Integrating Content and Language: Meeting the challenge of a multilingual higher education
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Socrates
Can you teach it in English?
Aspects of the language choice debate in Swedish Higher Education

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1. Introduction
In May 2004 the biggest ever enlargement of the European Union is set to take place with ten new countries being accepted into membership. This unprecedented expansion seems certain to bring with it logistical problems regarding language. At present there are eleven official languages in the EU and over forty so-called minority languages (Erhrenberg-Sundin, 1998). These numbers are now set to rise dramatically with the admission of the new member states. The European Commission and Council of Ministers will continue to manage with English, French and German, but the European Parliament is busily preparing for a situation with 20 official languages, where the number of possible language combinations will be over 500 (Black, 2002).

Questions have been asked about the costs of linguistic enlargement. With eleven languages the current cost has been estimated at two euros per person per year but this cost will certainly rise with the addition of new languages. This is seen as the price to be paid for ‘unity within diversity’ – a principle that lies at the heart of the EU enterprise (European Commission, 2001). In November 2002, in what was seen as a ‘dummy run’ for the new EU, observers from the candidate countries were present in the EU parliament in Strasbourg. Despite simultaneous translation available in a record 23 languages, several of the observers used (American-accented) English. The message is clear: English already has the de facto status of a common language of communication, and expansion will simply accentuate this trend.

In Sweden a number of observers have noted a recent change in political attitudes to the Swedish language. Whereas the period 1960-1990 has been characterised as ‘society protecting the minority languages’, the period after 1990 has been characterised as ‘society protecting Swedish’ – Swedes have started to worry about the standing of their language. The threat to Swedish has been portrayed as coming from two quarters: immigration and the global
spread of English (Hyltenstam, 1999; Teleman, 1992; Teleman and Westman, 1997).

The perceived threat to Swedish from immigration has led to repeated calls for Swedish language tests for immigrants, most recently from a major political party (Folkpartiet) in the 2002 election. The threat from immigrant languages is seen as taking two forms; either the new minority languages will somehow 'pollute' Swedish and lead to a mixed form – as is 'evidenced' by the language used in the suburbs of the major cities – or these languages will 'force out' Swedish onto the sidelines. Research shows, however, that the idea of a dominant language being threatened by the languages of minorities has no basis in fact (Hyltenstam, 2004).

The threat to Swedish from English is not as easily dismissed. The ability of one language to 'win over' domains from another is seen as depending on status (Hyltenstam and Stroud, 1991), and the status of English is high and continues to rise. There are predictions that out of the 5000 or so world languages, only a few hundred will survive to the end of this century. Although Swedish is at present a strong language, 'prevention is better than cure', especially since the process of erosion of a language, once started, is difficult to stop (Utbildningsdepartementet, 2002).

Meanwhile, with around 375 million first language speakers, 375 million second language speakers and 750 million foreign language speakers, the global spread of English is increasing (Crystal, 1995; Crystal, 1997; Graddol, 1997). According to Graddol (1999), second language speakers alone may amount to almost 670 million by 2050. It will therefore become more and more likely in the future that communication in English will be between non-native speakers of English.

It only requires one German at a scientific conference for thirty Norwegians to change language to English. One Finn in a meeting at a major Swedish company can result in everyone speaking English. If one Dutch worker is placed in an IT department with 40 Danes all internal e-mail is written in English. Höglí (2002:10) (own translation)

The situation where English is used as a common working language is actually already with us, and it is against this background that this paper attempts to summarise the attitudes to language choice in Swedish universities.

2. English in Swedish higher education
There is great potential for English in Swedish society, with the country consistently being rated at the top end in surveys of language skills.
Sweden is one of the countries in Europe with the highest percentage of bilinguals or multilinguals in its population. ... Approximately seventy-five percent of all adult Swedes can hold an everyday conversation in English. Falk (2001a:7) (own translation)

Much higher levels of English language skill are commonplace in Swedish higher education, and this fact coupled with the drive to internationalise Swedish universities has led to more and more courses and degree programmes being taught through the medium of English. The shift towards using English as the language of instruction has been seen as a natural and positive development for many reasons, for example:

- In a number of disciplines, the publication of academic papers takes place almost exclusively in English. Teaching in English is therefore seen as necessary in order to prepare students for an academic career.
- In many disciplines the majority of textbooks used are written in English and therefore the step to teaching in English may not be seen as a large one.
- The use of English develops the language skills and confidence of Swedish lecturers and can be seen as promoting movement/exchange of ideas in the academic world.
- Using English as the language of instruction allows the use of visiting researchers in undergraduate and postgraduate teaching.
- Teaching in English allows exchange students to follow courses at Swedish universities.
- Swedish students can be prepared for their own studies abroad.
- A sound knowledge of English has become a strong asset in the job market.

