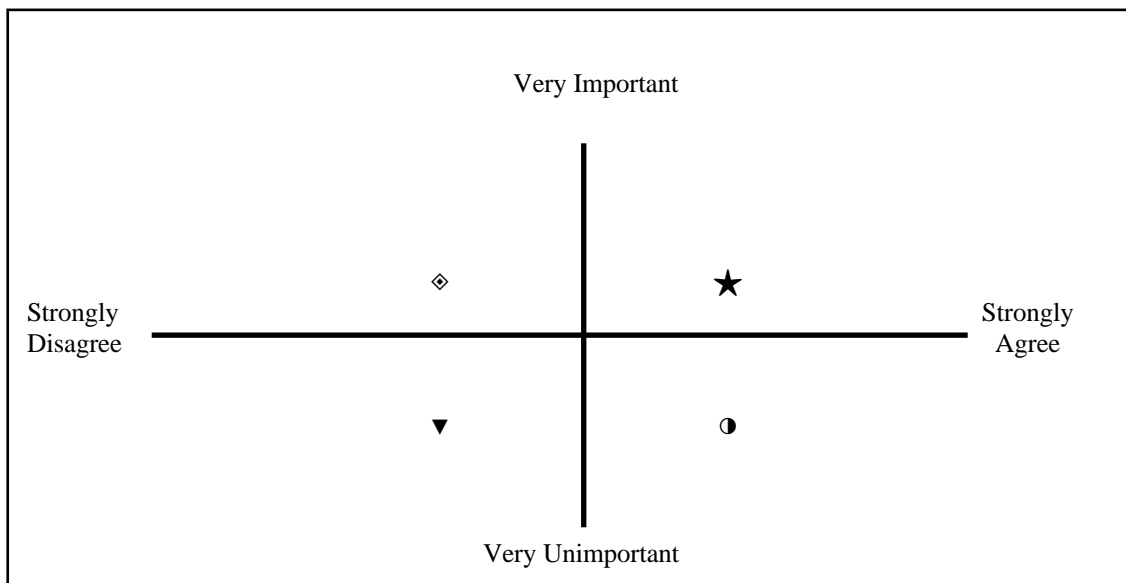
Key:

◈ High Importance/Low Satisfaction pinpoints areas that should claim the institutions immediate attention, i.e., retention agenda/priorities.

★ High Importance/High Satisfaction showcases the institution's areas of strength.

▼ Low Importance/Low Satisfaction presents an opportunity for the institution to examine those areas that have low status with students.

◑ Low Importance/High Satisfaction suggests areas from which it might be beneficial to redirect institutional resources to areas of higher importance.

Performance Gap Analysis Results

To reiterate, a performance gap represents the difference between the importance rating for the item and the satisfaction rating for the item. Table 5.10 below depicts the rank order for the six lowest-rated services by undergraduate and graduate students. The average performance gap for all items was 1.22. Table 5.10 also depicts the largest performance gaps (all those at 1.00 or above) as reported by the survey respondents. A review of the largest performance gaps revealed two things: (1) students are concerned about a wide variety of campus issues, from housing to co-operative education to dining options to the use of student fees to on and off-campus transportation; and (2) most of those issues are related to support services, rather than instruction and coursework.

Table 5.10: Undergraduate and Graduate Student Performance Gap Comparisons

Student Service	Undergraduate Performance Gap				Graduate Performance Gap			
	F	Rank	M	Rank	F	Rank	M	Rank
Student Fin. Services	2.38	1	2.66	**1**	2.03	2	2.02	1
Co-op Placement	2.42	2	2.22	2	2.01	3	1.86	2
Housing Operations	1.27	5	1.32	5	1.39	4	1.31	4
Dining	1.65	3	1.39	3	1.07	5	1.03	5
Transportation	1.36	4	1.34	4	2.26	1	1.58	3
Registrar	1.25	6	1.17	**6**	N/A	-	N/A	-

Key: F=Female; M=Male;

In Table 5.10 above, the second, fourth, sixth and eighth columns range from one to six with the lowest-ranking service registering the biggest discrepancy between the perceived importance and the expectations for both undergraduate and graduate students.

The undergraduate male rating for co-op placement had the largest performance gap (2.66) - followed by the female undergraduate rating for co-op education placement

services, with a gap mean of 2.42. The remaining items had gap scores between 2.26 and 1.03.

The four groups of students share the following lowest-ranked services: student financial services; co-op placement; housing operations, dining services and transportation. Two points will be made. First, these five services, identified as institutional challenges due to their large gaps, are also the items ranked as being most important to international students. An institutional challenge is defined as services high in priority but low in satisfaction/agreement. Student Financial services and co-op placement were identified as being "very important" by undergraduate students while graduate students rated transportation and student financial services as "very important" (on a scale of 1 to 7, where 1 is "not important at all," 4 is "neutral," and 7 is "very important"). Housing operations, dining services and the registrar were labeled as being between "somewhat important" and "very important" on this 7-point scale. As illustrated in Figure 5.11, based on these satisfaction and importance results the lowest rated services occupy the upper left hand quadrant of the Matrix for Prioritizing Action.

Figure 5.11: Matrix for Prioritizing Action – Lowest-Rated Services

Very Important

Student Financial Services
Housing Operations
Dining Services
Transportation Services
Registrar Office

Strongly
Disagree

Strongly
Agree

Least Important
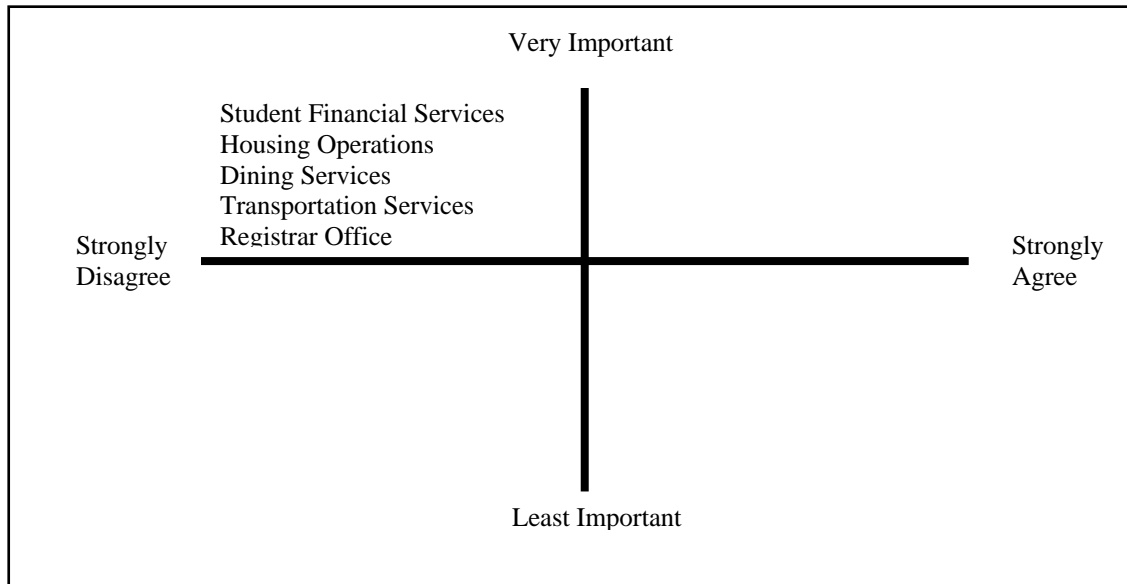
The second point is that all of the institutional challenges had satisfaction scores between 2.0 and 4.0 (where 2.0 is "not satisfied at all" and 4.0 is "neutral"). Not only do these services have a relatively large performance gap scores (over 1.0), the level of student satisfaction is also markedly low.

Qualitative Data Results

As stated in Chapter 3, the second level of data collection and analysis was in the form of interviews of twenty (20) selected international students (10 undergraduate and 10 graduate). The interviews were transcribed and the text analyzed by organizing the data and coding it. Coding the data included finding similarities and differences between the students' concepts of the critical issues.

The topics for the questions posed during the interviews were selected from the analysis of the online questionnaire. Data gathered from the survey identified services

students used the most, least, had problems with and with which they were generally satisfied. Questions 4 through 8 of the interview dealt with student services that students reported to provide the lowest satisfaction (see Appendix C for interview questions).

Following theoretical saturation of questions one through three, which dealt with services students were most satisfied with, two main categories or "level one" codes (Cassell & Symon, 2004) emerged: "personal barriers;" and "external barriers." From these level-one codes, subhead categories or lower-level codes were created and the a template was developed (see Appendix M). All level-one codes were common to data collected from both undergraduate and graduate students. As the interview data was analyzed, distinct differences were raised by undergraduate and graduate students within level-one codes and therefore some of the lower level codes were coded with "UG" representing codes specific to undergraduate students and "G" representing codes for graduate students.

While the majority of international students look to their educational experience in the United States as a highlight of their lives upon arrival, one of the most striking lessons too many international students learn isn't found in books –it is learning to live with isolation, sometimes even hostility. A lack of interaction with Americans is one of the major problems experienced by international students, according to an undergraduate male student from Haiti:

> "I thought that Americans were friendly. I was excited to come to
> America and wanted to make many friends. I have not been very

successful. Maybe because my English is not so good. All people

want to know is what accent I have and where I am from. When I tell

them I am from Haiti… the conversation stops there. Most of my

friends are from the Caribbean… but I am the only student from Haiti."

All students interviewed discussed feelings of isolation, alienation, and discrimination. Discrimination is an unfortunate fact for many international students especially those students who have language difficulties and do not actively learn about American culture. Heikinheimo & Shute (1986), state that students who perceive themselves as targets of discrimination do not adjust as well as students who actively learn about the new culture.

Another study also found that within-group differences in interest and orientations to roles and relationships can be quite varied even among foreign students from the same country majoring in the same field (Fouad, Hansen, & Arias-Galicia, 1986). Thus, foreign students may not naturally gravitate toward persons of their own nationality because of differences in personality, temperament, and so on. Oftentimes, there will be political, religious, and social conflicts that arise among students form same country (Thomas & Althen, 1989). Countries torn by significant internal civil strife are apt to have students who will express their dividedness while on campus. Sensitivity to each country's internal politics is crucial to understanding both intragroup and intergroup foreign student relationships.

Recognizing that their primary purpose in the United States is to get an education, international students also would like to interact with Americans, to learn about and experience the American way of life and American culture, and to share their cultural heritage. However, because of a sense of isolation, most international students tend to socialize almost exclusively with fellow students from their own country or region. This behavior sometimes causes backlash from American students as expressed by a female graduate student from China:

> "I like to study with my friends from China because we help each other with our school work. One day in the library I heard [an] American student make [a] comment about Chinese students gang[ing] together. I do not know why she would say this."

Graduate students also discussed problems: (1) obtaining affordable day care for children; (2) finding ways to involve spouses in the University community in ways that recognize and utilize their skills; and (3) discrimination based on ethnicity and skin color. A male graduate student from Honduras commented:

> "I was surprised at the lack of assistance for students' spouses. My wife is an architect and went to school in the US. But because of her F2 status, she is not able to work. It was very hard for her to stay at home doing nothing. We even tried to get a volunteer job on campus for her. No one wanted to help. So we just decided to start our family early. God blessed us with twins. Now she is very busy."

Adding to the feelings of isolation is the lack of on and off-campus transportation for students. International students are at a disadvantage when it comes to obtaining transportation to and from campus. One female undergraduate student from Zambia talked at length about her struggles to get to a decent hairdresser:

"I have really struggled to get some personal things done off campus. Even though there is a salon on campus, they are not trained to do my kind of hair. So I talked to other black students and they told me to try and go into the city. I finally found someone to do my hair. It took me 2 hours to get there, I was already late and so I had to wait for another 2 hours before the hairdresser could start with me. I returned to campus in the dark. After that experience, I just cut off all my hair. I keep it natural. It is very hard for me."

