Ráðstefnurit Netlu – Menntakvika 2010
Menntavísindasvið Háskóla Íslands

Ritrýnd grein birt 31. desember 2010

Birna Arnbjörnsdóttir og Hafdís Ingvarsdóttir

Coping with English at University

Students' Beliefs

The purpose of the research project presented here is to explore views of Icelandic university students on how the use of English affects their ability to master the curriculum, 90% of which is in English. Data was collected through electronic surveys of all students at the University of Iceland. The study asked (1) to what extent do students perceive that they are prepared to meet the demands of accessing textbooks written in English, (2) what effect this has on the quality of their academic work, and (3) what strategies they use to negotiate meaning between the two linguistic codes they must use to master the curriculum. The results suggest that even though most students believe that they are prepared to study the curriculum in English, once probed, they say that working with two languages increases workload and that they employ various strategies to overcome the linguistic constraints posed by English textbooks.

Birna Arnbjörnsdóttir is professor of Second Language Acquisition and Pedagogy, Faculty of Language, Literature and Linguistics, School of Humanities at the University of Iceland. Hafdís Ingvarsdóttir is a professor at the Faculty of Teacher Education, School of Education, University of Iceland.

Að kljást við ensku í háskóla: Viðhorf nemenda
Tilgangur rannsóknarinnar var að kanna viðhorf nemenda við Háskóla Íslands til notkunar ensku en 90% kennslubóka við íslenska háskóla eru á ensku. Kannanir voru sendar til allra stúdenta við Háskóla Íslands og þeir spurðir 1) hversu vel undirbúnir þeir töldu sig vera til þess að læra námsefni á ensku, 2) hvaða áhrif það hefði á námið að námsefnið væri á ensku og 3) hvaða námsaðferðir þeir notuðu til að tileinka sér námsefnið. Niðurstöður sýna að þó að stúdentar telji sig almennt vel undirbúna til að takast á við námsefni á ensku kemur í ljós að vinnuálag eykst og að þeir nota ýmsar leiðir til takast á við enskuna við tileinkun námsefnisins.

Introduction

In recent years, the use of English as a Lingua Franca [1]as a medium of instruction in Universities around the world has increased. According to Coleman (2006), most universities in Europe offer English medium courses, especially at the postgraduate level, with Business, Engineering and Sciences leading the way. In Iceland, as in all of the Nordic countries, there is wide exposure to English and the use of English permeates all levels of society from everyday speech to the most formal language of academia (Birna Arnbjörnsdóttir 2007; Phillipson, 2007, 2008). Only recently has there been growing inter-

est in Europe in examining what effect the use of English has on the nature of instruction and learning of students for whom English is a second or foreign language. Few studies exist of the use of English as a Lingua Franca in Scandinavia, especially the use of English in Iceland. In Iceland, the vast majority of the curriculum is written in English while the language of instruction and assessment is Icelandic. The study reported here examines the effect on learning when the receptive language is English and the language of production is Icelandic.

The research results presented in this paper are based on a preliminary analysis of some of the data collected. The study is one part of a multifaceted three year research project that has as its goal to map out the use of English as a Lingua Franca in Iceland. The study surveyed Icelandic students on how well prepared they felt to study at university; specifically, their views about using two languages to access and master the curriculum; 90% of which is written in English (Birna Arnbjörnsdóttir, 2009). The surveys focused on the question how students cope with the *simultaneous parallel code use* that is required of them during the learning process as they negotiate meaning between a receptive language and productive language that are not the same. Specifically, the study investigated (1) to what extent students at the University of Iceland perceive that they are prepared to meet the demands of accessing the curriculum in English, (2) what effects this may have on the quality of their academic work, and (3) what strategies they use to negotiate meaning between the two linguistic codes they must use to master the curriculum.

How prepared are students to use academic English?

Little attention has been paid to what effect it may have on students' academic experiences when the curriculum is written in another language than the one in which their mastery of the curriculum is assessed. The focus of previous studies has been on examining to what extent students' English proficiency, especially their English reading skills, suffices to comprehend their English textbooks (Berman, 2009; Hellekjær, 2005, 2009; Anna Jeeves, 2008).

