

English academic language skills: Perceived difficulties by undergraduate and graduate students, and their academic achievement

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An EAP needs survey conducted at a major Canadian university among first-year Bachelor's- and Master's-level students reveals that native speakers (NS) and non-native speakers (NNS) of English perceive that the language skills that are necessary for academic study are of different levels of difficulty. Furthermore, English language difficulties appear to negatively affect the academic achievement of NNS graduate students as compared to their NS peers. However, such difficulties, although acknowledged to exist by NNS undergraduates, do not appear to affect their academic performance as compared with that of their NS counterparts.

Une enquête conduite auprès d'étudiants en première année de baccalauréat et au niveau de la maîtrise dans une grande université canadienne révèle que les locuteurs natifs de l'anglais et les locuteurs non-natifs perçoivent à des niveaux différents leurs besoins langagiers en anglais pour poursuivre leurs études. De plus, il semble qu'au niveau du deuxième cycle, les difficultés en anglais éprouvées par les locuteurs non-natifs affectent négativement leurs résultats par rapport à ceux des locuteurs natifs. Cependant, de telles difficultés, même si elles sont reconnues par les étudiants de premier cycle non locuteurs natifs, ne semblent pas avoir d'effet sur leurs résultats par rapport à ceux des étudiants de premier cycle locuteurs natifs.

Introduction

International students at English-speaking universities have major challenges to overcome in their academic study. English may be one such challenge, especially at the beginning of their academic study, and particularly for non-native speakers (NNS) of English. Research into English for Academic Purposes (EAP) has shown that these students need to be competent in certain language areas and skills to be able to cope with academic demands (Cumming, 1994; Ferris and Tagg, 1996a; 1996b; Graham, 1987; Sarudin, 1994; Zhao, 1993). The difficulties faced by these students are different depending on the level of their studies, whether they are undergraduates or graduates, and on the subject areas they study for especially at the graduate level (Cheng, 1996; Light, Xu and Mossop, 1987; Xu, 1991).

Contradictorily perhaps, a study of the academic performance of international students at ten community and senior colleges of City University of New York, by Patkowski, Fox, and Smodlaka (1997) shows that these students generally perform satisfactorily compared to their American peers (see also Patkowski, 1991). Similarly, a study by Bers (1994) indicates that international students do as well or better than their American counterparts, apparently compensating for language shortcomings (see also Isonio, 1994 and Sarudin, 1994).

A limited number of studies on the language needs of international students have been carried out within Canadian universities (e.g. Sun, 1987; Chacon, 1998). In Chacon's survey of international students' academic life at the University of Alberta, he discovered that 37.7% and 36.7% of international students found speaking and writing, respectively, somewhat of a problem or a big problem. A similar proportion found it difficult to understand their instructors, and that academic stress was high among over two thirds of the group.

This study reported here explores students' perceptions of the use of English in their academic study. This paper analyzes the results of this needs assessment survey carried out among Bachelor's and Master's level students who registered in the 1998-1999 academic year at a major Canadian university. The survey compared both Native Speakers (NS) and Non-native Speakers of English (NNS), in order to determine the English language-related difficulties in their academic study.

Research background

Needs assessment plays an important role in all aspects of language education planning and in English for Academic Purposes and English for Special Purposes (Benesch, 1996). This needs survey investigated self-assessed English language requirements and difficulties of international students compared to their native-speaking counterparts at a Canadian university, with the intention of making use of the findings in different aspects of English language curriculum development, and in assisting faculty and administrators who are involved in international education. This study aimed to answer the following research questions:

1. Which language skills are perceived to be difficult by NNS students at the undergraduate and graduate levels, and how do their perceptions compare with those of their NS counterparts?
2. Assuming both NS and NNS students have certain language difficulties in the initial period of their academic study, do these language difficulties affect their academic achievements in terms of their GPAs in their first academic term?