Lack of transportation has also limited students' options for co-operative education although the downturn of the economy is the main reason students attribute the difficulty in finding co-ops and employment after graduation. All twenty students interviewed agreed that the co-operative education program was one of the most attractive options that the institution advertised and contributed to their decision to apply. An undergraduate male student from Malaysia had this to say on the issue:

"I am here on a government scholarship. I have to complete my studies in only 4 years. Co-op is very important to me. I have no time to

search for [a] co-op. I am taking 6 classes every quarter. I have gone

on six interviews and no-one call[ed] me back. I am very desperate to

get [a] co-op. This is a big problem for us [international students].”

A male graduate student from China shared a similar experience:

“[The] opportunity to work and get a degree at the same time is very

attractive to me. So I choose [this university]. Not the case now with

bad economy. I still want to get some experience in the working world.

I will try to get a job. My advisor is helping me look for position in

industry. I think [the university] should help foreign students get co-

ops.”

The lack of convenient transportation services had a negative influence on the

international students quality of life and ability to participate in campus life and activities

and thereby affecting graduate students’ acclimatizing to the university, gaining and

maintaining friendship circles and participating in study sessions on campus. Group

comparisons reveal that graduate international students were more likely to want to be

involved in the campus community compared to their undergraduate counterparts (63.5%

vs. 28.9%). Graduate programs, less likely to spend much effort acclimatizing students

to the institution, resulted in more international graduate students dependence on the

campus community to fulfill their need for social interaction. These students were also

less likely than their undergraduate counterparts to agree that there exists a sense of

camaraderie among students campus-wide (10.6% vs. 29.6%).

By program area, those students in the college of liberal arts were most likely to want to be involved in the campus community (52.2%), followed by the college of engineering respondents (42.0%). Those students in the college of business were more likely to agree that there exists a campus-wide sense of camaraderie (19.2%), while those in the college of computing and information science were least likely (5.5%).

The downturn in the economy has also affected students' ability to pay tuition. Finding the money to stay in college has become a huge obstacle for some international students. Federal grants, Stafford loans and the work-study program are available to lighten the financial load for American citizens, and New York residents can apply for additional aid from their state. Restrictions on international students, however, leave them with few viable options. An undergraduate female student from India said:

> "When I applied to come to [university], my parents had to show that
> they had at least $60,000 to pay for my first year's tuition. Yes, my
> family was able to show the embassy that they had this money but who
> can maintain this bank account for other four years?"

An undergraduate female student from Turkey shared a similar experience:

> "The problem wasn't to get into [university]… it was hard for my
> family to find the money to keep me here. It is very, very expensive to
> study here. I was thinking when I go to co-op, I can make some money
> to help. I struggle with almost nothing. I have even taken care of my

professor's children for some cash to pay for things. I wish I could be

on co-op for longer… to make money."

For international students in this predicament, a lack of financial options can make living in the U.S. a very expensive home away from home. Earning money while at school is difficult as well, as job options are limited for students that are not American citizens. A female undergraduate student from Ireland said that getting her social security number after finding a job on-campus was not an easy task.

"I needed a social security number in order to get paid and because I'm

an international student I obviously don't have one. The process was

quite drawn out because of the many forms to fill out. It wasn't a real

issue, it was just silly bureaucratic stuff."

A lack of jobs on-campus and off-campus has demoralized international students who were attracted to the university for the co-operative education program. All students interviewed discussed the stress they experienced looking for co-op work and the pressure to find employment. Seventeen of the twenty students interviewed, and all ten undergraduate students, talked about changing the co-op graduation requirement for international students. Many suggested that international students should be given the option to return to their home country to complete the co-operative education requirements. This was reflected by an undergraduate male student from Kazakhstan:

"Co-ops are real hard to get. We must use the co-op office to help us

but they cannot. This year I have tried many, many times to get [an]

interview. I have no success. I must go for six co-ops before I [am]

clear[ed] for graduation. I have only two. I am very stress[ed]. How

can I graduate? I wish they could change [the] rules for internationals.

I go home to Kazakhstan to complete co-op then graduate. Well… we

will see…"

The experience of this student from Kazakhstan is not unique. Six of the

undergraduate students interviewed said that their progress to graduation could be

derailed by this co-op requirement that concerned them greatly and lead to feelings of

stress and fear of failure.

Conclusion

Despite the fact that these results cover the top five services for which

international students registered the lowest satisfaction and high importance, the

robustness of the findings suggest that there are three important lessons for campus

administrators and student affairs personnel. Perhaps the single most powerful involves

student isolation – isolation from their American peers, isolation from policy making, and

isolation from American culture. This was easily the most important determinant of

international student dissatisfaction in this study.

The second important lesson comes from the type of services that international

student registered as having their lowest satisfaction and which was illuminated in the

qualitative part of the study. While financial services, housing operations, transportation,

co-operative education and dining services are non-academic areas and may be seen by

the institution as tangential to student success, these services were seen as "critical" by students and may signal a disparity between the importance ratings between students and administrators.

Thirdly, demographics such as class year; gender; country of origin; marital status; and program were significant determinants in the satisfaction ratings, suggesting that international students may be better served by programs targeted at specific groups or types of international students, rather than "one-size fits all" programs.

Taken together, these insights suggest that knowledge is indeed power, since resources can be more efficiently targeted at international student concerns once the extent of the problems and affected groups have been identified.

CHAPTER SIX

SERVICES THAT PROVIDED THE HIGHEST SATISFACTION TO

INTERNATIONAL STUDENTS

This chapter is directed to a discussion of student services that provided the most satisfaction and registered the highest importance to international students. The chapter begins by discussing the highest-rated services followed by significant findings of importance and satisfaction results. Next a performance gap analysis is provided followed by group comparisons of this data. Results from the qualitative data that are related to the highest-rated services are presented at the end of the chapter.

Findings in this chapter are presented for the overall population, with statistically significant results discussed for various groups where applicable. Groups identified for these analyses were based on gender, year of study and program area. Analysis of Variance (ANOVA) was used to identify significant differences between the groups' responses.

Overview

International students registered highest satisfaction with the following services (Table 6.1 below): (1) public safety; (2) library services; (3) professional advisor; (4) faculty advisor; (5) information technology services; (6) international student services; (7) student health services; and (8) academic support services.

These highest rated services included several services related to academics i.e., academic advising, library services, academic support services and technical support.

This is consistent with the result that international students are happy with their academic life as evidenced by 89 percent of students reporting they were either satisfied or very satisfied with their overall academic experience.

Also registering high satisfaction were public safety, library services & professional advisor. Remarkably, 90% of all respondents reported they were "satisfied" or "very satisfied" with these services. Of these three services, Public Safety registered the highest number of satisfied students (95%).

Figure 6.1: Services with Highest Satisfaction Rating
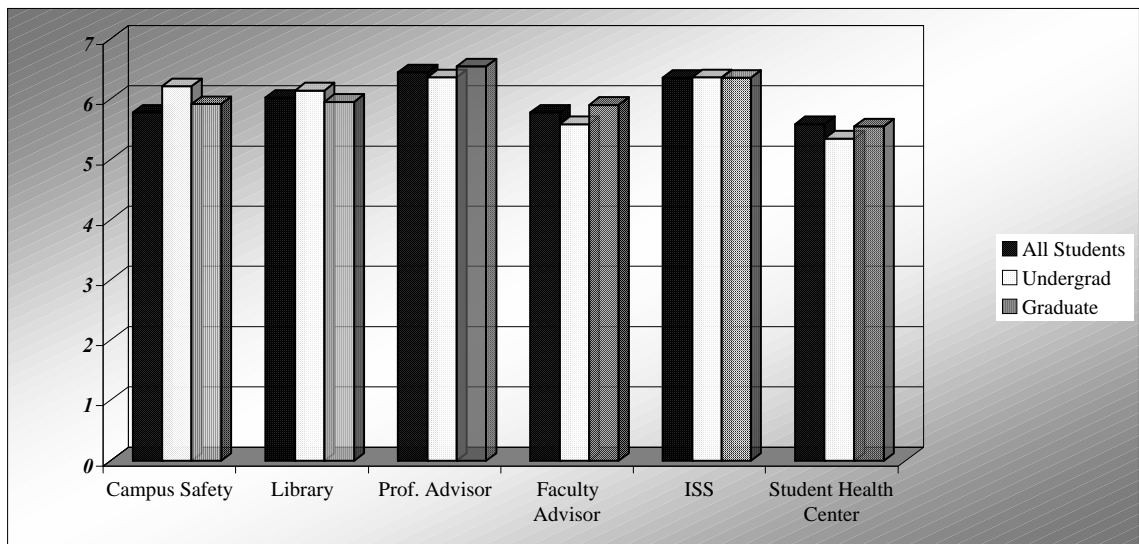
Key: ITS- Information Technology Services; ISS-International Student Services; ASC-Academic Support Center.

Eighty-seven percent of all respondents reported satisfaction with the international student services office. During the interviews a female student from Germany stated:

"I think that the services at the International Students office [are] really

good. People are friendly and approachable I really like the staff they are

really helpful. I had problems with housing this Fall and they really

helped me out. I know the director of International Student Services

during orientation he talked to all our parents and he told us that he would

be able to help in any way. I think that they are [the] service that is really

promising. It is really good to have one service you can rely on so far

away from home."

The following is a discussion of each of the above identified six (6) lowest rated

services.

Services that Provided the Highest Satisfaction to International Students

Faculty Advisement

Faculty members play a critical role in maintaining the academic quality of a

program. Faculty advisors at this institution are tasked to help create the appropriate

level of learning by assisting students in developing learning objectives that relate aspects

of the co-op assignment to material covered in the student's curriculum (University

website, 2009h). This working relationship is of particular importance because of the

significance of the co-operative education component at this university. Therefore goals

vary with each student since cooperative education is by definition a highly

individualized program of study.

As depicted in Table 6.2 below, although registering relatively high satisfaction, students in engineering and business majors, compared to students in other programs, were less satisfied with, but much more neutral toward, the quality of advisement by faculty. Engineering and business respondents were also less satisfied with, but more neutral toward, the quality of their academic program and the availability of courses than students from other majors. As discussed previously, this lower level of satisfaction is attributed to the highly prescribed program of studies for both majors with little opportunity for students to choose classes until very late in their degree.

Figure 6.2: Graduate Student Satisfaction with Faculty Advisement Comparison by Program
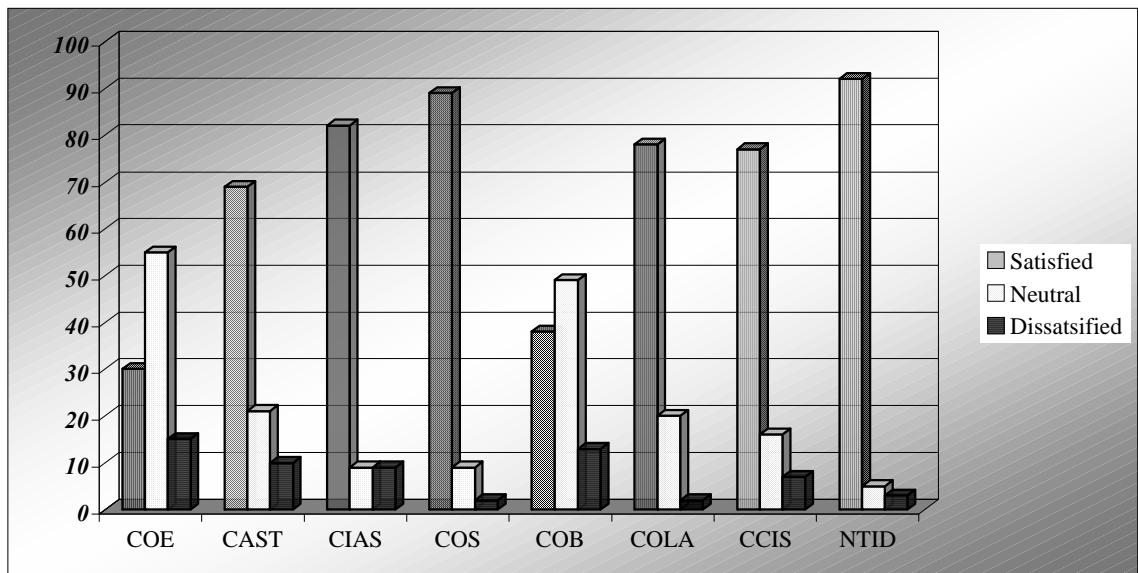
Additional analysis revealed that those respondents with a year or more of graduate study, although generally satisfied with faculty advisement, reported lower levels of satisfaction with the quality of their academic program compared to those with less than one year (17.5% vs. 4.9%).