Hellekjær and Westergaard (2003) claim that insufficient English proficiency is a "mounting problem" in education in Norway, Sweden, Denmark and Finland. At Norwegian universities, 64% of the curriculum in the Natural Sciences is written in English, 49% of books in the Social Sciences are in English, and 43% in the Humanities (Ljösland, 2007). Ljösland suggests that these numbers are higher at the postgraduate level. Hellekjær (2005, 2009) undertook two studies which examined whether Norwegian students were and perceived themselves to be prepared to use English in their university studies. In his 2005 study, Hellekjær used questionnaires, self assessment items and an academic English reading test (IELTS) to measure English reading proficiency. His subjects were 935 students from university level and senior upper secondary level. Test scores revealed that two thirds of the students would not meet the level (band 6 on IELTS) required for admission to universities in English speaking countries (p.4). Hellekjær concluded that reading problems persist at university for 30-40% of respondents who had poor language proficiency, exacerbated by a counterproductive tendency towards careful reading with excessive focus on ascertaining the meaning of unknown words. This view was supported by a 2009 study of 578 university students' English reading proficiency (Hellekjær, 2009). Additionally, Hellekjær suggested that many of the secondary students in his sample had an "unrealistic impression" of their level of reading proficiency in English as their self assessment scores were considerably higher than their test scores (2005).

Albrechtsen, Haastrup and Henriksen (2007) conducted a major study in Denmark of how cognitive learning skills transferred between their subjects' first language (Danish) and their second language (English). They compared the size and structure of the lexicon in

the two languages. They also examined how lexical inferencing (how a learner infers word meaning) in reading transferred between languages of the same individuals and across learner groups at three levels. The highest level group was made up of first year university students. The data within individuals suggested that the use of advanced processing was three times greater in the first language than the second language (Albrechtsen et al. p. 96). In general, process and product measures in the first language were "clearly superior" to those in the second language.

Until recently, very few studies existed which examined the extent of English use in academia in Iceland and to what extent Icelandic students were prepared to undertake university studies in English. Recently, these issues have received some attention. Two studies have examined Icelandic students' English proficiency and preparation. Both are part of a three year project funded by the Icelandic Centre for Research. The objective is to map out exposure and use of English across the education system and in society.

As part of this larger study, the number of textbooks written in English used in Icelandic universities was examined (Birna Arnbjörnsdóttir, 2009). Syllabi and reading lists were analyzed and the results show that the number of English textbooks used in Iceland is even higher than in Norway or 90%. Over 95% of textbooks in the Sciences and in Medicine at Icelandic universities are written in English and 100% in Agriculture. In the Social Sciences, Humanities and Law the number is somewhat lower. Undergraduate Law courses have the lowest number of English textbooks or 50% (but higher at the graduate level). The Humanities have a lower number of English textbooks because they house the departments of Icelandic and foreign languages. (Birna Arnbjörnsdóttir, 2009).

Anna Jeeves (2008) compared reading comprehension in the first language, Icelandic, to reading comprehension in English among upper secondary school students in Iceland. Anna Jeeves also compared students' perceptions of their reading ability in English to their actual test scores. Two groups of students with high scores and low scores on the PISA assessment of reading comprehension in March 2006 were tested on the same material in English 18 months later. Jeeves concluded that "[h]igher-ability readers in Icelandic scored lower for reading comprehension in English than in Icelandic but no significant difference was observed in scores for reading in English and Icelandic among lower-ability readers in Icelandic" (p. 56). According to Jeeves, less skilled readers seemed to have a more realistic perception of their reading skills in English than more able readers. She says: "Perhaps the most striking finding of this study is that students with lower-ability reading skills in Icelandic do not perform at a significantly lower level when reading in English, whereas higher-scoring students in Icelandic reading do significantly worse when reading in English" (p. 66). Jeeves concludes that "reading comprehension proficiency in English appears to reflect a general reading problem rather than a problem of knowledge of the foreign language" (p. 66).

Robert Berman (2009) conducted a preliminary examination of 171 students' English reading comprehension at two schools at the University of Iceland. Berman's conclusions support those of Hellekjær (2009) and Jeeves (2008); that a third of students seem to have difficulty comprehending textbooks written in English.

Clearly, mastering a curriculum written in a foreign language places demands on students' reading skills; especially their second language reading skills. These studies do not address the added constraints placed on the cognitive process and the reliance on metalinguistic skills when students must constantly transfer knowledge between two different languages. The fact remains that not enough is known about the nature of academic literacy, let alone second language academic literacy. The next section will explore the connection between parallel language use and academic achievement.

The use of English as a Lingua Franca and academic achievement

The relationship between use of a second language in learning and academic achievement of school children is well established. Those studies focused on the dual language use of children who have a home language which is different from their school language and who are also developing literacy. The conclusion of these studies is that the better the mastery of the first language (home language), especially literacy in the home language, the better the students' academic achievement in their second language (Collier, 1989; Cummins, 1979, 2000; Ramirez, Yuen, and Ramey,1991).