Airey (2003b:47)

The privileged position held by English in Swedish universities was highlighted by Gunnarsson and Öhman (1997) in their survey of language use and language choice at the University of Uppsala. They conclude that the use of English as the language of instruction is widespread in engineering, natural sciences and medicine. For example, in the Faculty of Science and Technology 87% of undergraduate course literature and 100% of postgraduate course literature was found to be in English. This situation was later confirmed by Falk (2001a) in her report Domänförluster i svenskans (Domain Losses in Swedish) for the Nordic Council of Ministers. Falk’s investigation suggested
that Gunnarsson and Öhman's findings could be generalised to other Swedish universities.

In general the Swedish government has been positive to this expansion of courses given in English as evidenced by the quote below:

Swedish universities and university colleges have at present a significant number of courses and degree programmes where the language of instruction is English. Sweden is at the forefront in this area compared to other EU countries. In recent years the range of courses and degree programmes offered in English has increased dramatically. A questionnaire administered by this commission shows the demand for teaching through the medium of English is steadily growing and that the choice of courses of this type seems likely to increase in the future. The government sees this as both a proper and positive development. Utbildningsdepartementet (2001:15) (own translation)

In many ways the present situation in some sectors of Swedish higher education can be likened to that of the very first universities where Latin was the lingua franca. It is tempting to believe that English has simply taken over this role as the language of education from Latin. This comparison is misleading, however, since it neglects the enormous changes that have occurred in higher education in recent years, and also fails to consider the reasons why Latin was ultimately superseded by more widely-spoken national languages. The fact is that today's universities are no longer in the business of producing a narrow academic elite, but rather are faced with teaching obligations to much larger sections of society. For example, the national target in Sweden is that by 2010, 50% of all adults under 25 should take part in higher education (Utbildningsdepartementet, 2001). Moreover, studies have shown that Swedes overestimate their abilities in English. It is one thing to be able to manage everyday conversation on holiday, but quite another to be able to use a language in a more challenging cognitive environment (Falk, 2001a:7). From this perspective the logic of using English in higher education becomes less clear.

It would be incorrect to think that the movement towards what Falk (2001a:22) calls the anglicising of Swedish universities has occurred without criticism. Gunnarsson (1999:16) warns that the Swedish academic community runs the risk of submitting to diglossia — a division of functions between languages — where English is the academic 'high' language and Swedish is the everyday 'low' language. This sentiment is echoed by many of the university departments in Falk's report.

Further serious criticism of the dominance of English came with the pub-
lication of the report of the Parliamentary Committee for the Swedish Language, *Mål i mun* (Utbildningsdepartementet, 2002). This report examines the use of language in Sweden. Following the format first laid out by Falk (2001a), the report deals with the way in which certain subject areas in society become impossible to discuss in Swedish – so-called *domain losses* to English. Losing domains to English is seen as causing democratic problems as it effectively bars large sections of society from these areas. In the case of research, for example, large sections of society do not have the language skills necessary to critically assess the work of researchers. *Mål i mun* acknowledges the need for English in certain domains, but emphasises that Swedish should also be present in these areas. The problem here is seen as the lack of Swedish terminology in certain domains: “How can we ensure that Swedish terminology continues to develop in all areas whilst not hindering the use of English in those areas where it is needed …?” (Utbildningsdepartementet, 2002:21; own translation).

A major problem seen by the authors of *Mål i mun* with regard to university teaching in English is the *extra demand* on students when forced to learn subject matter through a language other than Swedish.

Finally we would like to stress that it is well known that extra pressure is involved in students not being able to use their first language. We know very little about the consequences of the widespread use of English in certain disciplines. Research should therefore be carried out into the effects for learning, understanding, the teaching situation, etc., when Swedish students receive their education through the medium of English and how such teaching can be successfully achieved. Utbildningsdepartementet (2002:97) (own translation)

Could instruction through the medium of English actually inhibit content learning? Are students in programmes taught in English being pushed towards surface approaches to learning, instead of the deep/holistic approach recommended by Marton and Säljö (1984)? Does embracing internationalisation also involve a risk that students no longer focus on understanding, but rather learn what Sawyer (1943:9) terms *imitation subjects*? If this were indeed the case, it would signal the need for a total rethink of the movement to internationalise Swedish universities.