Professional Advisement

Each student is assigned a professional advisor who works closely with the faculty in the department. Professional advisors are able to answer questions regarding course scheduling, curriculum changes, tutoring services, academic difficulty, change of programs, clubs/organizations, adds/drops, and withdrawals. Students are encouraged to meet with their professional advisor at least once a quarter, before class registration to ensure progress towards graduation (University website, 2009i).

Group comparisons showed that undergraduate and graduate students with a year or more of study indicated lower levels of satisfaction with the relevance of professional advisement compared to those with less than two years of study (16.1% vs. 7.0%). Most graduate programs take two years to complete and may explain why respondents (79.6%) were satisfied with the quality of services provided by their professional advisor with somewhat fewer being satisfied with their faculty advisor. Over 87 percent of graduate respondents were satisfied with the accessibility of their professional advisors.

Figure 6.3: Group Comparisons of Career Advisement by Professional Advisors
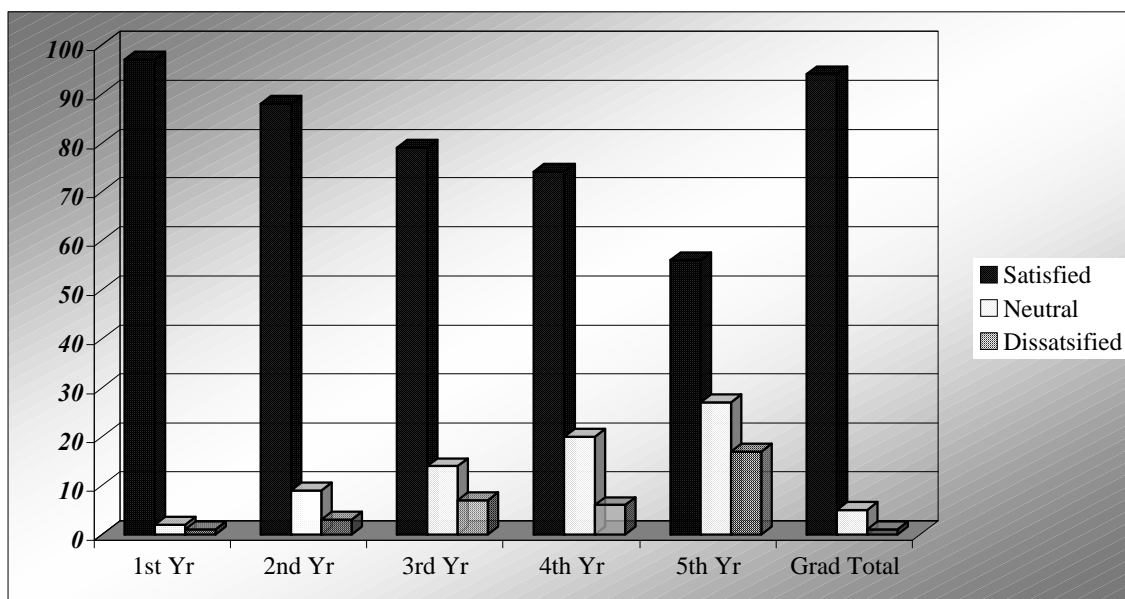
Mean levels of satisfaction for the professional advisement experience indicators reveal that graduate respondents were most satisfied with the information provided by professional advisors with regard to career-relevant course selection (mean=4.12), followed by the quality of assistance in selection of co-ops (mean=4.08). Interestingly, group comparisons indicated that more female respondents were more likely to use their professional advisor compared to male students (88.8% vs. 64.0%).

Ninety-two percent of all undergraduate students registered satisfaction with their professional advisor. Ninety-nine percent of these students felt that it was important that a professional advisor assume the responsibility to help them relate their academic choices to their program and future career goals. In Table 6.3 above, the undergraduate student levels of satisfaction with services provided by professional advisors for decreases from 97% (first –year students) to 56% (fifth-year students). These results

likely indicate that as students advance in their studies, their need for professional

advisement lessens. Further analysis revealed that 97% of respondents felt their advisor

helped them to see the relationship between their selected courses and their program and

career goals.

Information Technology Service

Information and Technology Services (ITS) serves the university's information

technology needs by providing development, maintenance, and support for centralized

administrative applications, technology infrastructure, and client computing, as well as

support and advice for a wide variety of other information technology needs (University

website, 2009j).

When looking at the level of satisfaction for the Information Technology Service

variables, we see the highest mean values given to Help Desk responsiveness (mean

value of 6.88) and the availability of computer labs (mean value of 6.68).   Another

highly rated ITS variable was staff being responsive to student needs, with a mean score

of 6.52. Group comparisons revealed that undergraduate students were more likely to use

the Help Desk than graduate students, 72.6% vs. 40.2% (Table 6.4) - 97% (first –year

students, and other on-campus internet and computer resources such as the computer labs

and computer tutoring (96.8% vs. 80.8%).

Undergraduate students showed significant differences from graduate students in

the frequency with which they used the Help Desk (as depicted in Table 6.4 below).

More than 20% of the undergraduate respondents used the Help Desk more than five

times which is a variable used by the Information Technology Services office as a key indicator of service at this institution.

Responses to the survey showed that 94% of incoming international students used a computer in their home country before coming to the U.S. Eighty-four percent of the incoming international students surveyed used a computer for school assignments before arriving in the U.S. and all incoming students regularly used the Internet with 97% having used email. Computer familiarity and access to technology may explain why international students selected to attend this institution.

Figure 6.4: Group Comparison of Help Desk Usage by Enrollment Status
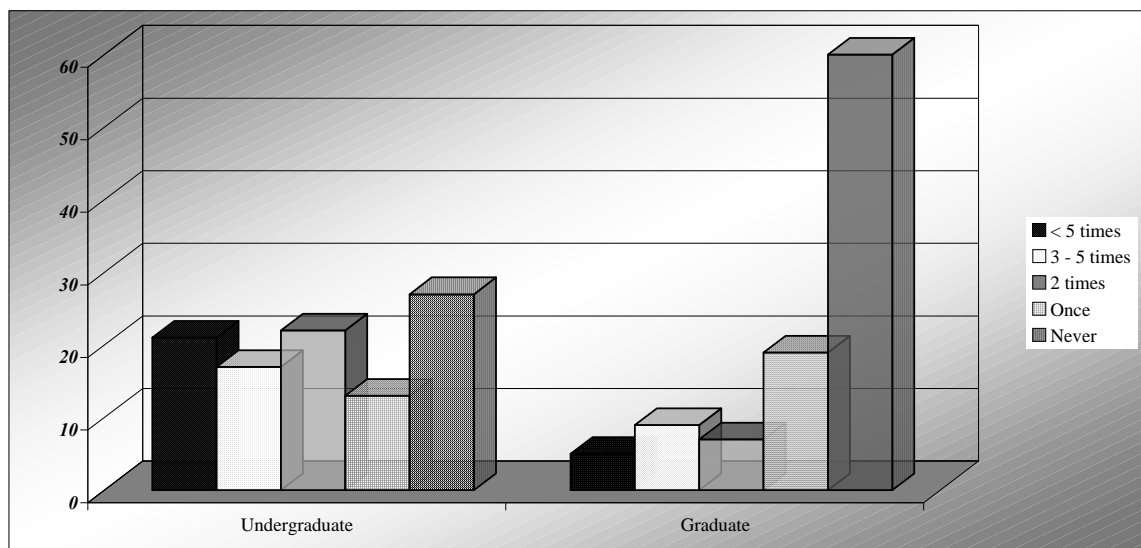
In addition to the likert scale responses, the survey provided students the opportunity to write-in other uses they had for computers. Not surprisingly, given that many are in computer related areas of study, students wrote that they use computers for gaming, web-design, programming, database design and technical software packages

specific to their fields of study. It should be noted that students who wrote in additional uses for computers were almost exclusively from engineering, computer and information science, and other computer related computer related majors such as network security.

Public Safety

Five questions were asked to assess the overall perception of campus safety. Analysis of the results reveled the following. The majority of respondents (85%) indicated that the campus was safe although 8% have actually changed their activities because of fear of crime. The majority of respondents (92%) indicated that the new electronic card access made them feel safer and 35% believed that the campus needed additional security cameras. With regards to the public safety department, most participants (86%) indicated that they believe that the public safety department personnel care about the university community and 88% feel comfortable calling for assistance. Figure 6.5 below shows that, compared to male students, female respondents were also more likely to be satisfied with public safety (98.9% vs. 95.4%). In light of recent campus tragedies, it is not hard to understand why this service is rated highest.
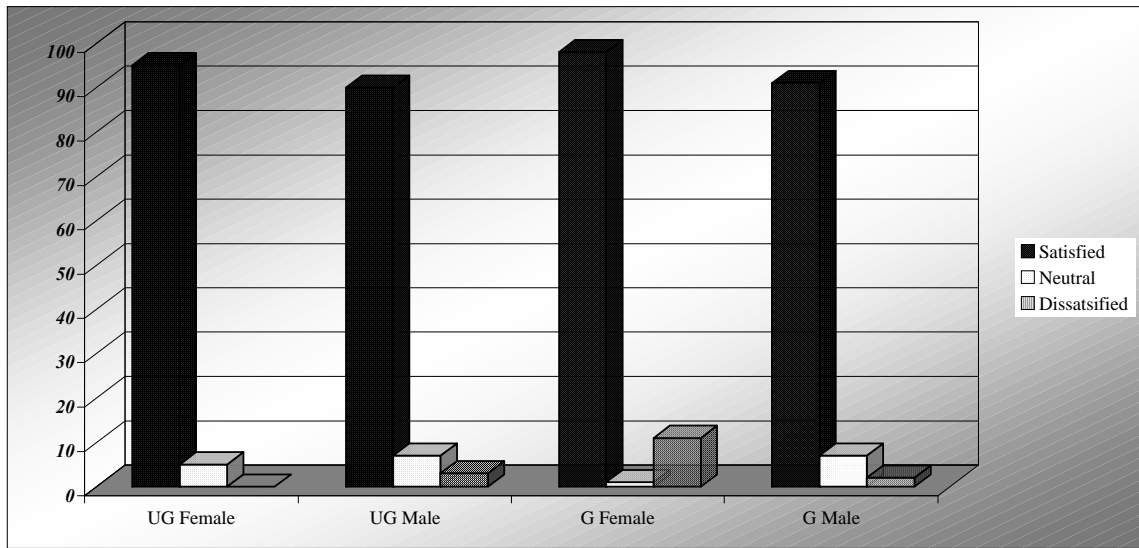
Key: UG = Undergraduate; G = Graduate

It is significant that, at the time the survey was administered, the institution was

undergoing a campus-wide pre-emergency plan implementation and this may also be

another reason why students rated public safety so high. An undergraduate male student

from the United Arab Emirates offered this additional reason why public safety ranked

high on the list of student services:

> "I arrived in the U.S. knowing that I had many security-related
>
> tasks to accomplish. I at first felt very discouraged and a little angry.
>
> There are additional security checks and we are always reporting to the
>
> ISS (International Student Services Office). But after a while, I
>
> understood why it is so important. Now I can walk around knowing
>
> that other students who may be afraid of foreign students can be

assured that we are here to study… not to blow up buildings with

planes."