Studies of the effect of the use of English as a Lingua Franca (also referred to as parallel language use) on academic study in general are beginning to appear. Coleman (2006) (quoting Smith 2004) summarizes the findings of such studies of university students in Europe. Amongst the findings are "inadequate language skills among students and teachers and the need for training of indigenous staff and students" (p. 7). and Hellekjær and Westergaard (2003) conclude that the "effectiveness of English medium content teaching is influenced by language problems, in that language seems to constrain teaching and instructional methods" (p. 1) and that students may be less expressive in class (see also Wilkinson, 2005); Hellekjær, 2005). Secru (2004: 547 cited in Coleman 2006, p.10). claims, based on "substantial evidence", that the consequences of English language use are "a decrease in the quality of teaching and the students' overall learning results and an increase in study/teaching loads" These somewhat dire conclusions are contradicted by a general view that English taught programs increase the general prestige of the institution through greater participation in international research and education (The Bologna Agreement), facilitate student and teacher mobility through e.g. Erasmus exchanges, and that English medium programs seem generally well received by students (Coleman, 2006; Wilkinson 2005). As Wilkinson (2005) puts it "any language deficiencies in programmes are not reflected in overall ratings" (p. 1).

Studies in Holland of the effectiveness of English taught programs have been inconclusive. Some studies have demonstrated poorer student achievement in English medium courses as opposed to native language taught courses (Vinke, Snippe and Jochems, 1998). On the other hand, Hellekjær and Westergaard (2003) were unable to show any difference between the test results of students from Dutch medium vs. English medium programs of Dutch native speakers. The instrumental motivation for taking part in English medium courses seems to outweigh any doubt about how studying in a second language affects the mastery of the content. The questions as to whether the use of English as a lingua franca has a detrimental effect on academic achievement remains unresolved.

Negotiating meaning between two linguistic codes

Research on learning strategies used by second language users are numerous, especially in situations where the students are first or second generation immigrants studying in a school language that is not the same as their home language. The early studies in this area focus on immigrants who were beginning to appear in university courses (Hyland, 2007) and tend to focus on the language learning process, as opposed to mastery of the content. Since then, research has expanded into the "rich diversity of texts, contexts and practices" that students encounter while studying at university (Hyland, 2007, p.16). The focus is still on parallel language use i.e. when the language of instruction is different from the home language.

Students need more than just linguistic skills (in any language) to master the curriculum. They also need language-based general learning skills and strategies such as adjusting

reading speed, guessing, interpreting pictures and diagrams, note taking and effective ways to use a dictionary. All are important to learning (Hyland, 2007 p. 18). Oxford (1990) identified six main areas of strategies: cognitive strategies e.g. reasoning, analysis, note taking and summarizing; metacognitive strategies such as planning, organizing, monitoring mistakes and evaluating success; memory related strategies such as mnemonic devices and other memory enhancement techniques; compensatory strategies (guessing, paraphrasing); affective strategies (self talk, positive reinforcement), and social strategies such as asking others for assistance. In areas outside language learning, "the use of learning strategies is demonstrably related to student academic achievement" (Pressley and Associates, 1990). According to Oxford (1990) good learning strategies "make learning easier, faster, more enjoyable, more self-directed, more effective and more transferable to new situations" (p.8).

When studying the strategies students use to access content written in a different language than their first, and the one in which their academic preparation was conducted, the complex cognitive and metacognitive skills and processes required for such a task must be taken into consideration. In *simultaneous parallel code use*, students constantly negotiate meaning back and forth between a receptive language that contains language, culture and discipline specific content and translate into a different language with its own specific linguistic, cultural and academic rhetoric and knowledge base. The transfer must be completed, not only for the student's own benefit, but also because it is the major method by which the student's mastery of the subject is assessed and thus crucial to his/her academic achievement and professional future. An effort to understand the effect simultaneous parallel code use has on students' study begins by asking the students themselves what strategies they use to access the content of the books written in English.

Research on strategies has focused on courses where English is the medium of instruction as well as the language of the curriculum. No studies are available that examine situations where English is the language of the curriculum while the language of instruction and of assignments is the native language i.e. the impact of *simultaneous parallel code use* on learning*. Simultaneous parallel code use* characterizes language use of the vast majority of university students in Iceland. Therefore, the main research questions in this study are:

1. to what extent do students at the University of Iceland perceive that they are prepared to meet increased demands to access the curriculum in English,
2. what effects does this have on the quality of their academic work, and
3. what strategies do they employ to negotiate meaning between the two linguistic codes they must navigate to master the curriculum?

The Study

Methodology

Surveys were sent in November 2009 to faculty and students through the University of Iceland's post list *hi.starf* and *hi.nem* to elicit views about the use of English on their teaching, learning and workload. The data were analyzed for students on the one hand and for teachers on the other. This report will focus on the student survey.