3. Research into Swedish bilingual education
As pointed out in *Mål i mun*, research into teaching through the medium of English at Swedish universities is limited (Utbildningsdepartementet
In fact the author has been unable to locate any research into the effects of English-medium university instruction. There are, however, a number of studies from the pre-university world. Early Swedish attempts in education through the medium of English have been documented by pioneers such as Åseskog (1982), and continued by Knight (1990), Washburn (1997), Hall (1998), Falk (2001b) and Nixon (2000; 2001). A recurrent feature of these studies is that students and teachers agree that the resulting level of English language skills in bilingual programmes is higher than in a comparable monolingual class. Although encouraging, this evidence is unreliable, since the researchers were asking people involved in a particular pilot study – and therefore naturally positive to it – to express their opinions. In the two studies that actually attempted to measure differences in English ability (Knight, 1990; Washburn, 1997), no measurable difference could be shown. Despite the many variables affecting the measured learning outcomes, this is still somewhat surprising given the level of self-selection associated with this type of schooling.

As regards subject knowledge, Washburn (1997:261) claims that the students in her study did ‘as well as could be expected’. An interesting observation is that at the start of the study, Washburn’s experimental class averaged just as good or better grades than the control class. At the end of the study, students who had received teaching in English had significantly lower grades in chemistry than those who had been taught in Swedish. The experiment class also had lower (but not significantly lower) grades in physics than the control class, despite having higher grades than the control class before the experiment (Hyltenstam, 2004). The evidence for claims of minimal effects on content learning in Swedish bilingual education programmes is therefore at best inconclusive. Some of the teachers in bilingual studies acknowledge this criticism and admit that they are forced to cover less material. The reasons these teachers are still positive to teaching in English can be divided into two groups; either they welcome being forced to concentrate on the central issues of the subject, or they point out that the aims of their course are more than a simple transfer of subject knowledge. This latter group feel that the gains in English outweigh what they feel are the marginal negative effects on subject knowledge.

Further, it appears that English-medium education affects the Swedish of the students taught. Alvström (2002) found that students who study in bilingual education classes have poorer written Swedish than students in ‘normal’ schools. Interestingly, the types of mistakes made by these students were similar to those made by highly competent users of Swedish as a second language. The results show no effect as far as amount written, sentence length
and complexity are concerned, but do show statistically significant differences in the number of mistakes with prepositions, vocabulary, idiom and style.

4. Responses in higher education
As mentioned earlier, little research has been carried out at university level into the effects of teaching through the medium of English. It seems reasonable to assume, however, that at least some of the findings at pre-university level will transfer into the higher education sphere. In her article *Tvåspråkiga naturvetare*, Karin Carlson voices the concerns held by many in Swedish higher education.

At present there has been no systematic research into the way in which student learning is affected by the language used, but my gut feeling and that of many of my colleagues is that students gain less robust knowledge and poorer understanding if the language used is not their mother tongue. Carlson (2002:15) (own translation)

This ‘gut feeling’ experienced by Carlson and her colleagues has led to a radical rethinking of teaching at the University of Uppsala. In a project named DiaNa (Dialogue for Natural Scientists), the academic departments of chemistry, biology and earth science now put a heavy emphasis on Swedish communication training in their courses. Students are expected to give presentations and write papers/reports of increasing difficulty throughout their degree course. This is of course nothing new – these features are present in all natural science degree courses; what is different with DiaNa is the system put in place to successively improve these skills throughout the whole university education. Communication exercises are integrated into elements of existing courses with peer feedback and self-reflection. Students document their exercises in a personal portfolio and are continuously following up on their development. Faculty are trained by language specialists to be able to act as supervisors for the communication exercises (Uppsala universitet, 2001).