Library Services

The libraries include Wallace library, the Cary Collection and the university archives (University website, 2009k). Graduate students were most satisfied with the services of the library registering a mean score of 6.46 while undergraduate students registered a mean score of 6.06. This result shows widespread satisfaction among all students. On the question, "Library staff are helpful and approachable," undergraduate students rated this item higher than their graduate counterparts although only slightly so (mean scores of 6.27 vs. 6.09 respectively).

Incoming international students prior experience using libraries and computers may be considerably limited. Unlike domestic students or international students with more than one quarter of study, these students may experience heightened levels of library anxiety compounded by their newness to the university and the country. To mitigate this potentially problematic situation, the university requires all first-year students to take a first-year enrichment course where one topic discussed is library usage and services.

Figure 6.6: Library Usage Comparison by College Year
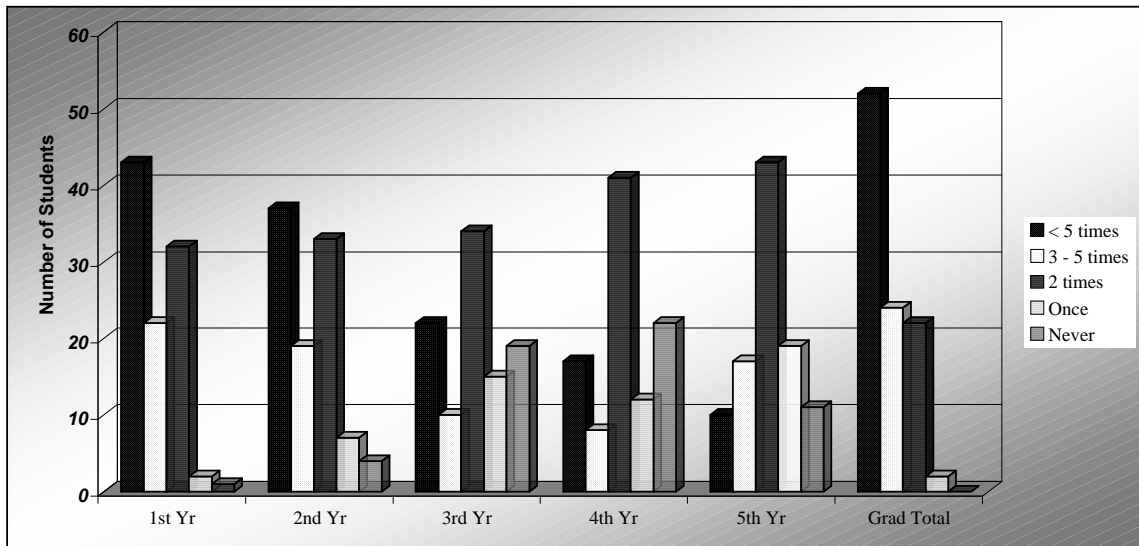
This may explain the heavy usage of the library by first-year students (Figure 6.6

above) compared to their upper-class undergraduate counterparts. In addition, students in

the third, fourth and fifth years spend a considerable amount of time on co-op, mostly off

campus and outside Rochester, and therefore would not have a need to use or access the

library. This also likely explains the lower usage of the library by upper-class students.

Student Health Center

According to the Student Health Center website, their primary mission is to

enhance the educational process by modifying or removing health-related barriers to

personal development and learning (University website, 2009l). Additional services

provided include prevention, health promotion, and education services that enable

students to take full advantage of their academic experience and to serve as the health and medical resource for the university community.

Figure 6.7: Student Health Center Usage Comparison by College Year
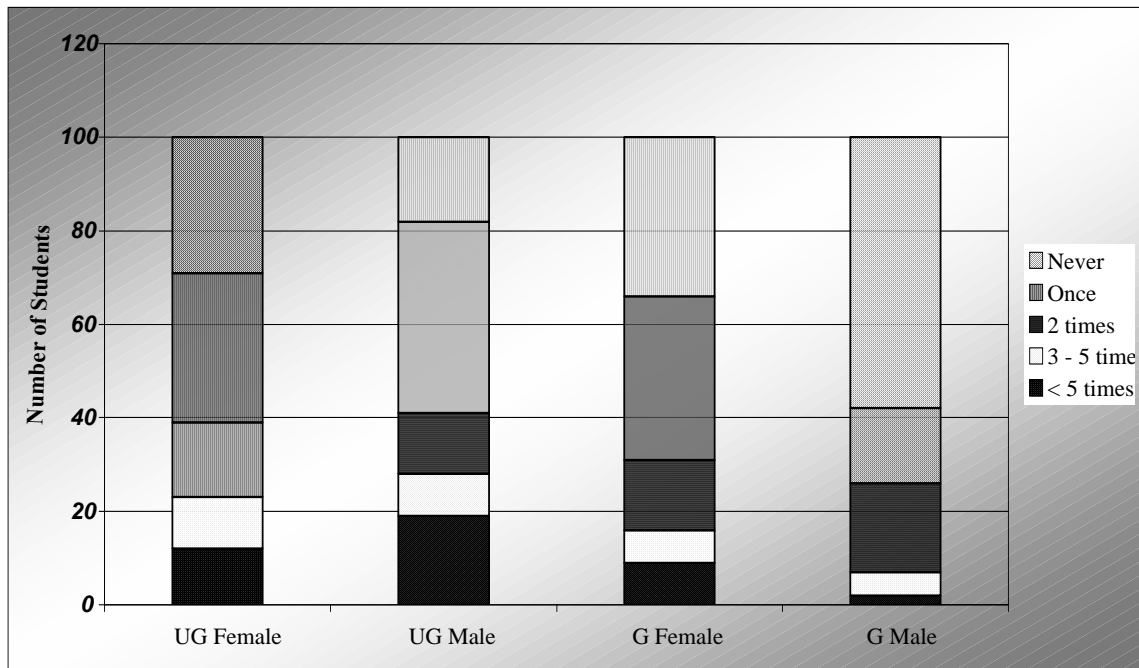
Key: UG=Undergraduate; G=Graduate

Student satisfaction with medical and counseling services was high for all student groups. The student health center received an overall mean satisfaction score rating of 6.72 with 83% of students rating this service as "very satisfied." Male undergraduates (82%) were more likely to use the health center than their female counterparts (71%). On the other hand, graduate females (66%) used the health center more than male (42%) graduate students. Figure 6.7 above shows the number of students who indicated not visiting the health center seemed high: 29% undergraduate females; 18% undergraduate males; 34% graduate females and 58% graduate males.

It is possible that respondents did not want to answer this question due to the personal nature of the information and this may explain the high numbers registering no use of the health center.

Group Comparisons between Undergraduate and Graduate Students

Undergraduate students registered highest satisfaction with the following services: (1) faculty advisor; (2) information technology support (ITS); (3) professional advisor; (4) public safety; (5) library; (6) international student services; (7) student health services; and (8) registrar (Table 6.8 below).

On the other hand, graduate students ranked highest satisfaction with student services; (1) public safety; (2) library; (3) professional advisor; (4) international student services; (5) student health services; (6) faculty advisor; (7) registrar; and (8) information technology support.

Rank comparisons of highest rated services by international undergraduate and graduate students can be found in Table 6.2 below. Results indicate that, with the exception of the Registrar's office, both undergraduate and graduate students highly rank similar services.

Services provided by professional advisors to undergraduate and graduate students was ranked third by both groups. Most undergraduate (89%) and graduate (80%) students were very satisfied with the services provided by their professional advisors. Similarly, a high percentage of graduate (74%) and undergraduate (93%) respondents registered high satisfaction with their faculty advisors.

Table 6.8: Rank Comparison of Highest Rated Services for Undergraduate and Graduate Students

Undergraduate		Graduate	
Service	Rank	Service	Rank
Faculty Advisor	1	Public Safety	1
Information Technology Support	2	Library	2
Professional Advisor	3	Professional Advisor	3
Public Safety	4	International Student Services	4
Library	5	Health Services	5
International Student Services	6	Faculty Advisor	6
Student Health	7	Registrar	7
Registrar	N/A**	Information Technology Support	8

Key** Undergraduate students registered low satisfaction with the services of the Registrar's office.

It is important to note that a majority (89%) of the undergraduate respondents were in the engineering, science and business departments. Both these departments have a reputation on campus for a highly structured curriculum, leaving little room for individualizing a program of study. Therefore students in these programs had little reason to interact with faculty advisors. Students in both programs had more incentive to meet regularly with their professional advisors to discuss scheduling, course requirements and degree audits. This may explain why undergraduate engineering (91%) and business (74%) students record higher satisfaction with their professional advisors than their college of liberal arts (65.2%) and imaging arts and sciences (69.9%) counterparts.

Performance Gap Analysis

Definition of Performance Gap Analysis

Students are seen as individuals who have definite expectations about what they want from their campus experience (Noel-Levitz, 2006). From this perspective, satisfaction with college occurs when an expectation is met or exceeded by an institution.

The performance gap analysis is the calculation of the discrepancy between the expectation (importance score) and the reality (satisfaction score). Questions 21-93 of the quantitative online survey measured students' satisfaction with a range of college services.

As indicated above, students rated each item in the inventory on an importance scale of 1 to 7. Importance was rated 1 if the service was "not important at all" and 7 if it was "very important." Satisfaction was rated 1 if the student was "not satisfied at all" and 7 if the student was "very satisfied."

After data analysis, there are three different scores for each item: (1) an importance score rating reflects how strongly students feel about the expectation (the higher the score, the more important it is to a student, therefore the stronger the expectation); (2) satisfaction ratings show how satisfied students are that the institution has met the expectation (the higher the score, the more satisfied the student) and; (3) performance gap scores (importance rating minus satisfaction rating) show how well the university is meeting the expectation overall. Large performance gaps (e.g., more than or equal to 1.0) indicate that the service is not meeting students' expectations. Small gaps (e.g., less than or equal to 0.50) indicate that students' expectations are being met, and negative gaps (e.g., greater than or equal to negative 0.25) indicate that expectations are being exceeded. Performance gaps below or equal to 0.5 are defined as "meeting expectation." As shown in Figure 6.9, the results of the analysis allow services to be located in 4 different quadrants according to importance and satisfaction.

Figure 6.9: Matrix for Prioritizing Action
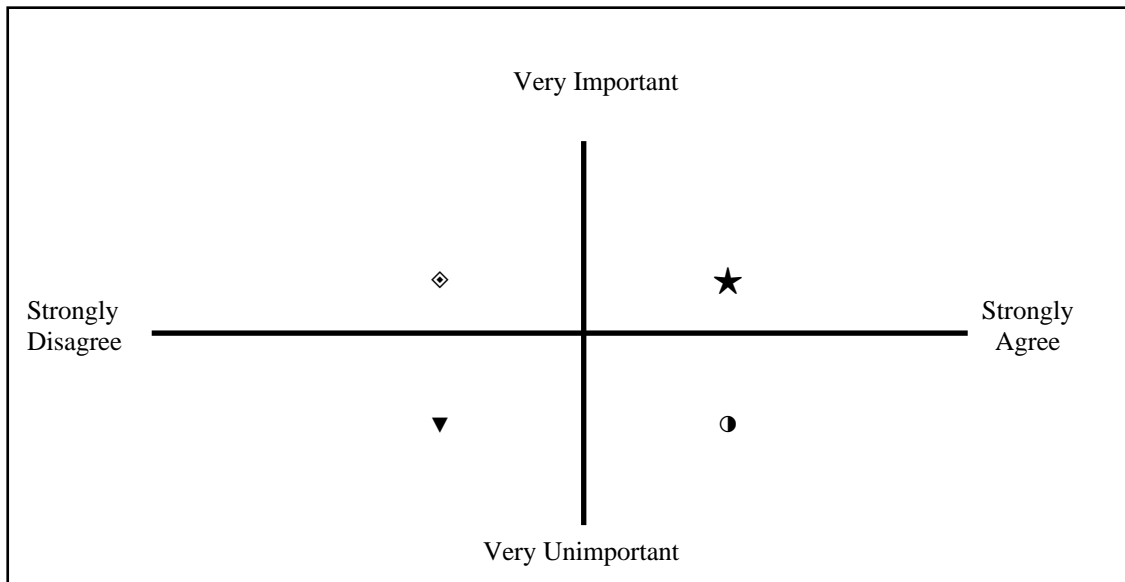
Key:

◈ High Importance/Low Satisfaction pinpoints areas that should claim the institutions immediate attention, i.e., retention agenda/priorities.