A questionnaire was designed to explore the above research questions. It consisted of two major parts, the first on language skills, and the second on demographic information. The first part invited students' self-assessment of both the importance and difficulty of a list of language skills in five major skill constructs on a 5-point Likert scale. Findings related to *importance* will be addressed in a separate paper. The *difficulty* scale ranged from 1 = 'not difficult' through 3 = 'somewhat difficult', to 5 = 'very difficult'. The 40 items in the first part of the questionnaire covered five main areas of language skills, or five English language constructs:

1. Carrying out academic work (9 items)
2. Reading (6 items)
3. Listening (12 items)
4. Speaking (6 items)
5. Writing (7 items)

Data collection and analysis

The second section of the questionnaire consisted of information regarding student status, immigration status, TOEFL scores, GPA, gender, age, first language, and their department and faculty.

Both undergraduates and graduates who enrolled in the 1998-1999 academic year, a total of 902 students, were mailed the questionnaire, to the mailing addresses provided by the university. Self-addressed envelopes were included with each questionnaire. It should also be noted that students whose addresses were recorded as being overseas (N = 83) were not sent questionnaires. Thirty-seven letters were returned as undeliverable. Two completed questionnaires were deemed invalid. A total of 186 students returned valid questionnaires, an overall return rate of 21.6%. In order to answer the above research questions, students who spoke English as a second language and those who spoke English as their first language were categorized into two distinct groups: Native Speakers (NS) or Non-Native Speakers (NNS) of English within the undergraduate and graduate categories. A total of 53 NNS undergraduates returned valid questionnaires (25.7% of possible replies). Completed questionnaires were also received from 39 NS undergraduates (13.6%); 60 NNS graduate students (33.0%); and 34 NS graduate students (18.0%).

The survey data were analyzed using SPSS to obtain descriptive statistics on the *difficulty* of the language skills self-assessed by students, and to correlate students' GPAs with their perceived difficulties with various aspects of the use of English. T-tests were used to compare the language skills of the NS and NNS undergraduates and graduates. The statistical significance of the data reported in this paper is set at the level of $p < 0.05$.

Findings

This section will report the survey findings addressing the two research questions in two parts. The first part reports the students' self-assessed difficulties with various language skills, separated into the four distinct groups—NS vs. NNS undergraduates and NS vs. NNS graduates. The second part explores the relationship between their self-assessed difficulties and their academic success as represented by their self-reported GPAs.

Students' self-assessed difficulties in various language skills

After we obtained the survey responses, we carried out a two-stage analysis to explore students' self-assessed difficulties among the four distinct groups. We looked at group differences in perceived difficulties within the four language constructs, i.e. reading, writing, listening and speaking, as well as at students' perceived difficulty with each survey item.

Group differences in listening, reading, speaking, and writing

The following findings relate to the difficulty perceived by students in the four skill constructs, and are obtained by grouping related tasks listed under each language skill construct—listening, reading, speaking, and writing—and calculating the mean difficulty rating of all items within each skill construct. In this way, we could see group differences in their perceptions of the language difficulty in the four skill areas (Table 1). 'Writing multiple-choice examinations' (item 35) was omitted from this analysis since, from a conceptual standpoint, this skill does not fit well within any of the four language skill constructs.

NS undergraduate and graduate students perceive all four skills to be fairly equal in terms of difficulty, with the exception of listening for NS undergraduates (mean 1.52), which is perceived to be significantly easier than either reading (1.92) and speaking (1.97) or writing (1.98). NS graduate students' mean perceptions of difficulty are: listening (1.30), reading (1.41), speaking (1.40), and writing (1.35).

Looking at the NNS group as a whole, the most difficult language construct for NNS students is the productive skill of speaking. NNS undergraduates' mean for speaking is 2.83; NNS graduates' mean is 2.56. These difficulty ratings are significantly greater for both of the receptive skills, listening or reading. The mean difficulty rating of the listening tasks among NNS undergraduates is 2.26, and for NNS graduates 2.28. The mean rating for reading, which is perceived by NNS students as the least difficult skill, is 2.22 and 1.90 for undergraduates and graduates respectively. In addition, both NNS undergraduates and NNS graduates find the productive skill of writing to be significantly more difficult than the receptive skills ($p < .05$), with mean ratings of 2.42 for undergraduates and 2.23 for graduates.