As mentioned earlier, DiaNa only deals with Swedish language training. In fact, Carlson and her colleagues actually decided to go further than this, reducing the percentage of courses offered in English to third and fourth year biology students from circa 70% to circa 40%. All students now read at least one advanced course in Swedish. This apparent one-sidedness is claimed by Carlson (2002:17) to be a ‘trade-off’; the students may well be worse off when it comes to English, but perhaps this is offset by deeper understanding when they can use their first language in discussions.
The recent changes introduced at Uppsala University would appear to be a laudable attempt to shift the balance of education back towards Swedish, and deal with perceived shortcomings in the Swedish scientific language of students. These changes are, however, neither more nor less justifiable than the original decision to change the language of instruction from Swedish to English made at some time in the past. Should such radical syllabus changes be based merely on ‘gut feelings’? – Ideally not of course. As Carlson and her colleagues acknowledge, it seems highly unlikely that the choice of language is neutral in terms of its effect on student learning. A combination of the DiaNa project with integrated language training in English could be the way forward, but without solid research we can only guess at the educational consequences of any changes we make.

At present few Swedish degree programmes have such a structured approach to acquisition of content-related language skills. All too often the language of instruction is changed from term to term depending on the presence or absence of international exchange students. This attitude assumes both that learning in one language is much the same as learning in another, and that the development of language skills is something that simply happens to students automatically. The title of this paper, ‘Can you teach it in English?’ refers to the experience of many Swedish university lecturers who have been asked this question by their head of department. Such decisions should be taken in order to better fulfil the aims of the syllabus, and not in order to solve temporary problems about what to do with a particular exchange student (Airey, 2003a:16). This demands a structured approach, where the language of instruction is an integrated part of the overall strategy to produce well-educated graduates.

English is both essential and welcomed in Nordic universities. Students, lecturers and researchers must be able to understand academic English and use it regularly. However, this use of English must not be allowed to result in the Nordic languages disappearing from universities. We should be aiming for parallel use rather than monolingualism. (Höglin 2002:28) (own translation)

So, ‘Can you teach it in English?’ In Sweden it seems that at the moment we are unable to answer this question. Based on the little information available, the answer may be, ‘Yes – but perhaps not quite as well as in Swedish’. Actually, a more pertinent question would be, ‘What are you trying to teach – content knowledge, language skills or both?’ Another related question is ‘Should you teach it in English?’ Here again we are unable to give a straight answer. Person-
ally, I believe the answer is ‘Yes,’ but only as a part of an integrated strategy to develop dual language skills along with subject knowledge.

5. Future research in higher education
The author of this paper has recently been admitted to research studies in the Department of Physics at Uppsala University. The broad thrust of the research will be to examine what happens when Swedish students are taught physics in English. At this stage the scope and method of the study are still being defined, but the overall aim of the research is to help answer some of the questions raised in this paper.

NOTES
1 Language learning literature makes a distinction between the terms second language and foreign language. A second language has important social functions in a community, whereas the term foreign language implies the use of a language in a community where it is not the usual means of communication.
2 The term diglossia was introduced by Ferguson (1959) to describe a situation where society has two languages in functional opposition – a ‘low’ language used in everyday encounters (the mother tongue) and a ‘high’ language, learned largely by formal education and used for most written and formal purposes.
3 The idea of domains was first presented by Fishman (1967). Examples of domains are the family, school, the workplace, etc. The idea is that domains can dictate language choice.
4 Learners have been found to adopt one of two strategies when presented with input, either a surface approach or a deep approach. In surface learning the input is seen as something to be memorised for later recall (at an exam for example), whereas deep learning requires an understanding of the input. The two approaches have been found to result in students focussing on quite different aspects of any given input (Marton and Säljö, 1984). Learners have also been categorised according to how they process input. Here again there are two approaches – atomistic and holistic. The atomistic approach breaks down the input, distorts or ignores the original structure and focuses on the individual parts, whereas the holistic approach preserves the structure and focuses on the whole in relation to the parts. See Ramsden (1992:38-61) for an in-depth analysis of research in this area.
5 Sawyer (1943) puts forward the idea that for every subject there is a shadow or imitation. He uses the analogy of teaching a deaf child to play the piano, pointing out that although the child could conceivably reach a high level of competence, a true understanding of what has been learnt would be lacking. Students
who have learned imitation subjects can never relate to their discipline in the way a competent practitioner does. Such students may give the appearance of understanding – especially in situations which are familiar to them – but they lack the ability to generalise their knowledge to new situations. (Compare with the explanation of surface/atomistic learning in note four above.)

6 We can assume that a typical pupil in bilingual education is above average when it comes to grades, motivation, and language skills/interest.

REFERENCES


Fishman, J. (1967). Bilingualism with and without diglossia; diglossia with and


