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International students in English-speaking universities

Adjustment factors

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International students in institutions of higher education in English-speaking countries make valuable educational and economic contributions. For these benefits to continue, universities must become more knowledgeable about the adjustment issues these students face and implement appropriate support services. This review identifies factors that influence the adjustment and academic achievement of international students. Adjustment challenges are primarily attributable to English language proficiency and culture. Achievement is affected by English proficiency, academic skills and educational background. Understanding international student adjustment issues has global implications for intercultural education. Successful support interventions are reviewed and implications for practice discussed.

KEYWORDS *achievement, adjustment, higher education, international students*

Les élèves internationaux étudiant au sein d'institutions d'enseignement supérieur dans des pays anglophones apportent une contribution précieuse tant sur le plan éducationnel que sur le plan économique. Pour continuer à bénéficier de ces atouts, les universités doivent s'informer davantage sur les questions d'adaptation auxquelles ces élèves sont confrontés et mettre en œuvre des services de soutien appropriés. Cette étude identifie les facteurs qui influencent l'adaptation et les résultats scolaires des élèves internationaux. Les problèmes d'adaptation sont attribués en premier lieu à la maîtrise de la langue anglaise et à la culture. Les résultats scolaires quant à eux sont affectés par la maîtrise de l'anglais, l'aptitude aux études et les acquis scolaires. Comprendre les questions d'adaptation propres aux élèves internationaux a des implications au niveau mondial en termes d'éducation internationale. L'article analyse les interventions de soutien qui portent leurs fruits et discute des implications sur un plan pratique.

Los alumnos internacionales de instituciones de enseñanza superior de países angloparlantes realizan valiosas contribuciones educativas y económicas. Para continuar beneficiándose de estas aportaciones, es necesario que las universidades conozcan mejor los problemas de adaptación que afrontan dichos alumnos y pongan en práctica los servicios de apoyo adecuados. En este trabajo se señalan los factores que influyen en la adaptación y el desempeño académico de los alumnos procedentes de otros países. Sus problemas de adaptación se pueden atribuir principalmente a sus conocimientos de la cultura y la lengua inglesa. Su desempeño depende de la competencia lingüística en inglés, las habilidades académicas y la formación educativa. Entender los problemas de adaptación de estos alumnos repercute en la educación intercultural a escala mundial. Asimismo, se examinan iniciativas de apoyo positivas y se analizan sus implicaciones a efectos prácticos.

Introduction

Studying abroad is a common practice whether the experience is short-term, typically a few months in another country to gain intercultural understanding and/or study the language, or long-term, relocating to a different nation to complete a degree. The number of international students in countries varies. Ireland's international student enrollment, for instance, is less than 2 percent of the total number of students in institutions of higher education, while overseas students in the UK comprise approximately 12 percent of the total enrollment (IIE, 2005a). In addition, while some countries are experiencing enormous increases in numbers of international students, others are concerned with declining figures. Enrollments of international students in China, for example, nearly doubled from 1998 to 2003 (IIE, 2005a) while those in the USA decreased by 2.4 percent in 2003–2004 and 1.3 percent in 2004–2005 (IIE, 2005b).

Several countries have created wide-ranging plans to increase registrations from overseas students. Australia, the UK and Canada 'have developed clear national priorities and comprehensive strategies to attract a larger number of international students' (Schneider, 2000: 2–3). These strategies include centralized planning, cooperative efforts between government and education, funding for outreach programs and marketing, centralized websites with higher education information, and simplified visa and university application processes (Schneider, 2000). Germany has developed educational programs in English with transferable credits, and France has increased international enrollments through the well-budgeted recruitment of Asian and Latin-American students (Schneider, 2000).

Rationale for international student recruitment

The desire to increase opportunities for higher education for students from abroad is motivated by numerous factors; the most obvious being economic. International student enrollments in Canada are 'viewed as an important – even essential – source of revenue by post-secondary institutions' (Lee and Wesche, 2000: 638). Universities in the UK, which do not practice the extensive fundraising of their US counterparts and where tuition fees are limited by the government, are seeking to increase international student enrollments to bolster revenues and to remain competitive (Marshall, 2005). In Australia, some educators are concerned that English language proficiency requirements are being sacrificed to attract much needed revenue from overseas students (Coley, 1999). Economic contributions by international students are significant. International students

and their dependants supply over US$13 billion dollars annually to the US economy, with the majority of the funds originating outside the country (IIE, 2005b).

In a world that increasingly reflects the effects of globalization, the need for intercultural education and understanding is critical. Peterson et al. (1999: 76) comment, 'Intercultural learning could be a beacon, illuminating a world of cultural differences and a common global humanity, building blocks for a just and peaceful world.' In addition to being a source of needed revenues, international students contribute to intercultural learning and increased understanding of diversity and global issues (NAFSA, 2003). They create international business and trade connections, become political allies (NAFSA, 2003) and promote foreign policy interests (Schneider, 2000). In some cases, international students may remain in the country after graduation to fill positions for which few nationals are qualified (Gray, 2003). Australia is currently benefiting from the skills of foreign students, who have opted to stay in the country and work, in the fields of information and communications technology and engineering (Colebatch, 2005).