Table 1: Students' perceptions of difficulty in the four skill constructs

Undergraduate students		N	Mean	S.D.	Sig.
Listening	NS	39	1.52	0.56	p < .005
	NNS	52	2.26	0.78	
Reading	NS	39	1.92	0.83	ns
	NNS	52	2.22	0.71	
Speaking	NS	39	1.97	1.00	p < .005
	NNS	51	2.83	0.91	
Writing (not #35)	NS	39	1.98	0.84	p < .05
	NNS	52	2.42	0.84	
Graduate students		N	Mean	S.D.	Sig.
Listening	NS	34	1.30	0.57	p < .005
	NNS	59	2.28	0.87	
Reading	NS	34	1.41	0.60	p < .005
	NNS	59	1.90	0.73	
Speaking	NS	34	1.40	0.62	p < .005
	NNS	59	2.56	1.05	
Writing (not #35)	NS	34	1.35	0.57	p < .005
	NNS	60	2.23	1.01	

It will be recalled that Chacon (1998) discovered that many international students found speaking and writing to be somewhat of a problem or a big problem. Our findings (Table 2) approximate those of Chacon. After calculating the mean score for each student in each language skill construct, and then separating those means into either less than 3 (i.e. less than 'Somewhat difficult') or 3 and greater (i.e. at least 'Somewhat difficult'), we found that a large proportion of NNS undergraduate and graduate students consider speaking to be at least 'Somewhat difficult' (45.1% and 37.3% respectively of NNS undergraduates and graduates). In contrast, far fewer NS students find speaking difficult (15.4% and 5.9% respectively of NS undergraduates and graduates). Similarly, within the construct of writing, 32.7% of NNS undergraduates and 31.7% of NNS graduates consider writing at least 'Somewhat difficult,' in contrast to NS undergraduates (17.9%) and NS graduates (2.9%).

Group differences in survey items

After we looked at students' difficulty in terms of the four listening, reading, speaking, and writing constructs, we took a closer look at their difficulty on each survey item. In order to determine the 'most difficult' language skills ranked by each group, i.e. for undergraduate NS, undergraduate NNS, graduate NS and graduate NNS students, the items were ranked in order of perceived difficulty. While NS undergraduates perceive all items to be less than 'Somewhat difficult' (i.e. all means are under 3), NNS undergraduates show much higher means.

Table 2: Percentage of students who find language skills to be ‘Somewhat difficult’, or greater

Language skill construct	Undergraduates		Graduate Students	
	NS	NNS	NS	NNS
Listening	2.6%	26.9%	2.9%	23.7%
Reading	17.9%	21.2%	5.9%	5.1%
Speaking	15.4%	45.1%	5.9%	37.3%
Writing	17.9%	32.7%	2.9%	31.7%

Similarly, while NS graduate means are all under 2.0, NNS graduates show mean scores approaching ‘Somewhat difficult’ on four items. For a focussed discussion, we listed only the mean scores of the nine items the four language constructs, which each group perceived to be most difficult.

As shown in Table 3, NS undergraduates report writing tasks to be among the most difficult of the language tasks they perform in their studies (i.e. ‘Writing essay examinations’, ‘Writing examinations’, ‘Writing assignments’, and ‘Writing resumes’). Reading tasks are the next most frequently rated as difficult (i.e. ‘Understanding a writer’s attitude and purpose’, ‘Understanding academic textbooks’ and ‘Understanding the details of a text’). In addition, NS undergraduates find ‘Answering questions in class’ and ‘Writing multiple-choice examinations’ to be among the most difficult language tasks.

Unlike the NS undergraduates, NNS undergraduates find speaking tasks to be among the most difficult (i.e. ‘Carrying out oral presentations’, ‘Taking part in class discussions’, ‘Answering questions in class’ and ‘Asking questions in class’). In addition, three writing tasks (i.e. ‘Writing essay examinations’, ‘Writing examinations’ and ‘Writing assignments’) and two reading tasks (i.e. ‘Understanding a writer’s attitude and purpose’ and ‘Understanding research reports’) are considered relatively difficult.