★ High Importance/High Satisfaction showcases the institution's areas of strength.

▼ Low Importance/Low Satisfaction presents an opportunity for the institution to examine those areas that have low status with students.

◑ Low Importance/High Satisfaction suggests areas from which it might be beneficial to redirect institutional resources to areas of higher importance.

Performance Gap Analysis Results

As discussed in Chapter 5, a performance gap indicates the difference between the importance rating for an item and the satisfaction rating for that item. Set forth in Table 6.10 below are the eight highest-rated services as determined by satisfaction and importance scores of male and female, undergraduate and graduate students. Low numerical values of the performance gaps of these services indicates that they are

institutional strengths. The term "institutional strength" is defined as services that meet

student expectations.

Table 6.10: Undergraduate and Graduate Student Performance Gap Comparisons

Student Service	Undergraduate Performance Gap				Graduate Performance Gap			
	F	Rank	M	Rank	F	Rank	M	Rank
Faculty Advisor	0.40	6	0.90	7	0.77	5	-0.36	5
Infor. Tech. Services	-0.20	3	0.26	6	0.13	7	-0.58	1
Professional Advisor	-0.06	4	-0.06	1	-0.39	1	-0.06	8*
Public Safety	-0.03	5	0.14	4	0.79	4	0.39	4
Library	0	7	0.01	2	0.64	6	0.49	3
Int. Student Services	-0.55	1	0.16	5*	0.13	7*	0.58	1
Student Health Center	-0.39	3	0.36	2	0.90	3	0.15	7*
Registrar	**1.25**	**N/A**	**1.17**	**N/A**	-0.38	2	0.16	6*

Key: F=Female; M=Male; Bold numbers are above 1 and therefore NOT meeting student expectations and satisfaction.

The four groups of students share the following top-ranked services: public safety, information technology support, international student support, library, student health services, and professional advisor. Performance gaps ranged from a high of 0.9 (undergraduate male performance gap for Faculty Advisor services and graduate female performance gap for Student Health Services) to a low of -0.58 (graduate male performance gap for Information Technology Services). The average performance gap for all items was 0.22 and averages for the 4 student groups ranged from a low of -0.12 (undergraduate female) to a high of 0.32 (graduate female).

Other noteworthy results include services where the rankings by the different groups were separated by more than three rankings (i.e., the expectations of the various groups were met to significantly different degrees). These areas are denoted with

asterisks (*) in Table 6.10. Notably, the male graduate students' ranked Professional

Advisor, Student Health Services and the Registrar's Office higher than the other student

groups. This result indicates that graduate males, although satisfied with these services,

perceive that the university as less effective in meeting their expectations in these areas

than do their student counterparts.

Figure 6.11: Matrix for Prioritizing Action – Highest-Rated Services
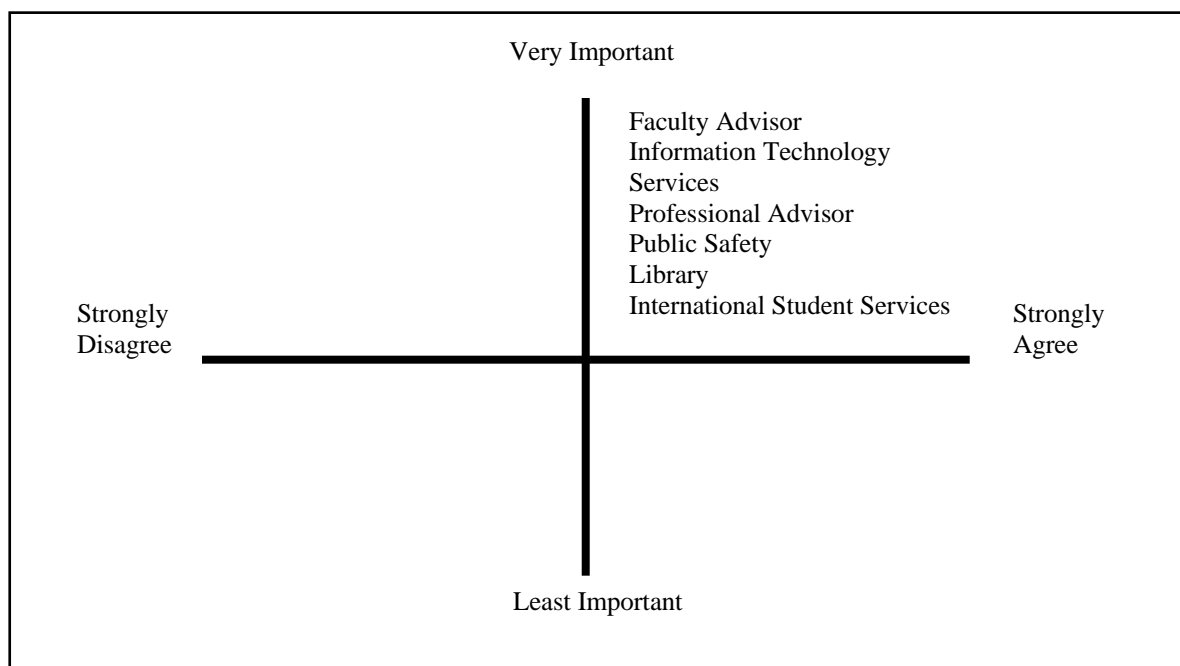
Undergraduate male and graduate female students rated Professional Advisor at

number 1, both with performance gaps of -0.06 indicating that they exceeded

expectations. Performance gap scores indicate that, both, female and male graduate

students ranked Faculty Advisor services 5th (corresponding to satisfaction mean score of

6.46 and importance mean score of 5.69 for female graduates; and a satisfaction score of

5.69 and importance mean score of 6.04 for graduate males). In the case of the Registrar,

graduate students perceive that the university is more effective in meeting their

expectations than do the undergraduate students.

As discussed above, the four groups of students share the following services among

their highest-ranked services: public safety, information technology support, international

student support, library, student health services, and professional advisor. As illustrated

in Figure 6.11, based on these satisfaction and importance results, these highest-rated

services occupy the upper right hand quadrant of the Matrix for Prioritizing Action for all

groups. These five services, identified as institutional strengths, are also the items ranked

as being most important to international students as a whole. Public Safety, Library

Services and Professional Advisor were all identified as being "very important" by, both,

undergraduate and graduate students. Undergraduate students rated Information

Technology Services as "very important" (on a scale of 1 to 7, where 1 is "not important

at all," 4 is "neutral," and 7 is "very important"). Both student groups labeled the Student

Health and the Academic Support Center as being between "somewhat important" and

"very important" on this 7-point scale.

Qualitative Data Results

As stated in Chapter 3, the second level of data collection and analysis was in the

form of interviews of twenty (20) selected international students (10 undergraduate and

10 graduate). The interviews were transcribed and the text analyzed by organizing the

data and coding it. Coding the data included finding similarities and differences between

the students' concepts of the critical issues.

The topics for the questions posed during the interviews were selected from the analysis of the online questionnaire. Data gathered from the survey identified services students used, had problems with and with which they were generally satisfied with. Questions 1 through 3 of the interview dealt with student services that students reported to be most satisfied with (see Appendix C for interview questions). These student services are the subject of the following discussion.

Following theoretical saturation of questions, three main categories or "level one" codes (Cassell & Symon, 2004) emerged: "academic acclimatization;" "cultural acclimatization;" and "student/administrator interaction." From these level-one codes, subhead categories or lower-level codes were created and the template (Figure 5.11) developed. All level-one codes were common to data collected from both undergraduate and graduate students. As the interview data was analyzed, distinct differences were raised by undergraduate and graduate students within level-one codes and therefore some of the lower level codes were coded with "UG" representing codes specific to undergraduate students and "G" representing codes for graduate students.

The interviews conducted with both undergraduate and graduate students generated the following major topics: academic acclimatization; cultural acclimatization; and student/administrator interaction. Many students spoke at length about their experience with academic transition. A female graduate student from South Africa said:

"All my life I was a very good student. In South Africa we used to get

our university course syllabus for the entire year on the first day of each

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class. I even knew the exact date, time and location of my final exams

nine months in advance. It is very different here. I am used to courses

lasting more than one semester with lots of time to study for tests and

quizzes. The quarter system is unforgiving… we only have eight to

nine weeks to master a subject, prepare for exams and then the course

is over. It is very hard to make the change from what I was used to."

Many students talked about internal and external stressors and pressure to be
academically successful. Internal pressures included the highly-structured programs at
the institution with course sequences that were required for co-operative education
qualification and more importantly graduation. External stressors included family
members at home, government scholarship regulations and fellow international students.
These stressors were aptly discussed by an undergraduate male student from Vietnam:

"No one from my family has travel[led] abroad. I am the first. My

family looks at me for success in studies. I work very hard to make

them happy. The classes here were very hard for me at first. I did not

have anyone to talk to about [my] difficulties. I talk[ed] to other

international students but we all are having problems so I [do] not talk

much. Calling Vietnam to discuss these issues [is] not a good idea. So

I [kept] silent. It is very hard for me. I always feel alone."

Almost 34 percent of survey respondents would describe the level of challenge
encountered in their courses as just right, while 56 percent perceived it as too hard and

just over 10 percent felt it was too easy/not challenging enough. Further analysis

revealed that undergraduate students were more likely to report lower levels of academic

challenge compared to graduate students (24.4% vs. 8.1%). A female graduate student

from India, in the College of Engineering, during her interview indicated:

> "My program is very demanding, I am one of 3 female students and the
>
> only international student. I find that all my time is focused on my
>
> studies. I find the quarter system to be very tough… it is very fast and
>
> you can get left behind if you are not careful. My advisor has been very
>
> helpful. He sent me to the academic support center to get help on my
>
> papers and reports. I find that I am there at least twice a week."

Several students were in contact with these offices even before they arrived in the

United States. In preparation to start a business degree a male graduate student from the

Dominican Republic said:

> "I applied and received a government scholarship. It was not difficult
>
> to get the necessary paperwork together to travel [to the U.S.]. I was
>
> able to communicate with my professional advisor before I came to [the
>
> university]. Since I am in the accelerated MBA program, I had to start
>
> my courses in the summer. I thought it would be hard to get anyone to
>
> help me since I assumed everyone would be on vacation. I was able to
>
> get into all my classes and my advisor even helped me to get an
>
> apartment."

Advisors, professional and faculty, were frequently mentioned in connection with most aspects of academic life. The role of the professional advisor in relation to the faculty advisor depended on the enrollment year of the student. Most graduate students (8 out of 10 students interviewed) had a closer relationship to their faculty advisors than undergraduate students (4 out of 10 students). This may be because professional advisors at this university enroll undergraduate students in classes, give them advice on what classes to take, and solve many academic problems for the students. A male undergraduate student in the college of business from Canada stated:

"I was recruited from the junior hockey league to come and play Div[ision] 1 hockey. I left high school in 2005. It was very hard for me to get back to being a student after being out of school for so long. My [professional] advisor signed me up for all my classes my first quarter and she even helped me get into classes to fit my practice schedule. Whenever I have an academic problem I go and make an appointment to see her."