Implications of recruitment

As nations set strategies to attract international students, they must also consider the educational and cultural experiences of these students in the destination country. Institutions cannot simply admit foreign students and expect them to adjust to life in a new country and educational system without appropriate support and programming. Peterson et al. (1999: 69) warn: 'Higher education institutions that take international students for granted, as "cash cows," do so at their peril.' Appropriate information, services, and programs are critical to helping international students have positive experiences, fulfill their educational goals, and return home as satisfied customers (Carr et al., 1999; Lee and Wesche, 2000). Accomplishing educational goals, as opposed to economic goals, also requires more than merely increasing the number of overseas students. To encourage intercultural learning, the interaction of international and domestic students in educational activities is necessary (Zhao et al., 2005).

For suitable programming and services to be developed, an understanding of adjustment issues is needed. This article examines empirical research related to the adjustment and academic achievement of international students and discusses implications for further research and practice. Most of the studies reviewed were published between 1996 and 2005 and were selected based on a search of databases such as ERIC, Academic

Search Premier, ProQuest and Education Full Text, using combinations of the terms *higher education, international and/or foreign students, colleges and/or universities, adjustment* and *achievement*. The search resulted in varying numbers of articles (indicated in parentheses) from the following countries: the USA (36), Australia (9), Canada (7), the UK (2) and New Zealand (2). Subsequently, the review is limited to international students' educational experiences in these countries. Since investigations from the USA are in the majority, they are not specifically identified as such in the text.

Definition of terms

In this article, the term *international students* is defined as individuals enrolled in institutions of higher education who are on temporary student visas and are non-native English speakers (NNES). As such, applicable research based on NNES or English as a Second Language (ESL) students is included, although this group potentially includes immigrants, citizens and international students, and authors do not always distinguish among these populations. Similarly, authors refer to students by their nationality (i.e. American, Australian) or by terms such as *domestic, local* or *resident*. Although not directly stated, it is assumed from the context that these students are native-English speakers (NES). This review is limited by the information provided by the original authors. Distinguishing details are included when possible.

Adjustment describes the fit between students and the academic environment (Ramsay et al., 1999), and may examine issues such as learning styles, study habits, educational background, culture and language proficiency. *Academic achievement* refers to evidence of learning, which may be measured by successful completion of course requirements, grade point average (GPA), satisfactory academic standing or retention. Studies on adjustment and achievement for international students can be divided into two areas: those that identify factors influencing adjustment; and those that link these factors to academic achievement.

Identifying adjustment issues

The first area of research identifies situations and experiences that are viewed as helpful or problematic to international student adjustment. They provide information about the degree to which international students are adjusting, areas of difficulty and success, strategies employed, effective teaching techniques and resulting programming. For discussion purposes,

these studies are divided into four areas: (1) comparisons of domestic and international student adjustment; (2) analyses of professors' and students' views of adjustment challenges; (3) student insights about their experiences; and (4) support services.

Comparisons of international and domestic students

Domestic and international students face academic and social transition issues in their first year of university, but with distinct differences. Five investigations have compared these two groups. In four of the studies, whether related to academic or social adjustment, international students had more difficulty adapting than domestic students. The fifth study, which also identified differences, examined students' level of engagement in educational activities.

Academic adjustment problems for international students tend to focus on language issues. Seventy-six percent of the NNES enrolled in one department at an Australian university were judged to require intensive English language support as based on a writing sample, compared with only 20 percent of NES (Ramburuth, 2001). A comparison of students' academic results demonstrated that higher outcomes correlated with stronger writing skills for both groups; however, interviews with instructors indicated that some adjusted their grading criteria for NNES and others incorporated quantitative assessments, making the comparisons problematic. The study does not specify if the NNES were international students, immigrants or nationals, but potentially included representatives from all these groups.

Ramsay et al. (1999) found that first-year international students at an Australian university had difficulties understanding lectures in terms of vocabulary and speed, and with tutors who spoke too fast or gave too little input. In comparison, local students also found various courses and instructors problematic, but primarily because they disliked the instructors' policies. The two groups also differed in their identification of beneficial learning support systems, with international students recognizing the development of critical thinking skills and feedback on writing skills as important to learning, and local students mentioning collaborative study and peer support. Both reported benefiting from tutors and tutorials.

The analysis revealed that positive learning incidents helped international students participate more and work harder. Even though negative incidents provoked feelings of embarrassment, frustration, disappointment and boredom, international students responded with constructive behaviors including a variety of study strategies. Both negative and positive learning incidents helped adjustment, but overall, international students exhibited more stress and anxiety and needed to expand greater effort to

overcome their challenges than did domestic students. The sample size for this study was small, 20 students, and participants were volunteers.