While NS graduate students report no means above 2.0 on the 5-point Likert scale, NNS graduate students’ responses are similar to those of undergraduate NNS speakers. Speaking tasks are among the most numerous of those perceived to be difficult between both NNS undergraduate and graduate students (i.e. ‘Carrying out oral presentations’, ‘Taking part in class discussions’, ‘Answering questions in class’, and ‘Asking questions in class’). Writing tasks also figure prominently (i.e. ‘Writing essay examinations’, ‘Writing formal letters’, and ‘Writing resumes’).

Relationship between students’ self-assessed difficulties and their GPAs

To answer our second research question, we first examined the relationship between the language factor, i.e. NS vs. NNS students, and their GPAs. We then

Table 3: The most difficult tasks perceived by students

	Mean	S.D.
NS undergraduate students		
Writing essay examinations	2.69	1.49
Writing examinations	2.49	1.45
Writing assignments	2.32	1.16
Understanding a writer's attitude and purpose	2.26	1.31
Writing multiple choice examinations	2.24	1.22
Understanding academic textbooks	2.23	1.25
Understanding the details of a text	2.18	1.20
Writing resumes	2.18	1.27
Answering questions in class	2.18	1.29
NNS undergraduate students		
Writing essay examinations	3.40	1.30
Carrying out oral presentations	3.39	1.28
Taking part in class discussions	3.08	1.13
Answering questions in class	2.90	1.13
Understanding a writer's attitude and purpose	2.84	1.20
Writing examinations	2.79	1.16
Asking questions in class	2.76	1.21
Writing assignments	2.73	1.22
Understanding research reports	2.71	1.15
NS graduate students		
Understanding research reports	1.79	1.12
Understanding journal articles	1.79	1.20
Understanding the details of a text	1.65	0.95
Carrying out oral presentations	1.62	0.89
Understanding academic textbooks	1.53	0.79
Understanding a writer's attitude and purpose	1.53	0.86
Writing multiple choice examinations	1.52	0.82
Writing essay examinations	1.48	0.87
Understanding vocabulary in your subject area	1.47	0.83
NNS graduate students		
Carrying out oral presentations	2.90	1.15
Writing essay examinations	2.87	1.39
Taking part in class discussions	2.64	1.21
Understanding classmates' questions in class	2.59	1.12
Writing formal letters	2.57	1.22
Answering questions in class	2.52	1.23
Writing resumes	2.43	1.29
Understanding a writer's attitude and purpose	2.42	1.20
Asking questions in class	2.42	1.23

looked at the correlation between NS vs. NNS students' self-assessed difficulties and their GPAs.

NS vs. NNS students and their GPAs

An analysis of the academic success, as defined by GPA, of NS vs. NNS students (Table 4), shows that while using English as a second language does not exert a significant effect among undergraduates, this factor does appear to be important in determining the relative academic success of graduate students (Chi-square $p < 0.05$). Interestingly, it can be seen from Table 4 that among undergraduates, proportionally more NNS students (15 out of 48 vs. 7 out of 37 for NS students) reported achieving the highest grade between 7.4 and 8.5.¹ On the other hand, proportionally fewer NNS graduate students achieved the same high grades as their NS peers (38 out of 57 for NNS students vs. 29 out of 31 for NS students).

Table 4: NS vs. NNS by GPA cross-tabulation

	Grade Point Average			
	4.0–5.0	5.1–6.0	6.1–7.3	7.4–8.5
Undergraduate students				
NS	3	10	17	7
NNS	1	14	18	15
Graduate students				
NS			2	29
NNS	1	5	13	38

Clearly, higher grades are achieved overall by graduate students than by undergraduates in general, but the NNS graduates do not reap these inflationary benefits to the same extent as their NS peers. While there is a very small deviation in the grades of the NS graduates, with almost all of them receiving top grades, there is a far greater range in the grades achieved by the NNS graduates.

In short, while NNS undergraduates seem to perform similarly to NS undergraduates in terms of their GPAs, NNS graduate students do not achieve the same academic success as their native English-speaking peers.

NS vs. NNS students' self-assessed difficulties and their GPAs

In order to answer our second research question, whether students' perceived language difficulties affect their academic achievement in terms of their GPAs, we carried out correlation analyses between student responses to the four major language constructs of listening, reading, speaking, writing, and their GPAs. While no statistically significant correlation was shown to exist between any perceived difficulty and GPAs among NS undergraduate and graduate students, nor even among NNS undergraduate students, such correlations were demonstrated for NNS graduate students.