Some undergraduate students confessed to not having a relationship with their faculty advisor because their professional advisor was so effective and was easier to get face time with. On the other hand, 6 graduate students discussed a close working relationship with their academic advisors. A male graduate student from Korea said:

"I am a graduate assistant for Professor XX and he has been very helpful to me. If I have any question about my classes… even personal

questions… I know that he will help me. My professor has even

invited me to his house for dinner. Such relationships never happen in

Korea. Things are very different in Korea. I like my status here."

Overall both graduate and undergraduate students had high satisfaction with their

academic advisors and the assistance from the academic support center. Nineteen

students had positive comments regarding their overall experience with these services

with one student who said she had not met her academic advisor as she had just started

her program that quarter.

Confirming studies that have shown the importance of friendship networks for

college student persistence (Baxter Magolda, 1992, Corsaro & Elder, 1990; Cusick, 1973;

Everhart, 1983; Fussel & Gauthier, 2005; Hope, 2010; Martinez Alemán, 2000, 1997,

2010; Pascarella &Terenzini, 1992; Willis 1981), international students who made

satisfactory social contacts with other students during their academic experience reported

general satisfaction with their experience and overall acclimatization as evidenced by a

female undergraduate student from Japan:

"It was not hard to make friends when I came here. I went to an

American high school in Massachusetts for two years so I was able to

learn good English. So it has been real easy to make friends in my

classes and in the dorms. I realize that most of my friends are from

first year orientation. I did make some friends from Japan but most of

my friends are Americans. I like [this university] and have enjoyed my

time here. I am sad this is my last year."

Interviews also confirmed that international students tend to have distinct

friendship patterns (Bocher et al., 1977, Furnham and Alibhai, 1985): friendships with

co-nationals are most common, followed by friendships with other international students.

The least common friendships are with Americans. Difficulties in making contacts with

host nationals may be attributed to perceived discrimination and poor command of host

language (Yamazaki, Taira, Shun-ya and Yokohama, 1997). A male graduate student

from Saudi Arabia poignantly discussed his distress in class and social settings:

"How can you ignore the looks people give you? You know how some

professors give group assignments? I can see how some students in the

class do not want to be in a group with me. In my program [MBA] we

are always doing group work. We [international students] always work

together otherwise we will not be in any group. American students

work with other American students…. What is that?"

All the graduate students interviewed had positive comments regarding the

registrar's office. These results are due in significant part to the fact that graduate

students do not have to "queue" to register for classes i.e., graduate students have priority

over undergraduates at registration time. In addition, the graduate programs at this

institution are much smaller than the undergraduate programs therefore the competition

to get into key classes does not exist. A female graduate student from Nigeria in the college of liberal arts said this regarding the registration process:

"I believe registration is important because personally I would like to have some experiences with a lot of classes but I do not have time to do so. American students may have had the opportunity to take the classes in high school but the international students come from a completely different system. And there are so many interesting classes and I know that if I do not take the class when it is offered I will not have the opportunity to take it again. It feels like an opportunity that I have lost."

Eleven students (out of a total of 20 interviews) discussed the library's services as an essential service to their academic success. An undergraduate male student from Kazakhstan said:

"The library is a good place to study. I spend a lot of time in the library. A big group of us (students from Kazakhstan) like to go there to do our homework and assignments together. The people there are very helpful. Last quarter I had a research project and the college librarian helped me a lot. I learnt a lot about resources in the library…even on-line…"

Seven students talked about the non-academic services at the library as the reason for using the services at the library often. Java Wally's, a coffee house in the library, and the Idea Factory, a comfortable lounge, were popular haunts. Students liked the

atmosphere of the library and called it "welcoming," easy to navigate, and full of resources.

Conclusion

In general, findings from the survey indicate that most respondents were satisfied with their academic support experience especially services delivered by faculty and professional advisors. Graduate students appear to enjoy somewhat greater satisfaction with their academic support services compared to their undergraduate counterparts.

High levels of satisfaction and importance with academic support services is most likely a result of a student's hard work, self-advocacy and relative ease of acclimatization to the university life. Students interviewed talked about the stress and pressure to do well academically, from their families, fellow students and program requirements. Some students discussed the relative bucolic location of the institution and the lack of distractions resulted in the ability to focus on academics.

Both graduate and undergraduate students have a high regard and satisfaction with support provided by the International Student Services office. Many students interviewed mentioned staff members in this office by name and were very appreciative of their efforts to make the transition to American life easier.

The services in the library were also highly rated with students registering high usage in the earlier class years. Heavy usage of the library in the first and second years of undergraduate study could be a result of the nature of the courses undertaken during this time with students going on co-op during their third, fourth and fifth years.

The qualitative data supports the survey findings with notable focus on relationships with professional and faculty advisors.   Advisors seem to be important in assisting with both academic and cultural transitions. Personal relationships with faculty and staff providing academic support services were appreciated.

CHAPTER 7

CONCLUSIONS

This chapter synthesizes the findings from Chapters Five and Six in four ways and, accordingly is divided into four parts. Part One presents a brief recap of the results presented in Chapters Five and Six and addresses the first research question - *To what extent are international students satisfied with university-provided services in comparison to their expectations?* In Part Two, I relate the study's descriptive frameworks, which were illustrated in the literature review, to the results produced in Chapters Five and Six and address the second research question - *Are there differences in satisfaction based on gender?* Part Three discusses limitations of the study and Part Four is a discussion of university policy implications and recommendations for further research.

Part One

As discussed previously, the four quadrants (shown in Figure 7.1 below) present a matrix for prioritizing action (Noel-Levitz, 2003). The matrix identifies services that registered: (1) low satisfaction/ high importance – Quadrant A; (2) high satisfaction/high importance – Quadrant B; (3) low satisfaction/low importance – Quadrant C; and (4) high satisfaction/low importance – Quadrant D. As set forth by Noel-Levitz, Quadrants A and B include services of greatest importance to the institution. Services occupying Quadrants A and B will be the subject of the following discussion.

Quadrant A represents services that, despite being identified by international students as being of high importance, provided low satisfaction. Accordingly, these services registered a high performance gap (calculated by taking the difference between the mean importance value and the mean satisfaction value for a given service). These services can be identified as the study institution's weaknesses.

In the present study, the results of the survey were analyzed using a paired-sample t-test technique to calculate mean satisfaction and mean importance scores. For the entire population of students surveyed, the following services were identified as institutional weaknesses: (1) Student Financial Services; (2) Housing Operations; (3) Dining Services; (4) Transportation Services; (5) Registrar's Office; and (6) Co-operative Education Placement.

Satisfaction mean scores for these services, based on results for all respondents, were low and ranged from 2.15 (co-op placement services) to 2.99 (student financial services). Importance mean-scores for these services ranged from 6.26 (co-operative education placement) to 5.99 (dining services). These services were very important to both undergraduate and graduate students, and reflect the unique challenges international students face as they acclimatize to life in the U.S.

A couple of observations can be made regarding these results. Firstly, dissatisfaction with these services generally increased with the increase of time spent at the institution. For example, 67% percent of first-year respondents registered dissatisfaction with the Student Financial Services Office compared to 83% of fifth-year

students. This increase in dissatisfaction could be a result of upper-class students' disillusionment with the yearly increases in tuition.

A second observation is that it is important to note, given the nature of services such as Student Financial Services and Housing Operations, students may have been gauging their satisfaction not in terms of the service being provided, but by the outcomes of the services provided i.e. the amount of tuition and the lack of financial aid received, and accommodations provided.

Further analysis of performance gap scores was performed by calculating scores for groups of students according to the following groupings: undergraduate females, undergraduate males, graduate females and graduate males. These results revealed that female graduate students had the highest performance gap average (1.75) which was calculated by averaging the gap values for all services. Male undergrads had the next highest average performance gap (1.68).

When the surveyed population was divided into graduate and undergraduate groups (male and female combined) the following trends emerged. The graduate international students reported a lower satisfaction for housing and transportation than did the undergraduate international students. Compared to graduate students, undergraduate respondents were more likely to be dissatisfied with co-op placement (87% vs. 20%).

When the surveyed population was divided according to major, the following trends emerged. International students majoring in science fields had lower satisfaction

than other international students. More specifically, among the various majors international students in the colleges of engineering and science were least satisfied with their academic experience, but they were most satisfied with co-op placement.

Students who used the dining facilities gave very mixed ratings of the quality, variety and price of the food. While ratings for the overall survey population were mixed, female students were decidedly dissatisfied. This result is consistent with the fact that a bare majority (51%) of female respondents reported purchasing meals on campus at least once a week. Of the ten female students who were interviewed only one student said she regularly ate on campus. All other female students who were interviewed indicated that they either ate their meals in their apartments or brought food from home.

Turning attention to services occupying Quadrant B (see Table 7.1) below, an overview of the results for services that provided the most satisfaction and registered the highest importance to international students will now be discussed. Services determined to occupy this quadrant have low performances gaps and represent the study institution's strengths.

For the entire population of students surveyed, services occupying Quadrant B were found to include: (1) Faculty advisor; (2) Information Technology Services; (3) Professional Advisor; (4) Public Safety; (6) Library; (7) International Student Services; and (8) Student Health Services. It is important to note that most of these services revolve around academic quality. The significance of these results is taken up in detail in Part Two of the Conclusion. Results clearly indicate that international students want

quality advisement, to learn in a safe environment and to be able to get good healthcare and the results also indicate that they in fact believe they are receiving all of these. The "bottom line" for international students was that it is important to achieve individual outcomes such as having a degree that would increase marketability in the workplace, increase anticipated salary in relation to education costs, and increase the possession of key skills that help ensure career mobility.

Most undergraduate (89%) and graduate (80%) students were very satisfied with the services provided by their professional advisors. Undergraduate engineering (91%) and business (74%) students recorded higher satisfaction with their professional advisors than their college of liberal arts (65.2%) and imaging arts and sciences (69.9%) counterparts. Similarly, a high percentage of graduate (74%) and undergraduate (93%) respondents registered high satisfaction with their faculty advisors.

Further analysis of the performance gap scores revealed that undergraduate female students were the most satisfied (-0.12) group compared to other international students. Taken in combination with the results of Quadrant A, it is apparent that female students had stronger opinions, both positive and negative, regarding services at the institution.

Correlation findings indicated a positive relationship between length of time in the U.S. and satisfaction with the highest-rated services. Additionally and perhaps not surprisingly, students with higher grade point averages reported higher satisfaction.

Figure 7.1: Matrix for Prioritizing Action – Highest and Lowest Rated Services for All Students

Very Important

QUAD. A	Student Financial Services	Faculty Advisor	QUAD. B
	Housing Operations	Information Technology Services	
	Dining Services	Professional Advisor	
	Transportation Services	Public Safety	
	Registrar Office	Library	
	Co-op Office	International Student Services	
		Student Health Center	

Strongly Disagree   Strongly Agree

QUAD. C   QUAD. D

KEY: QUAD. = Quadrant   Least Important

Part Two

Comparing Study Results to Tinto's Model of Student Assimilation/Acculturation

Comparing findings in the literature review to the results produced in Chapters Five and Six offers interesting insights regarding issues significant to the experiences of the participants in the present study. The findings of this study indicate that international students perceived their main goal as succeeding in academics and future careers. These results offer some support of Tinto's model (1975, 1986, 1997) of student assimilation/accultruation. Tinto (1997) contends that if social integration is to occur, it must occur in the classroom (p.599), because the classroom functions as a gateway for

social involvement in the academic and social communities of a college (Tinto, Goodsell & Russo, 1993). Thus, the college classroom is a possible source of influence on social integration, and subsequent satisfaction with institutional services.

Four of the seven services rated highest by international students directly relate to academic life: (1) faculty advisor; (2) professional advisor; (3) library; and (4) Information Technology Services. The surveys and interviews demonstrated that interactions with faculty and staff in these areas met and surpassed their satisfaction. Students registered high satisfaction with the quality of their academic program. Additionally, satisfaction mean scores indicated that students were quite satisfied with the quality of advisement from their faculty and professional advisors.