Regarding social adjustment, the evidence suggests that, once again, international students experience greater difficulty than local students. Hechanova-Alampay et al. (2002) found that international students experienced less social support than domestic students, most likely because their family and friends were at a greater distance. The findings also indicated that the more interaction international students had with Americans, the greater their adjustment. Only a small percentage of international students reported having close friendships with domestic students, however, this was due to lack of opportunity and/or preference for friendships with co-nationals. Confidence in their own abilities aided both groups of students in the adjustment process.

Rajapaksa and Dundes (2002) discovered that international students felt more lonely and homesick than domestic students. Their adjustment, measured by feelings of loneliness and homesickness, was affected by their satisfaction with social networks as opposed to the number of close friends. American students' adjustment was unrelated to these factors. They reported having more close friends than international students, while the latter were more apt to have friendships with international students than with Americans. Sampling was non-random. The latter two studies suggest that social support is important to international student adjustment, and that while friendships with domestic students are helpful, they may be uncommon.

The final investigation in this category did not measure adjustment, but compared international and American students' levels of engagement in educational activities (Zhao et al., 2005). Findings indicated that in their first year, international students had significantly higher scores on survey questions related to academic challenge and student–faculty interaction, and greater gains in personal and social development and general education outcomes. They reported spending less time socializing and relaxing than American students. The two groups demonstrated more similarities in their last year of university although international students continued to have higher scores in the areas noted above. The pattern differed somewhat for Asians who socialized more, were less engaged in active learning and diversity-related activities, and were less satisfied with the campus environment than other international students.

Perceptions of professors and students

Research in this section examines professors' perceptions of international students and compares professors' and students' views. Trice (2003)

found that professors from four different departments generally recognized that international graduate students faced unique academic and personal challenges compared to domestic students. They felt that the students' main difficulty was English language proficiency, which sometimes required professors' assistance and negatively affected course performance. Other challenges were segregation of international and domestic students, maintaining an appropriate balance of international students so that American students felt comfortable, providing course work to meet students' academic goals, the students' lack of funding and appropriate career placement. Benefits included the students' ability to contribute an international perspective, fill research assistantships, enhance the department's academic reputation, establish global connections, perform well academically, contribute ideas based on work experience and prepare domestic students for future encounters with diversity.

Studies related to professors' and students' perceptions of adjustment challenges demonstrate that they often have differing views. International students in Australia attributed their lack of participation to language weaknesses and sensitivity to their ability (Robertson et al., 2000). Professors, conversely, perceived this lack of involvement to be cultural rather than linguistic. Business professors in Tompson and Tompson's (1996) research indicated that international students' most unproductive behaviors were studying with and sitting next to co-nationals, lack of class participation and not asking questions when unclear about assignments. In contrast, international students felt the most critical areas were building a social network, language and familiarity with norms, rules and regulations. Students explained that they sat next to students who spoke their language to ask questions about the lecture or assignments if necessary. As in the Robertson et al. (2000) study, students reported that difficulties with the language, anxiety and lack of confidence prevented participation.

Other perceptions that professors often have about international students are based on their knowledge of educational systems in the students' home countries. The expectation is that students likely prefer the learning systems to which they are most accustomed. However, Ladd and Ruby (1999) discovered that although 80 percent of the students surveyed identified the lecture as the most common mode of instruction in their homelands, their preferred learning approach was direct experience, involving contact with topics and situations related to their studies. Findings indicated that this group of students preferred to work alone, which supports a common view that international students dislike group work (Sarkodie-Mensah, 1998). They also reported valuing warm, friendly relationships

with their instructors in contrast with the belief that international students are accustomed to a formal student–professor relationship (Sarkodie-Mensah, 1998).

Additional research demonstrated that Chinese minority students were more successful in calculus than Black students because the Chinese students studied with peers or siblings while the Black students worked alone (Treisman, 1992). This finding contrasts with beliefs that Asian and other international students prefer individual study (Sarkodie-Mensah, 1998). It supports the idea, however, that when international students do collaborate, they prefer to do so with those from their own cultures (Sarkodie-Mensah, 1998). The findings of these analyses indicate the importance of not stereotyping cultures and learning style preferences.

Research in perception differences between professors and students also reveal areas where both parties could improve. Instructors in the Robertson et al. (2000) study felt that international students lacked critical thinking skills, had difficulty understanding spoken English and had weak writing skills whereas students criticized instructors for their use of colloquial English and rapid speech. Similarly, professors felt students did not take responsibility for their own learning while students found professors indifferent. Although students noted that greater learning support from professors would be advantageous, they also exhibited a willingness to try new ways and practice self-help strategies, particularly those aimed at English language improvement and becoming acquainted with peers. In general, professors did not recognize the emotional and psychological problems experienced and identified by international students such as stress, homesickness, isolation and finances, all of which are potentially detrimental to learning. A limitation of the study was the small sample size – 20 students and 26 staff.