Subjects

The actual size of the population in the study is not clear as some students may not be active, but according to the University registration records registered students numbered 13,957 in December 2009 when the surveys were administered. Of those, 3,006 were MA

students and 348 were doctoral students. All students are assigned e-mail addresses upon registration but removing students off the list is not as efficient (University of Iceland website).

The e-mail sent out to students included a link to a survey posted in the University content management system *Ugla*. A reminder was sent out two weeks later. 1082 students responded. All five schools at the University of Iceland were represented in the responses and the numbers reflected the actual ratio of the numbers of students at different schools.

Of the respondents, 40% (N=432) were first year students. Forty seven percent (N=502) were in their 2nd to 4th year of study. Twelve percent (N=130) were master's level students and sixteen percent were doctoral students. It was deemed important to find out what students thought at different levels to see whether there was a difference in responses between first year students and those who had been at the University longer and thus, presumably, had experience in reading English academic texts. It is also possible that in November some of the first year students who weren't able to cope with the English texts had already dropped out.

The Survey

The survey contained 21 questions that may be categorized into three main themes aligned with the goals of each the research questions. The first set of questions focused on respondents' English proficiency and background and to what extent students felt prepared to tackle academic texts in English. The second set of questions centered around students' actual experience using English textbooks and effects on their studies. The third set of questions asked what strategies, if any, students used to access texts in English. For most questions a four or five point Likert scale was used. On the background questions and the questions on students' use of strategies, respondents could mark more than one choice in multiple choice questions.

The responses were analyzed using SPSS both to tabulate frequency and to establish correlation between chosen factors. The results of the overall frequency tabulations will be presented below as well as frequencies broken down by school, year and gender. Other results will be reported in forthcoming publications.

Results

Participants' English Background and Perception of Their English Skills

The first research question asked to what extent students at the University of Iceland perceive that they are prepared to meet demands to access the curriculum in English. One of the questions asked whether students had lived in an English speaking country. 75% of respondents (N=806) had either not lived in an English speaking country at all or had spent less than 3 months in one. Only 10% had spent 1-5 years (after the age of 5) in an English speaking country and 3% or 31 respondents had lived longer than 5 years in a country where English was the main language.

Students were asked what level of English they had completed in secondary school and what grades (on average) they had received. The bulk of the respondents (87%) had received a grade 7 or higher (out of 10) in English while 14% report that they had received a 6 or lower. Whether this indicates how well students are prepared to tackle academic English is unclear. Almost half of the respondents (43%) had completed 7 semesters of English. It should be pointed out that in most secondary schools, Natural

Table 1 Perceived English Preparation by Students from Different Schools					
Q. 21. I am well prepared to study the curriculum in English. Do you agree or disagree with this statement?	**Agree strongly (%)**	**Agree somewhat (%)**	**Disagree somewhat (%)**	**Disagree strongly (%)**	**N**
All respondents	**32**	**44**	**19**	**5**	**1081**
School					
Social Sciences	27	46	21	6	374
Health Sciences	37	46	15	2	169
Humanities	43	38	14	5	175
Education	18	43	29	10	166
Engineering and Nat. Sciences	38	46	14	2	188

Science majors are only required to complete 3 semesters of English. In our survey, only 11% (N=117) marked that choice.

It has been suggested that Icelandic students may overestimate their English proficiency, so we asked students to rate their own proficiency. The goal was to compare their self evaluation with their responses to the questions about the accessibility of the texts they were required to read. Sixty five percent of respondents believed that their proficiency in speaking, comprehension and reading was good or very good. Only 13% thought their skills were poor or rather poor. The evaluation of their writing skills was more conservative, but only slightly so; 51% of respondents thought their writing was good or very good and 25% thought it was poor or rather poor. Similar results were obtained when students were asked how well prepared they were to study the curriculum in English. Seventy six percent or 820 respondents agreed or strongly agreed that they felt well prepared whereas 262 or 24% disagreed strongly or to some extent. As responses varied somewhat between the different schools, those numbers are presented in *Table 1.*

As seen in *Table 1*, only 18% of Education students strongly agree that they are well prepared whereas approximately 40% of students from other schools strongly agreed that they were well prepared. Twenty seven percent of Social Science students agreed strongly with this statement. First year students feel less prepared than older students although the difference is not substantial between beginning students and those who are in their second to fourth year. About a third of first year students do not feel adequately prepared whereas 22% of second to fourth year students feel that they are not adequately prepared.

As expected, there is a strong correlation in the data between longer stays in an English speaking country, higher grades in English and higher number of semesters of English taken at secondary school with responses that students feel well prepared. All these correlations were significant (Birna Arnbjörnsdóttir and Hafdís Ingvarsdóttir in preparation).

Effect on Mastery of the Curriculum

The next set of questions aimed at answering the second research question, namely, what effect the English language curriculum has on students' learning.