Table 5: Correlation (r) between GPAs and Language Skill Constructs

Language Skill Construct		Undergraduates		Graduates	
		NS	NNS	NS	NNS
Listening	r	-.02	-.13	-.01	-.30*
	sig.	ns	ns	ns	.023
	N	37	47	30	56
Reading	r	-.05	-.22	.09	-.33*
	sig.	ns	ns	ns	.013
	N	37	47	31	56
Speaking	r	.07	-.06	.15	-.55**
	sig.	ns	ns	ns	.000
	N	37	46	31	56
Writing	r	-.01	-.03	.18	-.38**
	sig.	ns	ns	ns	.004
	N	37	47	29	56

*Correlation is significant at the 0.05 level (2 tailed).

**Correlation is significant at the 0.01 level (2 tailed).

As can be seen in Table 5, NNS graduate students' self-assessed difficulties in all four language areas were significantly negatively correlated with their GPAs, i.e. the more difficult they perceived English language skills to be, the lower their GPAs tended to be. NNS graduate students' perceptions of the difficulty of speaking and writing are the most highly correlated with academic success as defined by GPA ($r = -.55$ and $r = -.38$ respectively), compared with their perceived difficulty with listening and reading ($r = -.30$ and $r = -.33$ respectively). This would seem to indicate that NNS graduates need most help with speaking and writing, even after having been accepted into a university program.

As shown in Table 6, when correlating students' GPAs and their perceived difficulties with each of the 40 survey items, we found that among the NNS graduate students' responses to 27 of the items showed significant negative correlations with their GPAs ($p < .05$). This seems to demonstrate that lower GPAs are directly related to at least some NNS graduate students' perceived language difficulties, and that the language demands made of these graduate students in their academic study may impede their academic success. However, in correlating the perceived difficulties of NNS undergraduate students with their GPAs, we found that only three items (Items 4, 18, and 19) showed a significant negative correlation ($p < .05$). Looking at the information divulged by the correlations of GPAs and student responses to the questionnaire, it appears that the academic performance of NNS undergraduates may be affected by a small number of language-related issues (3 items), while NNS graduates are impacted on a larger scale by a wide variety of language-related issues (27 items).

Table 6: Pearson Correlations (r) of GPA and Difficulty items

Item		Undergraduate	Graduate
1. Comprehending lectures (see also item 10)	r	-0.169	-0.426**
	Sig.	0.262	0.001
	N	46	56
2. Taking part in class discussions (see also item 30)	r	-0.162	-0.505**
	Sig.	0.295	0.000
	N	44	55
3. Carrying out academic discussions outside class	r	-0.045	-0.343**
	Sig.	0.775	0.010
	N	43	56
4. Making oral presentations (see also item 32)	r	-0.379*	-0.389**
	Sig.	0.017	0.003
	N	39	56
5. Taking notes	r	-0.050	-0.390**
	Sig.	0.740	0.003
	N	46	57
6. Doing written assignments (see also item 34)	r	-0.154	-0.344**
	Sig.	0.311	0.009
	N	45	56
7. Writing examinations	r	-0.216	-0.483**
	Sig.	0.145	0.000
	N	47	56
8. Using the Internet for academic information	r	0.063	-0.053
	Sig.	0.679	0.707
	N	46	53
9. Doing library research	r	-0.119	-0.056
	Sig.	0.454	0.691
	N	42	53
10. Understanding lectures	r	-0.138	-0.399**
	Sig.	0.354	0.003
	N	47	55
11. Understanding classroom interactions	r	-0.029	-0.400**
	Sig.	0.848	0.002
	N	45	55
12. Understanding classmates' questions in class	r	-0.166	-0.321*
	Sig.	0.266	0.015
	N	47	57
13. Understanding small group discussions	r	-0.289	-0.187
	Sig.	0.058	0.175
	N	44	54

(con'd)

Table 6: (continued)