One investigation critical to this discussion demonstrates that because educational systems and ways of thinking are cultural, professors often fail to recognize the complexity of language issues confronting foreign students, particularly those associated with writing. Fox's (1994) research demonstrated that what professors perceived as the inability of international students to analyze and logically develop a written argument was the result of cultural communication styles, not a lack of English proficiency. She found that students' writing was inextricably bound by their cultures, ways of seeing the world, and identities. Fox observes that western views of academic writing are minority perspectives and that faculty must more fully understand alternate modes of expression if a deeper level of multiculturalism is desired in higher educational institutions.

Insights from students

The studies previously reviewed compared domestic and international students, and faculty and student perceptions. The research reviewed next offers further insights from students. International students at various institutions have identified English-related skills, such as listening ability, lecture and reading comprehension, note taking, oral communication, vocabulary and writing, as being problematic (Lee, 1997; Lewthwaite, 1996; Senyshyn et al., 2000). Studies have found that students lack confidence in their English abilities (Lewthwaite, 1996; Robertson et al., 2000; Senyshyn et al., 2000; Tompson and Tompson, 1996) and fear making mistakes (Jacob and Greggo, 2001), which may inhibit their class participation as mentioned earlier (Lewthwaite, 1996; Robertson et al., 2000; Tompson and Tompson, 1996).

A New Zealand study established that working hard did not necessarily result in good grades for international Chinese students (Holmes, 2004). The students lacked discussion skills and had inadequate listening comprehension for extended lectures. Professors' accents, idiomatic styles, humor and choice of examples in lectures posed problems. Students often had to read textbook assignments more slowly than their New Zealand classmates and read them multiple times. They were accustomed to indirect writing styles and unaccustomed to analyzing the strengths and weaknesses of an argument. Adjusting to these educational methods was largely their responsibility, but diligence, study skills and family expectations helped them succeed.

Based on their own accounts and those of NES enrolled in the same courses and paired with them as 'lecture buddies', NNES at a Canadian university had difficulty with note taking, vocabulary, lecture content not in the textbook and the heavy reading load (Mendelsohn, 2002). They felt insecure and discouraged, yet often failed to access available help. The students had been in Canada three years or less, but were not identified as international, immigrants or nationals. Additionally, one investigation showed that students with higher TOEFL (Test of English as a Foreign Language) scores experienced fewer adjustment difficulties, had more positive experiences and felt more satisfied than those with lower scores (Senyshyn et al., 2000), further supporting the premise that English language proficiency is related to adjustment.

NNES (international students and new immigrants) enrolled in graduate work at another Canadian university identified writing and speaking tasks as the most difficult aspects of academic language, but compensated by practicing class presentations and following writing models found in textbooks and journals (Cheng et al., 2004). A third Canadian study found that

taking classes with NES caused Chinese graduate students to reassess their English skills and change their learning strategies (Parks and Raymond, 2004). They recognized that they participated less, had more difficulties with lecture comprehension and communicating with team members, and needed to take reading notes to more fully participate in class. Although international students are often encouraged to interact with NES to improve their English, these students were not always welcomed by the latter who sometimes viewed them as less competent.

Overall, evidence suggests that international students are satisfied with their academic experiences (Lee and Wesche, 2000; Schutz and Richards, 2003; Senyshyn et al., 2000), and view their cross-cultural experiences as a learning process although they experience anxiety (Lewthwaite, 1996) and challenges. In some cases, such as in Lewthwaite's (1996) research in New Zealand, academic adjustment is aided by tutors, small group seminars and satisfaction with courses. Having background knowledge in the content area, reading the textbook, asking 'lecture buddies' for clarification of lecture content, attending additional lectures in the content area and note taking strategies are also beneficial (Mendelsohn, 2002).

In another investigation, graduate students indicated that the primary responsibility for adjusting to the new educational environment was theirs, but observed that faculty could modify their teaching styles (Lee, 1997). These students, all enrolled in the same language skills class, suggested that professors write key terms and assignments on the board, speak more slowly, provide background information, use examples that could be understood by all students, recognize symptoms of culture shock, make expectations clear, provide models of the type of work expected, check for comprehension of announcements, give students time to reflect before answering and avoid slang (Lee, 1997).

Findings are mixed regarding international students' social adjustment. Lewthwaite (1996) found that the first priority of international graduate students was adjustment to academic life and successful fulfillment of degree requirements. Students were relatively satisfied in this area but less satisfied with social integration. Due to their priority for academics and the demands of course work, students felt little time could be spared for social activities. Also, students were hundered by a lack of socio-cultural knowledge. In contrast, in the Senyshyn et al. (2000) investigation, students reported feeling accepted and were satisfied with their social adjustment.

Research cited earlier indicated that international students were more lonely and homesick (Rajapaksa and Dundes, 2002) and experienced less social support than domestic students (Hechanova-Alampay et al., 2002).