In question 10, students chose from a list of possible effects of using English in their studies. The choices given were: 1. It has advantages, 2. It poses constraints, 3. It increases workload, and 4. It has no effect. About 25 % (N=264) of respondents overall felt

Table 2 Effects of Use of English Textbooks on Studies					
Q. 10. What effect does it have on your studies that much of the curriculum is in English?	**Advantages (%)**	**Constraints (%)**	**Increases workload (%)**	**Has no effect (%)**	**N**
All respondents	24	15	44	16	1081
School					
Social Sciences	24	15	48	14	374
Health Sciences	33	8	51	8	169
Humanities	24	15	33	27	175
Education	11	22	57	10	166
Engineering and Nat. Sciences	30	15	30	25	188
Gender					
Men	31	14	33	22	293
Women	22	15	49	14	788

that it had advantages that the curriculum was in English, while only 15% thought it posed constraints. Fewer respondents or 16% (N=176) marked that it had no effect. However, almost half of the respondents or 44% (N=480) said that it increased their workload. The breakdown of responses by schools and gender is seen in *Table 2*.

About a quarter (25%) of students in Engineering and Natural Sciences felt that using English had no effect on their studies whereas 8 -15% of students in other schools (except Humanities) agreed with this statement. It is possible that students in the Humanities responded that there was no effect because they simply do not use English much; being students of Icelandic or foreign languages other than English. Students in the Health Sciences had the highest number of responses indicating advantages, but they also had the highest number of responses agreeing that using English increased workloads (with the exception of Education students). Health Sciences students also disagree that it had no effect on their studies and had the lowest number there. Education students in general seemed to feel the strongest that using English increased their workload and that it constrained their learning. Only 11% of Education students thought there were advantages to having textbooks in English.

The responses to the question whether students found it easy or difficult to use textbooks written in English seem to contradict the generally positive response to the question about preparation for using English materials. Many students or 37% thought it was difficult or very difficult to use textbooks in English, while another 37% felt it was somewhat easy and 26% felt it was easy to use textbooks in English. But this response is in line with views expressed in the responses to the previous question that using English increased the workload. Again, there was a strong correlation between length of stay in an English speaking country, high grades in English and number of semesters of English taken at secondary school on the one hand, and responses that students feel well prepared and find using English textbooks easy on the other. All these correlations were significant or highly significant.

Table 3 How easy or difficult is it to use textbooks in English?					
	Easy (%)	**Somewhat easy (%)**	**Somewhat difficult (%)**	**Difficult (%)**	**N**
All respondents	26	37	28	9	1081
School*					
Social Sciences	22	39	29	10	374
Health Sciences	27	44	23	6	169
Humanities	38	33	25	5	175
Education	14	29	42	16	166
Engineering and Nat. Sciences	32	40	21	6	188
Gender*					
Men	39	38	18	5	293
Women	21	37	32	10	788

* Significance: $p < 0.001$

Responses by school and gender give a different picture from the average overall responses, as can be seen in *Table 3.*

Twenty three percent of men thought using English was difficult or rather difficult whereas 42% of women thought using English textbooks poses difficulty. Again, Education students responded differently than students from other schools and found it more difficult to use English. It is not a coincidence that the majority of Education students are women. It is also possible that the characteristics of texts and discourse in the different disciplines may affect students' ease of comprehension. This will be addressed in the discussion section below.

We then asked more specific questions about working with English text in an otherwise Icelandic learning environment. These questions focused on the effect *simultaneous parallel code use* had on students' learning. Question 16 elicited views about working with English terminology when the course is taught in Icelandic. Only 17% of all respondent said that this posed no problems while 58% claimed it sometimes posed problems. One fourth of the respondents (269) said that it was often or always problematic to work with English terminology.

It is clear that the vast majority of students find that using English terminology poses problems.

Question 20 also focused on *simultaneous parallel code use* and its effect on learning. Students were asked: *How easy or difficult is it to discuss your field of study in Icelandic without using English terminology?* The responses were cautious in that 36% or 392 students responded "sæmilega" (e. Rather easy) while 31% (N=334) said that it was easy. Nineteen percent (N=206) said it was difficult or rather difficult to discuss their field without using English terminology. Again, a different picture appears when responses were broken down by disciplines as seen in *Table 5*.