14. Understanding everyday English outside class	r	-0.046	-0.075
	Sig.	0.762	0.581
	N	45	57
15. Understanding TV, movies and news media	r	0.085	-0.174
	Sig.	0.584	0.200
	N	44	56
16. Understanding the main points of a text	r	-0.196	-0.409**
	Sig.	0.186	0.002
	N	47	55
17. Understanding the details of a text	r	-0.224	-0.247
	Sig.	0.129	0.066
	N	47	56
18. Understanding a writer's attitude and purpose	r	-0.313*	-0.117
	Sig.	0.039	0.410
	N	44	52
19. Understanding vocabulary in your subject area	r	-0.355*	-0.264*
	Sig.	0.015	0.049
	N	46	56
20. Understanding academic textbooks	r	-0.249	-0.375**
	Sig.	0.091	0.004
	N	47	56
21. Understanding journal articles	r	-0.176	-0.275*
	Sig.	0.260	0.038
	N	43	57
22. Understanding research reports	r	-0.135	-0.271*
	Sig.	0.388	0.047
	N	43	54
23. Understanding written instructions	r	-0.140	-0.339*
	Sig.	0.354	0.011
	N	46	56
24. Understanding university calendars	r	0.118	-0.162
	Sig.	0.445	0.243
	N	44	54
25. Understanding course outlines	r	-0.001	-0.026
	Sig.	0.996	0.851
	N	46	54
26. Understanding public notices	r	-0.111	-0.044
	Sig.	0.467	0.748
	N	45	56
27. Understanding magazines and newspapers	r	-0.050	-0.379**
	Sig.	0.745	0.004
	N	45	55

(con'd)

Table 6: (continued)

28.	Asking questions in class	r	-0.203	-0.506**
		Sig.	0.176	0.000
		N	46	57
29.	Answering questions in class	r	-0.098	-0.547**
		Sig.	0.521	0.000
		N	45	57
30.	Taking part in class discussions	r	-0.076	-0.485**
		Sig.	0.624	0.000
		N	44	55
31.	Talking in a group in class	r	-0.088	-0.501**
		Sig.	0.580	0.000
		N	42	53
32.	Carrying out oral presentations	r	-0.113	-0.525**
		Sig.	0.487	0.000
		N	40	56
33.	Meeting people in social settings	r	0.111	-0.261
		Sig.	0.477	0.052
		N	43	56
34.	Writing assignments	r	-0.034	-0.374**
		Sig.	0.819	0.005
		N	47	56
35.	Writing multiple choice examinations	r	-0.277	-0.429**
		Sig.	0.076	0.003
		N	42	45
36.	Writing essay examinations	r	-0.212	-0.313*
		Sig.	0.167	0.024
		N	44	52
37.	Filling in forms	r	0.050	-0.353**
		Sig.	0.742	0.009
		N	45	54
38.	Writing formal letters	r	-0.089	-0.273
		Sig.	0.580	0.053
		N	41	51
39.	Writing resumes	r	0.052	-0.169
		Sig.	0.759	0.240
		N	38	50
40.	Writing e-mail	r	0.153	-0.469**
		Sig.	0.328	0.000
		N	43	56*

Many universities, including the one where this study took place, officially require a higher TOEFL score for undergraduate (generally 580) than for graduate (generally 550) admission. However, it should be pointed out that the relatively lower GPAs of NNS graduate students is *not* tied to their having lower TOEFL scores compared with the NNS undergraduates; in fact, NNS graduate students tend to have significantly higher TOEFL scores than NNS undergraduates in our sample (see Table 7).

Table 7: Student status by TOEFL score cross-tabulation

	TOEFL score				
	400–529	530–549	550–579	580–610	611–680
Undergraduates	5	3	5	19	8
Graduates	2		8	14	26

Discussion and Implications

With respect to our two research questions, this study confirms that non-native speaking students perceive various language skills to be more difficult in their academic study than do their native English-speaking peers. Such an outcome would have been expected, since pursuing a degree in a second language environment can be a challenge, particularly, as was the case in this study, during students' first year.

The study also reveals that there is a statistically significant difference in students' perceptions of their difficulties in various language skills, not only between NS and NNS students, but also between NNS undergraduate and NNS graduate students. NNS undergraduates seem, overall, to be able to compensate for their English language difficulties related to their studies by achieving similar academic results to their NS peers, supporting the findings of Patkowski, Fox and Smodlaka (1997). However, such is not the case among NNS graduate students, whose GPAs are significantly lower than those of the NS graduate students in our study.