Al-Sharideh and Goe (1998) found that international students' personal adjustment was related to having ties with both co-culturals and American students. As noted previously, however, Parks and Raymond (2004) discovered that these relationships may be difficult to form. Similarly, weak oral English skills and being in the minority negatively affected the ability of international students in Canada to make friends (Schutz and Richards, 2003). Students in the latter study also reported instances of insensitive behavior by professors that concerned not only them, but also their NES classmates.

International students participating in a cultural exchange program with graduate counseling practicum students indicated a greater need to adjust to American culture, understand non-verbal behavior, develop friendships with diverse peers, communicate effectively with professors and be involved in the university community (Jacob and Greggo, 2001). They also indicated feeling left out and observed that local students needed to recognize cultural barriers. They noted that the primary responsibility for making initial contacts with resident peers seemed to be theirs.

Gender, country of origin and year in school may also affect adjustment. Senyshyn et al. (2000) established that Western Europeans and Canadians adjusted more easily than Asians. Males were more satisfied and confident and had fewer difficulties than females. In all cases, adjustment was linear with problems decreasing from the first year to the final year. The smallest increases occurred in the second year. Satisfaction and confidence gradually increased and peaked in the third year, but in the fourth year dropped to the level of the first year. Although the sample size included only 28 students, results suggest that adjustment varies depending on gender, country of origin and year in school. Findings from two additional studies support the view that adjustment for international students is gradual (Lee and Wesche, 2000; Schutz and Richards, 2003).

International student support programming

Literature on support programming designed to meet the specific needs of international students is not extensive. The research reviewed below is related to social and/or cultural adjustment. Programming related to academic achievement is reviewed in the next section.

Three studies describe peer support programs intended to aid social adjustment. At one university, international students were paired with volunteer 'host' students and attended various campus activities together, many of which were organized for participants (Abe et al., 1998). The program aimed to help international students navigate the new culture and environment. International student participants scored higher on a social

adjustment measure than non-participants, but not on academic adjustment or institutional attachment. Limitations included self-selection and a small sample size – 28 program participants and 32 control group students.

The second peer-support program paired graduate counseling students and international students with the purpose of aiding social adjustment (Jacob and Greggo, 2001). Adjustment problems for international students were identified through focus groups and were mentioned earlier. The focus groups also allowed program administrators to address concerns, refine the program and make recommendations for counselor training. Adjustment was not specifically measured. The third initiative matched graduate students (international and domestic) majoring in education, and in most cases enrolled in the same class, for the purpose of cultural sharing (Shigaki and Smith, 1997). Participants' journals revealed positive outcomes including increased cultural knowledge and understanding, friendship and personal support, growth in language skills for international students, and sharing of academic information and knowledge.

Three other interventions for international students are pertinent. One involves using outreach support groups to help international students who may need counseling but are reluctant to initiate contact (Smith et al., 1999); however, actual adjustment is not measured. Another outlines ideas for web-based orientation (Murphy et al., 2002) and the third suggests a multi-phase approach to orientation (Lin and Yi, 1997); neither reports on actual programs. Other literature makes recommendations in the areas of mental health services (Mori, 2000), cross-cultural training (Lacina, 2002), orientation, library use, accent reduction and counseling (Sarkodie-Mensah, 1998). International students in Canada viewed orientation, homestay and diverse classrooms as helpful to social adjustment and English development, and intensive English programs as key to rapid language gains and building confidence (Lee and Wesche, 2000).

Student affairs professionals perceive international students to be well-adjusted, satisfied with their educational experiences and to have typical concerns and feelings (Walker, 2001). Other research demonstrates that foreign students have greater adjustment difficulties than local students both academically (Ramsay et al., 1999) and socially (Hechanova-Alampay et al., 2002; Jacob and Greggo, 2001; Lewthwaite, 1996; Rajapaksa and Dundes, 2002). These findings suggest that student affairs staff may have an incomplete picture of international student needs, a concern since they are largely responsible for support programs. Open-ended questions indicated that they advocated opportunities to expand their knowledge and collaborate to resolve common concerns.

Summary

The research reviewed in this section identifies factors having both positive and negative impacts on international student adjustment and examines related support services. The studies raise the awareness of faculty and support staff about better ways to accommodate international students. Research comparing international and resident students demonstrates that international students have greater adjustment difficulties and experience more stress and anxiety. However, some evidence suggests that international students are more academically engaged in their first year than domestic students. The research also reveals that faculty assumptions about international student behavior are often incorrect.

Underlying many of the problems experienced by international students is lack of language proficiency and cultural knowledge. However, some evidence suggests that 'language problems' may actually be culturally based ways of seeing the world. Research indicates that some international students compensate for insufficient English and socio-cultural knowledge through effort, study habits and self-help strategies. In some cases, instructors may adjust their expectations and/or modify course assessments to accommodate students' English skills.