Table 4 Views on working with English terminology					
Q. 16. What are your views on working with English terminology when the course is taught in Icelandic?	**Poses no problems (%)**	**Sometimes poses problems (%)**	**Often poses problems (%)**	**Always poses problems (%)**	**N**
All respondents	17	58	22	3	1081
School*					
Social Sciences	17	59	21	4	374
Health Sciences	15	66	17	1	169
Humanities	23	58	15	4	175
Education	11	54	29	6	166
Engineering and Nat. Sciences	16	56	26	3	188

* Significance: $p < 0.01$

Notice that the fewest students who responded that it was very easy to discuss their field without using English terminology were in Health Sciences, Engineering and Natural Sciences, and that these same students tended to be the ones who felt using English had least impact on their studies.

Table 5 Difficulty in discussion						
Q 20. How easy or difficult is it to discuss your field of study in Icelandic without using English terminology	**Very easy (%)**	**Easy (%)**	**Rather easy (%)**	**Rather difficult (%)**	**Difficult (%)**	**N**
All respondents	14	31	36	15	4	1081
School*						
Social Sciences	15	32	35	15	3	374
Health Sciences	7	28	41	17	7	169
Humanities	17	35	33	11	4	175
Education	21	36	36	6	1	166
Engineering and Nat. Sciences	9	21	39	27	4	188

* Significant difference was found between the averages of the groups: $p < 0.001$

The Use of Strategies

The last part of the survey focused on the third research question and asked what strategies students employ to negotiate meaning between the two linguistic codes they must use to master the curriculum. Question 17 asked what strategies, if any, they use to work with the English texts. Students could mark as many answers as they wanted of the eight choices. It was an oversight not to give students the option of saying they did nothing and some respondents mentioned this in the section where comments could be added. All responses are presented in *Table 6.*

Table 6 Strategies used by respondents to access curriculum written in English		
Strategy	**N**	**Percentage**
Make an Icelandic glossary/use a dictionary	604	59%
Make an English glossary	204	19%
Write a summary in Icelandic	320	30%
Write a summary in English	73	7%
Translate in my mind	718	66%
Take part in group translation	47	4%
Translate using Google	447	41%
Use an online dictionary	728	67%

Two thirds of respondents or 67% mention the use of an online dictionary or creation of a glossary with the help of a dictionary (59%)**.** The response "Translate in my mind" may actually mean that they do nothing or that they pause to consider the meaning of single lexical items, phrases or whole passages. It is noteworthy that 30% write a summary in Icelandic. Almost 50% use Google to translate which may give reason for concern about the accuracy of those translations.

There seemed to be an even distribution of the strategies used between schools but women tended to use dictionaries more than men who tended to "translate in the mind" more than women did (*Table* 7). Notice that almost 40% of students in Education and 34% of women responded that they make Icelandic summaries of the English texts.

Table 7 Strategies used by respondents to access curriculum written in English									
	Write a glossary with the help of a dictionary	Write notes in English	Write a summary in Icelandic	Write a summary in English	Translate in my mind	Take part in a translation group	Google	Use an online dictionary	N
School									
Social Sciences	60	19	33	7	63	7	39	65	1096
Health Sciences	66	18	30	6	73	4	44	72	528
Humanities	54	28	22	10	73	1	39	63	507
Education	69	8	39	3	61	8	36	70	489
Engineering and Nat. Sciences	47	20	21	7	66	0,5	50	71	533
Gender									
Men	42	21	19	10	70	2	46	55	775
Women	66	18	34	6	65	5	40	72	2401

Table 8 Strategies used by students and teachers to scaffold the English material		
Strategy	**Students (%)**	**Teachers (%)**
Diss. an Icelandic glossary of terms	11	48
Disseminate an Icelandic summary	8	42
Disseminate translation (in part)	8	17
Discuss the meaning of the terms	53	52
Incl. English terms (in par.) in tests	58	41
Do none of the above	18	

Google translation is used by 50% of students in Engineering and Natural Science and 44% in Health Sciences. The implications of these results are discussed in the next section.

Both students and teachers (in another survey) were asked what methods, if any, teachers used to scaffold the English material for students. The goal here was to ascertain to what extent teachers facilitate access to the English curriculum. The discrepancy in the responses of the students vs. the teachers is food for thought. It should be said though that the teachers surveyed were not necessarily teaching the students surveyed.

Both groups agree that teachers discuss terminology in class. There is disagreement as to what extent teachers disseminate an Icelandic glossary of terms or an Icelandic summary. Far fewer students (11 or 8%) say these are done while almost half of the teachers claim to distribute Icelandic glossaries or summaries. Among the 17.8% that claim to do nothing may be students from departments that do not use English textbooks or they may be students in faculties that do not use English.

In the next section further interpretations and implications of the preliminary analysis of the survey responses are discussed.