With the exception of aggregate scores regarding "satisfaction with class size" and undergraduate scores regarding "satisfaction with the Registrar's Office" all variables related to academic support services indicated satisfaction and therefore suggest that academics is supporting assimilation/acculturation at the subject institution in accordance with Tinto's model. To the extent that dissatisfaction regarding class size may suggest otherwise, it should be recognized that the survey question that addressed class size referred to all classes taken at the university and did not specify "within major" or "introductory classes," thus providing a limited indication that class room size affected overall academic satisfaction. More specific questions or series of questions regarding class size and the Registrars Office may have provided a more accurate indication of the effects of class size and the Registrar's Office.

Student satisfaction was found to be positively associated with program completion rates and grade achievement. Students who reported higher levels of satisfaction tended to have higher grades (GPA > 3.0) and were more likely to complete their program than students who were less satisfied (67% vs. 39%). These findings were similar regardless of gender, program or age.

As indicated above, results from the survey and interviews demonstrate that international students usually have one overriding reason for being in the U.S. – obtaining a higher education. They placed a high priority on academic services and viewed satisfaction with other services as ancillary.

Student interviews indicated that this drive to succeed academically was not only internal to the students but also provided by friends and family back home. Successful academic integration requires time and effort and may be the reason why social integration appears to be secondary and therefore not high on the satisfaction or importance scales. It may be possible that international students channel their efforts toward academics to compensate for what may be less than satisfying social life. Despite this apparent indication of a lack of interest in non-academic matters, Tinto (1997) finds that academic involvement, as has been found to be occurring at the study institution, in fact, leads to greater social involvement.

To date there is little research on the connection between international student assimilation/acculturation, social integration and student satisfaction with their college experience. As discussed above the results of this study illustrates these connections.

In the interview portion of the study, the students surveyed saw integration as positive and did not view their integration as assimilation but rather felt that they had preserved their cultural integrity. During an interview with a student from Saudi Arabia this issue was discussed, "There are so many different people at [this university] compared to my country. I am always surprised at the different places people come from. [There is] something new to learn all the time. I do not feel that I must be like the Americans to blend in. Most of the time people do not know I am from Saudi Arabia, until I open my mouth." A student from Germany said, "I try and learn more about Americans because my time in this country is short and I want to immerse myself in the language and culture. Most of my friends are Americans."

Comparing Study Results to Gender Theories

The works of Brannon (2008), Carter & McClellan (2000), Crawford & McLeod (1990), Bean and Vesper (1994), Belenky, et al. (1986), Gilligan (1982 & 1984); Morales, (2008); Noddings (1984); Peter & Hern, 2005); Perna, (2005); and Winter, (2009), found that women think of themselves as deeply involved in a web of social relationships. Consistent with those findings, the results of this study indicate that female students typically have more interactions with faculty, staff and peers than male international students. Female respondents were more likely to use their professional advisor than their male counterparts (89% to 64%). One possible explanation for this result is that female international students are more comfortable and confident in establishing relationships with faculty.

Additional findings of this study, regarding highest-rated services, also indicate that female international students are more satisfied in most service areas than male international students. For example: (1) First-year female students surpassed their male counterparts in all the highest-rated services; (2) graduate females were more likely to be satisfied with Public Safety; and (3) graduate females were more likely to be satisfied with the Health Center than their graduate male counterparts (66% to 42%). Additionally, based on conversations with five undergraduate female students, it was clear that they valued the quality of their education and found their faculty and professional advisors to be knowledgeable. The only variable male students consistently registered higher satisfaction was with Information Technology Services.

There is a popular stereotype of the frequent computer user at this institution who is characterized as male, socially inadequate and isolated individual. On the topic of technology, Parr, et al. (1992) found that, although technology may help ease the transition to the American college campus, it may also play a part in isolation if it substitutes for face-to-face interaction. In this case, male international students may be using technology instead of talking to faculty, staff and peers to avoid embarrassing exchanges created by language barriers.

Additional Significant Issues Identified

In a manner as set forth in Caplan and Nelson (1971), the study conducted moved beyond a "person-centered" approach and used a "situation centered" approach. The study explored the experiences of international students in the context of utilizing student

services at RIT. This "situation-centered" approach collected evidence that student satisfaction with student services promotes integration with the campus community.

International students have diverse cultural, social, religious and political backgrounds; however, they share the characteristic of individuals who are in transition in a foreign country. Their feelings of alienation on a college campus, in relation to faculty and administrators, ultimately affect their academic and personal success (Bean and Vesper, 1994).

Although it was found that students were generally satisfied with services and successfully integrating with the campus community, during interviews instances of prejudice and discrimination were raised. In addition, students talked about unfavorable experiences with American faculty, staff and students related to stereotypes about international students. Under each of the following subheadings illustrative examples of discrimination are discussed.

Interaction with Professors. Eleven of the twenty students interviewed talked about perceived prejudiced incidences with faculty. A Chinese student said, "I noticed that there is a professor in our department who pays attention only to the comments made by American students. He completely ignores me in his class… maybe it is because my English is not as good compared to the other students." Another Chinese student said, "My advisor told me that he thought I was not prepared culturally for graduate school in the U.S. I did not get much support from him in class or for career opportunities. I really struggled because I felt unwanted." Learning can be negatively impacted when

international students perceive their environment to be unwelcoming. Yet despite the discrimination experienced, when these students were asked if they regretted attending RIT, all students said that they did not. Students did reveal that they did feel pressure from family to graduate with a degree from the U.S. and therefore dropping out was not an option and transferring institutions was too difficult.

Interaction with University Staff. Only three of the twenty students interviewed could recall perceived prejudiced interactions with staff. A student from Honduras said, "I went to get my paycheck with my wife and we were speaking in Spanish. The woman at the front desk told me 'Only English is spoken here,' I thought it was rude because I was not speaking to her." A student athlete from Nigeria said that she was ignored on several occasions by staff members at the university gym she frequents when requesting assistance from the trainers for sport related injuries. She added, "I finally went to talk to the coach about the situation because other girls on the team were able to get help before me. I first thought that it was because people [the trainers] could not understand me. Then I realized it was because I was not from here." Students also expressed fear of deportation and therefore did not want to report any discrimination to the authorities.

Interactions with Peers. Seven of the twenty students interviewed said they had experienced discrimination when interacting with peers. Five of the students were from the Middle East. A student from Saudi Arabia said he accidentally dropped a lab instrument near a classmate who muttered "f[expletive] immigrant." Another student from the United Arab Emirates said, "As a Muslim student I have experienced many bad

things because of my religion… I would rather not discuss it…" One Korean student indicated, "I asked a student in my class to repeat what the professor had said because I did not understand. She refused to answer my question because my English is not so good." On the other hand, some European students experienced little to no discrimination. An Irish student said, " If you met me in the street you would not know I was Irish. People assume I am American so I don't feel any discrimination." This study revealed that students from the Middle East, Africa and East Asia experienced more discrimination than students from Canada or Europe. This may be due to darker skin color and may be related to discrimination of African American, Asian American and Latino students.

Many students interviewed stated that Americans do not have accurate knowledge of these student's home countries. A student from Nigeria said, "A classmate asked me where I was from, I told her I was from Nigeria. She asked me about the drought in my country and the misplaced people. I assumed that she was talking about Darfur. Many people don't know that Africa is a big continent with many countries."

Some international students attributed their difficulty finding co-ops and jobs; inability to form interpersonal relationships with peers, faculty and staff; negative stereotypes; and negative comments about foreign accents to Americans' lack of knowledge of different countries and cultures. Some comments indicated that there was no discrimination just misconceptions and stereotypes. A student from Germany in an

interview said, "I have not experienced open discrimination…it can be very subtle…
people are just less friendly with me than with other American students."

<center>*Part Three*</center>

Limitations Of the Study

There were four primary limitations to this study. First, one institution was studied and this institution has its own uniqueness. Accordingly, although the international students at RIT who participated in the study are generally representative of the world of private doctoral-granting institutions, if international students from other peer schools were included, the results may have differed.

Second, it was not possible to take into account "country of origin" in the analyses. Other studies cluster students from the same geographic region of origin in order to obtain regional comparisons. Clustering was not possible because only one geographic region (Asia) had a reasonable number of students. I feel that within a given region differences are important and are lost when students from one huge geographic area are clustered together.

Thirdly, twenty students were interviewed. One student was chosen to represent each given subpopulation. This proved to be an informative supplement to the survey; however, more interviews would add insight into different experiences and situations. In addition, interviewees were chosen among students who volunteered. Despite these limitations, saturation of interview topics was achieved but additional commentary would have provided significant results.

Finally, although there was no indication in any of the completed surveys that any respondent had difficulty understanding the questions, it is possible that a lack of proficiency in English affected the validity of some of the data.

Part Four

The following is a discussion of university implications and recommendations for further research. As mentioned, international students at this institution were generally satisfied with their education experience (87%). Other satisfaction surveys administered at this university have indicated a student satisfaction rating of about 83% for the entire student population (RIT website, 2009). Accordingly, international students appear to be slightly more satisfied with their overall academic experience compared to their American peers.

Information prior to international student arrival. Results of the survey indicated that international students are least satisfied with: Student Financial Services; Co-operative Education Placement; Housing Operations; Dining Services; Transportation Services; and the Registrar's Office. Survey and interview results indicate that the university would be served well if they managed student expectations by providing information regarding limitations of these services to students before their arrival on campus. For example, prospective students should be informed of a lack of opportunities for financial assistance and the lack of off and on-campus employment which is mostly limited by federal government restrictions.

Dining services. Additionally, student dissatisfaction could be ameliorated by allowing greater student involvement in decision-making regarding student services. For example, students complained of a lack of healthful dining options and the high cost of meals on campus. Dissatisfaction could be reduced by involving students in meal planning by asking for suggestions of healthful foods. Additionally, dining services could offer opportunities to students to submit recipes for more international food options.

Student Financial Services. Tuition payments are a concern to international students. Given the scarcity of scholarships, grants and assistantships for international students most must rely on personal funding. Therefore, it is advisable that the institution ensure that international students are given clear guidelines regarding tuition payments and increases. In addition, Student Financial Services could change their policies in regards to penalizing international students who are affected by sudden foreign exchange rate increases by giving the students affected additional time to complete payments. Universities may also allow Ph.D. students to pay in-state tuition after three years of study.

Co-operative education. The results of this study suggest that international students desire specialized assistance in transitioning from co-operative to attaining long-term employment in the United States. This finding contradicts past studies (Lee et al., 1981; Leong & Sedlacek, 1989) which have argued that international students primarily need to prepare for employment in their countries of origin and, consequently, have less

need to explore job opportunities in the United States or to acquire American job search skills.

Additional data on the special professional needs of international students are needed for the development of appropriate assessment instruments (e.g., survey questionnaires). Moreover, the needs highlighted in this study can be included in the design of co-op placement, career programs and services for international students. With a deeper and more comprehensive understanding of the unique vocational needs of international students, career counselors, student affairs professionals, and faculty members will be better able to help these students achieve their career goals.

A further concern that was raised by numerous students during the interviews could be addressed by modifying the co-op requirements to permit international students to fulfill the co-op requirement in their countries of origin. Such a modification would, perhaps, decrease instances of perceived discrimination and reduce the impact of the current economic crisis.

Transportation. International students interviewed spoke about difficulties getting to and from campus due to a lack of convenient transportation options. Some ideas to alleviate the situation include: (1) RIT could start a "safe ride" service that provides taxi pickup anywhere within the institution's city limits and delivery to a student's residence. This service would be available to students at night through the early morning.

The transportation services office could also institute ridesharing that would help both students and employees. Ridesharing refers to carpooling and vanpooling, in which

vehicles carry additional passengers. Carpooling generally uses participants' own automobiles. Vanpooling generally uses rented vans (to be supplied by the institution). To reduce costs the vanpools could be self-supporting where operating costs would be divided among members.