Friendships with co-culturals and residents, gender, country of origin and year in school also affect adjustment. However, friendships and teamwork with domestic peers is problematic as the latter are not always responsive. Peer and faculty assistance and sensitivity are valuable. Some programming ideas have been recommended, but have not been implemented or lack assessment data. Peer-support programs have achieved success. Some evidence suggests that student support personnel may have overly positive views of international student needs.

Linking adjustment to achievement

The research reviewed in this section examines the effects of adjustment variables on achievement. Variables include language proficiency, study habits, educational background and personal characteristics, and are measured quantifiably. The studies focus on three areas: (1) the relationship of language proficiency and academic achievement; (2) other factors related to academic success; and (3) support services.

Language proficiency and academic achievement

Analyses of the relationship between international students' language proficiency and their academic achievement focus on different groups of

students and have resulted in dissimilar conclusions. A Canadian study found that although both undergraduate and graduate NNES identified difficulties with language skills, undergraduates were as successful as NES in terms of GPA (Berman and Cheng, 2001). The graduate students, in contrast, reported significantly lower GPAs than their NES counterparts. The ability or inability to compete academically with their peers was not related to TOEFL scores. The graduate students had higher TOEFL scores than the undergraduates. Both groups identified speaking and writing as more difficult than reading and listening. The authors did not specify whether the NNES were international, immigrants or citizens. GPAs and TOEFL scores were self-reported.

In contrast to this finding that language proficiency was not related to achievement, other research has realized different results. Stoynoff (1997) found a modest relationship between international undergraduates' TOEFL scores and their academic achievement (measured by GPA, number of credits completed, incompletes, withdrawals and pass/no pass courses). In another study, the TOEFL predicted GPAs for students at a range of proficiency levels (Johnson, 1988). Students with lower TOEFL scores (450–525) were less successful in courses requiring heavy reading and writing assignments than students with higher scores, but performed adequately in classes not requiring high levels of English such as mathematics and laboratory courses. Messner and Liu (1995) established that graduate students with TOEFL scores over 550 had GPAs in the 'A' range while those with lower scores were more likely to achieve 'B' grades.

As noted earlier, strong writing skills correlated with high academic results for NNES and NES at an Australian university (Ramburuth, 2001). A different analysis found that the academic performance of international students studying on campus was comparable to that of Australian-born students (Wicks, 1996). However, those enrolled externally from their own nations received lower grades on units requiring extensive reading and writing, likely because they did not have as much exposure to English as their peers on campus. The self-reported GPAs of Turkish students at four different universities were related to speaking and reading proficiency, but not to writing and listening skills (Poyrazli et al., 2001). Reading and writing proficiency predicted better adjustment while aural and oral English abilities had no effect.

Two additional examinations compared university-level NNES to analyze the effects of language proficiency on achievement. Although these studies do not confine themselves solely to international students, they provide insights into the role of English proficiency on achievement. The first

compared documented students (those legally admitted to the USA) and undocumented students (those who entered illegally or stayed beyond their visa expiry dates) (Dozier, 2001). Language ability did not affect academic achievement for either group. Undocumented students had higher reading and writing placement test scores but lower GPAs than documented students.

The authors suggest that the undocumented students may have had higher English scores because most had been educated in English-speaking educational systems in the USA and had more recently graduated from high school than the documented students. Their lower levels of academic achievement may be due to lack of financial resources, study tools, family support, employment demands and worries about their future caused by their immigration status. In contrast, in spite of their English abilities, documented students were academically successful, possibly because they were motivated and desired to please family members back home.

In contrast to these findings, in a study of refugee, immigrant and international students, Bosher and Rowekamp (1998) found that the years of school completed in the native country and language proficiency as measured by the Michigan English Language Assessment Battery (MELAB) were related to academic success, measured by GPA. Students who completed high school in their homelands had higher grades, measured over a three-year period, and better scores on the grammar, vocabulary and reading sections of the MELAB than students who graduated from US high schools. The latter had significantly stronger listening scores but lower GPAs.

These findings support research cited by the authors that immigrant and refugee students are often behind academically throughout their high school years due to limited English language proficiency (Collier, 1987), and may take courses that do not require intensive reading and writing (Stuart and Flinspach, 1990) but in which it is possible to achieve high grades (Woods, 1987), allowing them to 'enter colleges and universities with limited proficiency in academic reading and writing, as well as limited content knowledge' (Bosher and Rowekamp, 1998: 27). The authors conclude that 'the more formal language study of overseas classrooms, which tends to focus on grammar and reading, may provide better preparation for academic study in the US than the communicatively-oriented ESL classrooms in the US' (1998: 36). They do not advocate abandoning the communicative approach, but recommend emphasizing communicative tasks in academic reading and writing rather than conversation practice.