When items were grouped into the four language constructs, significant negative correlations were seen only among the NNS graduates between students' perceptions of their language difficulties and their academic achievement as represented by their GPAs. Among NNS undergraduates, statistically significant negative correlations were found between three items on the questionnaire and their GPAs. On the other hand, among the NNS graduates, responses to 27 items showed such significant relationships between perceived language difficulties and their GPAs, apparently indicating that language difficulties of NNS graduate students have a larger impact on their academic performance.

How undergraduate students managed to overcome their language difficulties was beyond the focus of this study, but should be an area of further research. Two explanations, perhaps both in play, are worth considering as to why these first-year NNS undergraduates performed about as well as their NS peers. First, NNS undergraduates may put a great deal of work into their studies. Second, the language demands at the undergraduate level may not be so great as to hold back these hard-working students. On the other hand, first-year NNS graduate students do not seem to be able to compensate for their language difficulties to the same extent as NNS undergraduates can. Since it should be assumed that NNS graduate students work at least as diligently as NNS undergraduates, it would appear that the language demands at the graduate level may hold back even hard-working NNS students. A less plausible explanation for this phenomenon would be that NNS applicants admitted into Masters programs are not as strong academically as native English-speaking applicants. It should be reiterated that the lower GPAs of NNS graduate students are not related to their TOEFL scores; on the contrary, the graduate students reported having received significantly higher TOEFL scores than the undergraduates.

The study confirms that the perceived language difficulties of NNS graduate students, which relate to the productive skills of speaking and writing, were directly related to their academic performance. This finding implies that many NNS graduate students would benefit from English for Academic Purposes (EAP) instruction, especially in speaking and writing, after being admitted into their program of studies. It would seem clear that their EAP instruction must emphasize oral skills such as asking and answering questions, taking part in small and large group discussions, as well as carrying out oral presentations. Writing skills to be taught would need to include the writing of essay examinations, a skill reported by many of them to be difficult, as well as other forms of formal academic writing.

Instructional implications for the undergraduates are, on the other hand, less straightforward, based first of all on the fact that NNS undergraduates are generally doing satisfactorily in their studies despite possible language difficulties. Second, the perceived language difficulties that were shown to impact their GPAs are reflected in only three survey items: (1) Making oral presentations, (2) Understanding a writer's attitude and purpose, and (3) Understanding vocabulary in your subject area. Before acting upon the first of the above perceived difficulties, making oral presentations, by offering instruction in this skill, it would be necessary to determine how often undergraduates are actually required to make such presentations. Anecdotal evidence suggests that such activities are not a widespread component of undergraduate programs. It may also be the case that students' genuine and clear anxiety in making oral presentations, a skill within the language construct of speaking, is highlighting this particular skill above other oral skills of a less distressing nature but which

may nevertheless be impacting their academic success. These other skills may include those highlighted by graduate students, such as asking and answering questions and taking part in group discussions. It seems clear that universities should make available courses in oral proficiency to all NNS students.

The second concern, understanding a writer's attitude and purpose, probably reflects the fact that at this university all undergraduate students are required to take an introductory course in English literature. In fact, a preparatory literature course for NNS undergraduates is now being offered, and it is expected that this will help to alleviate first-year students' apprehensions in this area.

Finally, with respect to the difficulty expressed by NNS undergraduates in understanding discipline-specific vocabulary, it is recommended that all departments ensure that glossaries of relevant terms be made available to students at the start of an academic term, and that individual faculty members supplement this list with their own. Notwithstanding the fact that NNS undergraduate students' perceived difficulties in writing cannot be shown here to impact upon their academic performance, this should not prevent our offering EAP writing courses, or courses that include a large writing component. While NNS undergraduates may be able, through hard work and perseverance, to compensate for language shortcomings that they possess, this does not mean that we should not attempt to make their struggle less onerous by making all of their language related tasks less difficult for them.

Note

- ¹ The university in which we conducted the survey uses a 9-point grading system.

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