Housing. Plans are also underway create an international residence option. This international residence will be called the "Global Village" and will be opened in the Fall of 2010. This residence will be composed of 50% international students and 50% American students. In addition to living in an international environment, cultural programming will be created to enhance the atmosphere of intercultural awareness and inclusion. While there have been problems in the past with international and American students rooming together, living in the international dorm would be self-electing. The Global Village would seem to be an excellent step for the institution in addressing ethnic discrimination.

Faculty advisor, professional advisor, library services and Information Technology Services. First and foremost, international students value the quality of their education. Not surprisingly, many of the most important issues to international students revolve around academic quality. These responses indicate that international students want to know that they will receive quality instruction, learn in a safe environment and receive proper guidance from advisors. Accordingly, it's not only important to ensure the satisfaction of current international students, but to stress these elements when recruiting international students as well.

Campus Safety. While campus life issues were not of high importance, international students placed very high importance on campus safety and security. Particularly, in light of recent campus tragedies and a media focus on campus safety, campuses should emphasize their safety and security benefits to international students. Campuses should also make sure that their international students feel safe, and communicate to prospective international students that safety is a priority if the institution.

International Student Services. International students rely on staff in the International Student Services office to guide them through the extra procedures and paperwork necessary to attend American institutions. For instance, international students have to go through a college to receive their I-20 forms, which are required to secure the visas needed to come to the United States. Not surprisingly, then, the knowledge and efficiency of international student advisors are quite important to international students.

Student Health Services. Due to the central location of the Student Health Center, the availability of inexpensive medications from the dispensary, and the high standards of care, e.g. free flu shots, subsidized medications and medical staff on-call twenty-four hours a day, international students highly rated this service. It is clear from this study that students value these services and continuation of these services will provide much needed services to all students at this institution and will continue to register high satisfaction.

Discrimination. One issue that arose repeatedly during the interview process was discrimination based on ethnicity. To alleviate this issue much could be gained by improving the quality of interactions between American and international students. An effort could be made to increase global awareness and intercultural competence, for example, by offering more multicultural and international courses.

To improve racial and ethnic sensitivity on campus, including in the international student population, a wide variety of ongoing inter-group dialogues should be facilitated. As Hurtado (2001) pointed out, a benefit of having inter-group discourse between different racial/ethnic groups is that it builds thoughtful engagement concerning difficult issues and conflicts facing diverse racial/ethnic student groups, and eventually garners a sense of multicultural community between them.

I will now turn to matters regarding future research. To clearly understand the needs and expectations of international students, in any future assessment, the study institution should assess the experiences of subgroups of international students to be sure that they are addressing student needs by meeting the expectations of all the subgroups.

The implications of this research are clear. The results show that merely asking for responses to a single survey item may hide the true satisfaction level of students. A university may believe that its students are satisfied with their educational experiences even in situations where there is clear evidence that the university is not performing up to student's expectations. It can be suggested, based on the results of this study, that administrators should interview students in addition to collecting surveys.

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Appendix B – Interview Questions

The student satisfaction survey that was recently administered revealed that (undergraduate/graduate) international students consider:

- a) Faculty advising
- b) Professional advising
- c) Library Services
- d) Information Technology Services
- e) Registrar (Graduate students only)
- f) Public Safety
- g) International Student Services
- h) Health Services

as a high priority and registered highest satisfaction with this service area.

i. How important are well-lighted and secure parking lots to you?
ii. Why do you think that this service a high priority for (undergraduate/graduate) international students?
iii. How does this service affect your day-to-day life at this institution?
iv. Has there been a personal incident when you experienced an event in regards to this service?

The student satisfaction survey that was recently administered revealed that (undergraduate/graduate) international students consider:

- a) Student Financial Services
- b) Co-operative Education Placement
- c) Housing Operations
- d) Dining Services
- e) Transportation Services
- f) Registrar (Undergraduate students only)

as a high priority but registered lowest satisfaction.

i. How important is this service to you?
ii. Why do you think that this service is a high priority for undergraduate/graduate international students?
iii. How does this service affect your day-to-day life at this institution?
iv. Have you experienced an event in regards to this service?

Final Questions:

a. Do you have any other experiences at this university that you would like to discuss?
b. Do you have any questions for me?

Appendix C – Interview Informed Consent Form

A Study of Student Satisfaction with Student Services among International Students at Rochester Institute of Technology.

I have been recruited to participate in a study of student satisfaction with student services at RIT. If I consent to participate in this study I will complete an in-depth interview with Phillippa Powers. The questions include measures of attitudes about my experience at RIT, level of importance and satisfaction with student services. The time to complete the interview should be about one hour. I understand that I will be entered into a drawing for one of three $25 gift certificates for agreeing to participate in this study.

Beyond being entered into a drawing for one of three gift certificates, it is unlikely that I will directly benefit from my participation in this study. However, the knowledge gained from this study may contribute to understanding factors that affect satisfaction and experience of international students in American higher education institutions. All individual research results will be kept confidential. A transcript of my interview will be provided to me for final approval. Results of the study will not be reported but I may request a summary of the study on request.

There are no predictable physical ill effects associated with participating in this study. Answering some questions about my experience navigating RIT campus services might create some discomfort. I understand that I am completely free to refuse to answer any question without penalty. If participating in this study causes any problems, such as anxiety created by answering personal questions I will be referred to the Counseling Center or the International Student Services Office.

I understand that I may refuse to participate in this study and am free to cease participating at any time after the study has started. If you wish to obtain information about the outcome of the study please contact:

Phillippa Wangui Powers
North Star Center,
Student Alumni Union Room 2314
Phone: (585) 475-4260
Email: pwpnsc@rit.edu

I have read and understood this consent form, and I agree to participate in this study. I have retained a copy of this document for my records.

_____ _____

Signature   Date

_____

Printed Name   Witness

Appendix D – Survey Solicitation Email

Hello, my name is Phillippa Wangui Powers, and I work in the North Star Center (next to the International Student Services Office). I am also a doctoral student in Higher Education Administration at Boston College.

I am conducting a study concerning the experiences of **undergraduate and graduate international students** at Rochester Institute of Technology. The goal of this study is to gather information on your views, attitudes and satisfaction with the student services provided at RIT.

I am inviting you to participate in my research project. Please follow the link below and fill out this Clipboard survey. The survey will take about 15-20 minutes of your time and is confidential.

If you fill out the survey, you will get **be entered to win one of three** $25 gift certificate from the following vendors: Wegmans; Walmart and Olive Garden.

If you have any questions regarding this email or the survey please contact me pwpnsc@rit.edu with the following information:

Thanks again for helping me with my research.

Sincerely,
Phillippa Wangui Powers
pwpnsc@rit.edu

Appendix E – Interview Solicitation Email

Hello, my name is Phillippa Wangui Powers, and I work in the North Star Center (next to the International Student Services Office). I am also a doctoral student in Higher Education Administration at Boston College.

I am conducting a study concerning the experiences of **undergraduate and graduate international students** at Rochester Institute of Technology. The goal of this study is to gather information on your views, attitudes and satisfaction with the student services provided at RIT.

I am inviting you to participate in my research project. I am looking for **30 students** to interview. The one-on-one interview will take 45-55 minutes and will be conducted on campus.

Participants will get **be entered to win one of three** $25 gift certificate from the following vendors: Wegmans; Walmart and Olive Garden.

If you are interested in participating in my study, or have any questions, please contact me pwpnsc@rit.edu with the following information:

   a) Your Name
   b) College Year: (1st year, 2nd year, graduate student, etc)
   c) Email Address
   d) Phone/Cell Number
   e) Country of Origin
   f) When you are available (date and time)

I look forward to talking to you about this important topic.

Sincerely,
Phillippa Wangui Powers
pwpnsc@rit.edu

Appendix F - Enrollment 2002-2009

Year	International Students		Women		Total Enrollment	
2002						
Undergraduate	1,250	(9.7%)	4,144	(32%)	12,938	(100%)
Graduate	735	(31%)	887	(37.4%)	2,374	(100%)
Total	1,985	(13 %)	5,031	(32.9%)	15,312	(100%)
2003						
Undergraduate	1,269	(9.8%)	4,140	(31.9%)	12,994	(100%)
Graduate	698	(29.8%)	904	(38.6%)	2,340	(100%)
Total	1,967	(12.8%)	5,044	(32.9%)	15,334	(100%)
2004						
Undergraduate	1,197	(9.2%)	3,891	(29.8%)	13,046	(100%)
Graduate	628	(27.4%)	903	(39.4%)	2,292	(100%)
Total	1,825	(11.9%)	4,794	(31.3%)	15,338	(100%)
2005						
Undergraduate	1,370	(10.6%)	3,963	(30.6%)	12,993	(100%)
Graduate	554	(24.4%)	867	(38.2%)	2,267	(100%)
Total	1,924	(12.7%)	4,830	(31.8%)	15,200	(100%)
2006						
Undergraduate	1,482	(11.3%)	4,059	(30.9%)	13,140	(100%)
Graduate	683	(28.3%)	915	(37.9%)	2,417	(100%)
Total	2,165	(13.9%)	4,974	(32%)	15,557	(100%)
2007 Undergraduate	1,477	(11.0%)	4,275	(31.7%)	13,476	(100%)
Graduate	830	(33.0%)	889	(35.4%)	2513	(100%)
Total	2,307	(14.4%)	5,164	(32.3%)	15,989	(100%)

Source: RIT Institutional Research (2006)

Appendix G – Interview Data Codes for Lowest Satisfaction Services

1   Personal barriers

       i.   Isolation
- a. Voicelessness
- b. Fear of backlash
- c. Self-advocacy outside classroom setting

      ii.   Small friendship networks
- a. International students
- b. American students
- c. Faculty and staff

     iii.   Cultural acclimatization outside classroom setting
- a. Own cultural preservation (G)
- b. Language problems
- c. Cultural Cues

     iv.   Dealings with administrators
- a. No voice
- b. Prohibitive policies

2   External barriers

       i.   Financial considerations
- a. High tuition
- b. No scholarships and few grants
- c. Fluctuating currency exchange

      ii.   Economic downturn
- a. No co-ops or employment
- b. Graduation threat

     iii.   Immigration restrictions
- a. Time constraints on employment
- b. Restrictions on travel outside US

     iv.   Climate
- a. Long cold winters
- b. Mental health considerations

Appendix H – Interview Data Codes for the Highest Satisfaction Services

1   Academic Acclimatization
           1. Education system acclimatization
                v.   Self-advocacy
                     a.   Self-advocacy within classroom setting
                     b.   Self-advocacy outside classroom setting
                vi.   Friendship networks
                     a.   International students
                     b.   American students
                     c. Faculty and staff
                vii. Professional advisors
                     a.   Academic planning
                     b.   Professional planning
                viii. Faculty advisors
                     a.   Academic advice
                     b.   Professional advice
           2. Instructor acclimatization
                v.   Program expectation
                     a.   Sequenced classes
                     b.   Co-op expectations
                vi.   Instructor style
                     a.   Instructor acclimatization
                     b.   Language issues
                vii. Quarter system
           3. Language barrier
                i.   English language issues
                     a.   Language problems in classroom setting
                          i.   Faculty and staff
                          ii. Students
                     b.   Language problems in university services setting
                     c.   Language problems with American students
                     d.   Language problems with outside services

2   Cultural Acclimatization
           1.   Cultural acclimatization in classroom setting
                     a.   Classroom etiquette
                          i.   Group-work (G)
                     b.   Language problems
                         i.   Faculty accents
                         ii.   Talking in class
                         iii. Discussion with other students (UG)
           2.   Cultural acclimatization outside classroom setting
                     a.   Own cultural preservation (G)
                     b.   Language problems
                     c.   Cultural cues

3   Student/administrator Interaction
                     a.   University services related to academics
                     b.   University services not related to academics