Other factors affecting achievement

Other factors besides English language proficiency affect international students' academic achievement. Stoynoff (1997) found that motivation, self-testing and test taking strategies were modestly related to achievement as measured by GPA, credits completed, incompletes, withdrawals and pass/no pass courses. Students with high GPAs relied on peer and teacher help, extended effort, test-taking skills and the ability to identify main ideas in readings and lectures. Although international students at an Australian university had greater levels of anxiety and lower overall GPAs, their performance in accounting courses was superior to that of resident students (Hartnett et al., 2004). English proficiency was not considered in this study, possibly because accounting does not require much reading and writing. These studies demonstrate that international students are academically successful and that learning strategies, motivation and/or background variables may have a positive effect on their performance.

For international Turkish students, GPA was related to English proficiency as discussed earlier, and to age (older students had higher GPAs) and years of study (students earned higher grades as they continued in their studies) (Poyrazli et al., 2001). Adjustment levels were lower for older students and those on scholarships. School, class, gender, marital status, major, socio-economic background and listening/speaking proficiency had no effect on adjustment.

Support services related to academic adjustment and achievement

Some universities have established support services to assist international students with their studies. These include English-language courses, tutoring, and supplemental courses that focus on specific academic content and skills. These interventions are next examined to determine their effects on international student adjustment and achievement.

Evidence from two studies suggests that the curriculum of English language courses may affect English skills, academic performance and retention. Students enrolled in a content-based reading/writing ESL course performed better on final course examinations and a writing test, had higher passing rates and grades in first-year composition and better graduation rates than students in a control group (Kaspar, 1997). Both groups were subject to the same instructional methods, but the content-based course incorporated readings from five academic disciplines while the control group course readings were unrelated in content. In another study at the same college, ESL students were enrolled in learning com-

munities consisting of content courses and language support courses (Mlynarczyk and Babbitt, 2002). Students attended the classes as a cohort and had tutors. The authors reported that participants had higher pass rates in their ESL courses, did well in the academic courses, and had better than average GPAs and retention, but provided little actual data. Neither study specifies if students were international, immigrant or national.

Professors in a variety of disciplines have identified international student needs and designed appropriate support. International students in a Masters of Business Administration program in the UK were given a CD-ROM program to strengthen their English (Wu et al., 2001). Because the materials focused on general topics rather than business-related content, students did not feel it met their needs. They also preferred more teacher interaction and many felt their English skills were already sufficient. Medical faculty at an Australian university designed a comprehensive program to monitor the performance of international students and provide support in English language, unfamiliar methodology such as problem-based learning, intercultural skills needed for clinical work and staff training related to student diversity (Hawthorne et al., 2004); specific results were not provided.

Another Australian initiative involved the collaboration of content and learning specialists to offer support classes to international students as the result of problems identified by instructors of a management course (Beasley and Pearson, 1999). The classes focused on study skills, academic reading and writing, critical analysis and examination strategies. Grades for those identified to attend the class and who elected to attend were compared with grades for those identified to attend but who elected not to attend. The former group consistently had higher grades and sometimes dramatically so. The overall course failure rate decreased from 13 to 1.5 percent over a six-year period. A different approach to improving students' English skills involved the collaboration of content and ESL instructors (Snow and Kamhi-Stein, 1997). The content teachers modified their courses to build students' language skills and the ESL instructors provided content-based academic language instruction assisted by peer leaders. Participants' grades were equivalent to or higher than for students enrolled in the content courses alone.

Two articles report on peer tutoring programs. One of these paired NNES (immigrants and international students) with trained NES who were enrolled in the same academic course and met as study partners twice a week (Blakely, 1995). The NES helped the NNES with academic English skills. Both study partners achieved higher grades than the overall class average and NNES had higher GPAs than non-participating NNES. The

one-semester retention rate for NNES participants was nearly double the overall retention rate of the university. In a similar initiative at a Canadian university, NNES were paired with NES as 'lecture buddies' (Mendelsohn, 2002). The NES met weekly with their partners to review lecture notes and summaries and clarify information. The study provides insights into challenges faced by NNES and identifies helpful strategies, as reviewed earlier, but does not include program assessment data or link participation to academic achievement.

Summary

While the research reviewed in the previous section identifies issues affecting adjustment, the studies in this section focus on how specific adjustment variables such as language proficiency, study habits, educational background and personal characteristics affect achievement, and examine interventions and methodologies that promote academic success.

Language proficiency does affect the academic achievement of international students but results vary. Research indicates that the achievement of international undergraduates may be less affected by English proficiency than that of graduate students, and also that language proficiency has a modest effect on achievement for undergraduates. Findings also demonstrate that TOEFL scores and strong writing skill correlate well with achievement, and that some language skills have a greater effect on achievement and adjustment than others. Research on the advantages of learning English in the native country as compared to English high schools is inconclusive.

Other factors that affect the academic success of international students include motivation and academic skills and age and years of study. Content-based ESL courses, learning communities, support courses, comprehensive programming and peer study partnerships have been successful in providing international students with academic support.

Conclusion

The studies reviewed provide significant insights into international students' challenges and successes at English-speaking universities. These are summarized below.