Discussion

The most prominent outcome of this study is the incongruence between the perceived adequate English proficiency and English preparation and the challenges presented and extra work caused by the use of English texts. Overall, students feel well prepared to use university textbooks in English; students in the Natural Sciences more so than students in Education or Social Sciences, and men more so than women. It is important to mention that the vast majority of Education students are women. When students are asked general questions about the effect of using English on their studies, the answer is usually that there is little effect. The most negative effect is felt by first year students while most doctoral students feel that using English has little or no effect on their work. A quarter of respondents felt that there were advantages to having textbooks in English.

However, when probed more closely, 44% of respondents admit that using English increases workload; women more so than men. When asked specific questions about the effect of the use of two linguistic codes while studying, only 17% 60% say that it poses no problems for them to use English terminology in otherwise Icelandic taught courses. Eighty-three percent said that it sometimes, often, or always poses problems. When the languages are reversed, over 19% overall felt it was problematic, but over 30% in Engineering and Natural Sciences thought it was problematic to talk about their field of study in Icelandic without reverting to English terminology. Curiously, the fewest positive re-

sponses came from Health Sciences and Natural Sciences, the same students that felt the least impact of the use of English.

When asked about the strategies students use, a clear picture appears. Many students spend time and effort to make the English texts more accessible. The vast majority of students use dictionaries and 30% of them even write Icelandic summaries.

The results of this study also show that students in different disciplines (different schools) respond quite differently to the questions on how the use of English affects their studies. Clearly, students in the Natural Sciences, Engineering and Health Sciences feel less affected by the use of English. There are also more textbooks and more courses offered in English in those fields than in other disciplines (Birna Arnbjörnsdóttir 2009). On the other hand, Education seems most affected by curriculum in English. Education students do the most work to access the English texts and feel the least comfortable about their preparation and proficiency. One explanation may be that most Education students are women and, according to our surveys, women feel less prepared and do more work to overcome the problems posed by English. The implication is that somehow women's English proficiency is not as high as that of men's. This is unlikely and not supported by empirical research. Possibly, women are more candid and aware of the work that they do. It is more likely that the nature of texts in the different disciplines may have an effect on how easy they are to comprehend. Björkman (2007) mentions that the nature of scientific texts may differ from texts in other disciplines, as their composition is more structured, they contain more graphs and pictures and fewer cultural and contextual connotations than textbooks in e.g. Education where textbooks tend to be interdisciplinary and culture specific.

Clearly, although students claim to have very good English proficiency and generally feel prepared to use English texts in their studies, a different picture emerges when probed specifically about their language use and learning strategies. This is especially true of first year students, students in Education and Social Sciences and female students.

Conclusions

The use of English as a Lingua Franca as a medium of instruction at universities around the world is increasing. Very little is known about the effect this trend has on the nature of learning and students' ability to master the content of the curriculum. The process is even more complex when students' receptive language is not the same as the language used for assessment and for communicating their knowledge. The study presented above shows that at least a third of university students in Iceland have some difficulty in comprehending English academic texts and there is some variation across disciplines. This study has shown that even though students, in general, are content with their English skills and their English language preparation, they acknowledge that working in English increases their workload and that they must employ different strategies to access the curriculum. The vast majority say that they use dictionaries and one third of the respondents write summaries of the English content in Icelandic. It is clear that *simultaneous parallel code use* when the receptive language is English and the language of production is Icelandic places constraints on the learning process. These constraints are added to the general challenges all students are exposed to when encountering new concepts, constructs and terminology in a new field of academic study.

The results of the study presented above poses further questions. The first has to do with the depth of students' acquisition of new knowledge (Prosser et al. 1994) when a good deal of their cognitive and memory capacity is spent on linguistic processing and second, to what extent are students able to master the academic discourse of their particular linguistic domain when the linguistic input is largely in a different language than the output

(i.e. assignments and tests). These questions for further research have implications for educational policy. They become increasingly important as the use of English spreads in academia at the same time as the population of university students increases and becomes more linguistically and educationally heterogeneous.

Aftanmálsgrein

1. English as a Lingua Franca is a term used when English is used as a medium of communications amongst speakers for whom English is not a native language.

References

Albrechtsen, D., Haastrup, K., & Henriksen, B. (2007). *Vocabulary and writing in a first and second language: processes and development*. New York: Palgrave/Macmillan.

Anna Jeeves. (2008). *"Some words are simply very difficult"*: Reading proficiency in English. Unpublished MA thesis. School of Social Sciences, University of Iceland.

Birna Arnbjörnsdóttir & Hafdís Ingvarsdóttir. The Status of English in Iceland: Final Report. (In preparation).

Birna Arnbjörnsdóttir (2009). Enska í háskólanámi. In Rebekka Þráinsdóttir & Magnús Sigurðsson (Eds.), *Milli mála: Ársrit Stofnunar Vigdísar Finnbogadóttur* (pp. 77–95). Reykjavík: Háskólaútgáfan.

Birna Arnbjörnsdóttir (2007). English in Iceland: second language, foreign language or neither? In *Teaching and learning English in Iceland: In honour of Auður Torfadóttir*. Birna Arnbjörnsdóttir & Hafdís Ingvarsdóttir (Eds.). Reykjavík: Háskólaútgáfan.

Berman, R. (2010). Icelandic university students' English reading skills. *Málfríður*. *26*(1), 15–18.

Björkman, B. (2007). English as a lingua franca of engineering education. Retrieved November 1, 2010 from http://www.kth.se/ingenjorsutbildningarna/papers/Bjorkman.pdf

Brock-Utne, B. (2001). The growth of English for academic communication in the Nordic countries. *International Review of Education*, *47*(3-4), 221–233.

Coleman, J. A. (2006). English-medium teaching in European higher education. *Language Teaching*, *39*, 1–14.

Collier, V. (1989). How long? A synthesis of research on academic achievement in a second language. *TESOL Quarterly*, *23*(2), 509–532.

Cummins, J. (1979) Cognitive/academic language proficiency, linguistic interdependence, the optimum age question and some other matters. *Working Papers on Bilingualism* 19, 121–129.

Cummins, J. (2000). *Language, power, and pedagogy: Bilingual children caught in the crossfire*. Toronto, ON: Multilingual Matters.

Hellekjær, G. O. (2005). The acid test: Does upper secondary EFL instruction effectively prepare Norwegian students for the reading of English textbooks at colleges and universities?, Doctoral Thesis, Faculty of Arts, University of Oslo.

Hellekjær, G. O. (2009). Academic English reading proficiency at the university level: A Norwegian case study. *Reading in a Foreign Language*. *21* (2), 198–222.

Hellekjær, G.O. & Westergaard, M. R. (2003). An exploratory survey of content learning through English at Nordic universities. In C. van Leeuwen and R. Wilkinson (Eds). *Multi-lingual Approaches in University Education: Challenges and Practices* (pp. 65–80). Nijmegen: Valkhof Pers.

Hellekjær, G.O. & Wilkinson, M. R. (2003). Trends in content learning through English at universities: A critical reflection. In C. van Leeuwen & R. Wilkinson (Eds.) *Multilingual Approaches in University Education: Challenges and Practices,* (pp. 81–102). Nijmegen: Valkhof Pers.

Hyland, K. (2006). *English for Academic Purposes.* UK: Routledge

Ljösland, R. (2007). English in Norwegian academia: A step towards diglossia? *World Englishes*, *26*(4), 395–410.

Oxford, R. (1990). *Language learning strategies: What every teacher should know*. Oxford: Oxford University Press.

Phillipson, R. (2007). English, no longer a foreign language in Europe, In J. Cummins & C. Davison (Eds.),*The International Handbook of English Language Teaching* (pp. 125–136). New York: Springer.

Phillipson, R. (2008). Language policy and education in the European Union. In *Language policy and political issues in education* (1) of *Encyclopedia of Language and Education,* 2nd ed., S. May & N. H. Hornberger (Eds.). (pp. 255-265). New York: Springer.

Pressley, M. & Associates. (1990). *Cognitive strategy instruction that really improves children's academic performance*. Cambridge, MA: Brookline Books.

Prosser, M., Trigwell, K., and Taylor, P. (1994). A phenomenographic study of academics' conceptions of science learning and teaching. *Learning and Instruction, 4*, 217–231.

Ramirez, J. D., Yuen, S. D., R& Ramey, D. R. (1991). *Final report: Longitudinal study of structured immersion strategy, early-exit, and late-exit transitional bilingual education programs for language-minority children. Executive Summary*. San Mateo, CA: Aguirre International.

University of Iceland Website (http://www.hi.is/files/skjol/stjornsysla/visindasvid/skradir_jan_2010.xls)

Vinke, A. A., Snippe, J., and Jochems, W. (1998). English medium content courses in non-English higher education: a study of lecturer experiences and teaching behaviours. *Teaching in Higher Education*, *3*, 383–394.

Wilkinson, R. (2005). The impact of language on teaching content: views from the content teacher. *Bi and multilingual universities – challenges and future prospects Conference.* Helsinki 2. September 2005. Retrieved November 1, 2010 from http://www.palmenia.helsinki.fi/congress/bilingual2005/presentations/wilkinson.pdf

Birna Arnbjörnsdóttir og Hafdís Ingvarsdóttir. (2010).
Coping with English at University: Students' Beliefs.
Ráðstefnurit Netlu – Menntakvika 2010. Menntavísindasvið Háskóla Íslands.
Sótt af http://netla.khi.is/menntakvika2010/008.pdf