(1) International students have greater and different adjustment challenges than domestic students (Hechanova-Alampay et al., 2002; Rajapaksa and Dundes, 2002; Ramsay et al., 1999); however, they may be more academically engaged (Zhao et al., 2005). Challenges

are related to difficulties with English language and culture which affect both academic and social adjustment (Cheng et al., 2004; Holmes, 2004; Jacob and Greggo, 2001; Lee, 1997; Lewthwaite, 1996; Mendelsohn, 2002; Parks and Raymond, 2004; Ramburuth, 2001; Robertson et al., 2000; Senyshyn et al., 2000; Tompson and Tompson, 1996; Trice, 2003). In general, international students experience more anxiety, stress, homesickness and loneliness, and have less social support than domestic students (Hechanova-Alampay et al., 2002; Rajapaksa and Dundes, 2002). Evidence suggests that friendships with resident students positively affect adjustment (Al-Sharideh et al., 1998; Hechanova-Alampay et al., 2002) but may be difficult to form (Hechanova-Alampay et al., 2002; Jacob Greggo, 2001; Parks and Raymond, 2004; Schutz and Richards, 2003).

(2) International students may need different types and levels of support depending on such factors as year in school, level of study (graduate or undergraduate), immigration status, age, gender, country of origin and educational background (Berman and Cheng, 2001; Bosher and Rowekamp, 1998; Dozier, 2001; Poyrazli et al., 2001; Senyshyn et al., 2000).

(3) The process of adjustment appears to be gradual (Lee and Wesche, 2000; Schutz and Richards, 2003), but adjustment levels may plateau in the second year (Senyshyn et al., 2000), suggesting that institutions must go beyond the first year in providing transition support.

(4) Faculty often misinterpret the behaviors of international students (Fox, 1994; Robertson et al., 2000; Tompson and Tompson, 1996) and need greater understanding of their academic, social, emotional and psychological challenges. Faculty can make pedagogical adjustments to support the learning needs of international students (Lee, 1997; Robertson et al., 2000; Snow and Kamhi-Stein, 1997). Evidence suggests that some faculty make accommodations for weak English-language proficiency in course requirements and on assessments (Ramburuth, 2001).

(5) In spite of difficulties with English and other aspects of their lives abroad, international students are academically successful (Berman and Cheng, 2001; Hartnett et al., 2004; Kaspar, 1997; Mlynarczyk and Babbitt, 2002; Wicks, 1996), often due to compensating strategies related to academic skills, motivation and effort (Stoynoff, 1997). International students are generally satisfied with their experiences in English-speaking universities (Lee and Wesche, 2000;

Schutz and Richards, 2003; Senyshyn et al., 2000), but possibly more so with academic aspects than social aspects (Lewthwaite, 1996).

(6) Interventions designed to specifically address the needs of international students appear to be limited based on the number of published studies, but have recognized success in the areas of cultural/social adjustment, academic achievement and retention, and demonstrate awareness and concern by the sponsoring institutions (for example, Abe et al., 1998; Beasley and Pearson, 1999; Blakely, 1995; Hawthorne et al., 2004; Jacob and Greggo, 2001; Kaspar, 1997; Lee and Wesche, 2000; Mlynarczyk and Babbitt, 2002; Shigaki, 1997; Smith et al., 1999; Snow and Kamhi-Stein, 1997; Wu et al., 2001).

Given these insights, university personnel can take steps to make their institutions a welcome place for international students. They must become aware of the degree of success of their international students, not only as indicated by quantitative data such as GPAs and retention rates, but also by qualitative data derived from surveys, interviews, and focus groups as numbers may mask the difficulties and sacrifices students face to be successful.

Support services focused on the transitional challenges of international students need not involve new programs and budgets, but can be offered within current support centers given additional training of personnel and redesigning of existing programs. Although interventions for international students have not been widely reported, those reviewed in this article are excellent examples of what can be accomplished. However, assessment data is needed in order to make informed decisions about program refinements. Much of the literature presents ideas for programming or is descriptive in nature rather than evaluative. Another key area to international student adjustment is faculty training. Although some faculty have demonstrated awareness of international student support needs, others may need to incorporate pedagogical adjustments and ensure that their interpretations of student behavior are accurate.

Finally, further research exploring additional variables influencing the adjustment and achievement of international students is critical to developing an understanding of how these students are faring in institutions of higher education in English-speaking countries. 'If we want to attract and retain international students to our university campuses, we must focus on the students' needs and successes in the American university experience' (Lacina, 2000: 26). This statement also applies to universities

in other English-speaking countries. Helping international students to be successful requires colleges and universities to be proactive in demonstrating their commitment and belief in the contributions of international students by engaging in related research and offering appropriate programming and services.

Insights gained from experiences with international students in English-speaking higher education institutions also have broader implications for intercultural education; specifically, the need to understand cultural adjustment and implement measures to insure that the full benefits of diversity are recognized. Institutions worldwide that host international students or prepare students for study abroad experiences should consider the adjustment issues raised in this review in order to enhance the mutually rewarding practice of international study.

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