

What can we learn from practice about changing the instructional language?¹

Impacts and teaching techniques



Robert Wilkinson

For an increasing number of programmes, universities have been changing the language of instruction, typically to English, as a response to the challenges of internationalization and the harmonization of higher education in Europe. The reasons for the introduction of English-medium of instruction (EMI) have varied over the past 25 years, as illustrated by the example of Maastricht University. This article looks at the impact of EMI on learning, and in particular on the ways in which university teachers have adapted instructional techniques to cope with the changing context. Research shows no evidence that in full EMI programmes content learning is adversely affected by the change of language of instruction.

Content	Page
1. Introduction	2
2. Background	2
3. Impacts of English medium of instruction	5
4. Language issues for EMI in a non-English-speaking environment	6
5. Instructional methods and techniques in EMI	10
6. Conclusions about content learning in EMI	12

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1. Introduction

Over the past twenty-five years many universities in Europe and elsewhere have been introducing programmes² wholly or partly through the medium of an additional language (L2), most commonly English³. Estimates from 2007 suggest that perhaps nearly half of all European universities offer some programmes in English (Wächter/Maiworm 2008, p.24). It is now likely to be many more, if not most. Universities have been embarking on such programmes as a means to promote their own vision of their educational institution and its future. The reasons are well known and vary from institution to institution, including the practical, financial, idealist, and even educational. Both the European Union's Erasmus exchange programme and the gradual harmonization of the European Higher Educational Area, with the Bologna Declaration, have accelerated this process.

Enhancing knowledge acquisition

This article looks at changes that have occurred over the past quarter of a century as a consequence of the change in the language of instruction. It focuses in particular on the adaptation to the instructional techniques that teachers use when teaching their discipline through English. A key issue is whether the instructional techniques enhance or hinder knowledge acquisition in the disciplines the students are studying. To illustrate this, the example of Maastricht University in the Netherlands is presented, where I have been involved with the change of instructional language since the mid-1980s.

2. Background

Cross-border phase

The starting of an International Management programme at Maastricht University in 1987, under the four-year 'doctorandus' degree structure then existing in the Netherlands, was something of an educational

² This article is concerned with programmes in subjects other than languages, such as business studies, economics, medicine, physics, and so on. Programmes primarily aimed at language development (degree programmes in French, German, Russian, English, etc.) are excluded.

³ This article addresses an additional language (L2)-medium instruction in a non-English-speaking environment where the L2 is English, as it is becoming widespread across the European Higher Educational Area. However, many of the observations here could also apply to other L2-medium of instruction contexts. Note that L2 is used to indicate a second or foreign language. L1 indicates the first language or mother tongue of a speaker, or the dominant host language of a country or region of a country where a university is located.

innovation. The university became one of the first higher education institutions to move away from education solely in the national language (L1, Dutch) at first-degree level by establishing a programme with English-medium instruction (EMI). The motivations under which the initial programme was established include the practical, the idealist, and the educational. From a practical perspective, the university wished to benefit from its geographical location at the confluence of the Netherlands, Germany and Belgium. Under the idealist vision, the university wished to promote multilingualism by offering components of the programme in German and French, in addition to English. From an educational perspective, the aim was to establish a completely new programme, thus not convert an existing Dutch one. Elsewhere I have characterized this initial period of EMI (including German-medium and French-medium) as the cross-border phase (Wilkinson, in press). The success of International Management stimulated more English-medium programmes and courses and helped motivate other universities to introduce such programmes too. However, the grounds for introducing EMI varied over the years. Box 1 illustrates three of the principal motivations predominating during each of the five phases of EMI at Maastricht University over the past quarter of a century.

Box 1: Motivations in phases of English-medium instruction at Maastricht University

Cross-border phase from 1987

- Practical: to benefit from the cross-border location with the proximity of Germany and Belgium
- Idealist: to stimulate multilingual education through components in German and French (partly delivered at Aachen and Liège)
- Educational: to establish new programmes, avoiding the conversion of existing Dutch-medium ones
 - Programme introduced: International Management

Europeanization phase from 1991

- Practical: to recruit international and exchange students
- Survival: to broaden the market because the Dutch market is too small or too saturated
- Educational: to establish new programmes, especially with a European focus.
 - Programmes introduced: International Business, International

Choices in delivery

Economics, European Law School, Psychology (partially EMI)
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Consolidation phase from 1995

- Survival: to profile the university as bilingual in Dutch and English, by broadening programmes
- Idealist: to promote internationalization-at-home, and to create 'world citizens'
- Financial: to restructure budgets as the costs of bilingual options begin to weigh heavily
 - Programmes introduced: little or no new programmes, broadening of Economics programmes

Globalization phase from 2002

- Practical: to recruit student and staff global expertise (the concept of 'excellent students' begins to arise)
- Survival: to profile the institution as an international university
- Educational: to establish new degree programmes, both at bachelor's and master's level coinciding with the implementation of the Bologna Declaration in the Netherlands
 - Programmes introduced (selected): European Studies, European Public Health, wide range of Master's programmes

Monetization phase from 2007

- Practical: to recruit students from outside the European Higher Educational Area
- Survival: to enhance the profile of the university with close attention to ranking lists
- Financial: to attract funds from international students and increasingly external funders
 - Programme introduced (selected): Medicine (international track)

The varying motivations during the five phases at Maastricht University may not be applicable to other institutions. The process towards EMI at Maastricht during these phases has been gradual, starting from a small, almost experimental programme, until it became a defining feature of the whole institution. It is likely that most

institutions have also experienced changing motivations over the years as social, political and economic circumstances alter.

3. Impacts of English medium of instruction

Establishing EMI programmes in non-English-speaking environments may be expected to have impacts on the factors that contribute to a programme, in simple terms, people, products, and processes. Most notably, the people are affected. The students who enroll for EMI programmes may not be the same as those who would have enrolled for an L1 programme. They need not only sufficient prior knowledge of the discipline they intend to study, but also sound competence in English, and they probably have an enhanced study motivation because they know they will study through a medium of a language other than their L1.

Students

The teaching staff need knowledge of their disciplines and of English, but they also need knowledge of how to teach through a language other than their L1. This implies, for instance, an ability to appraise the language requirements of their discipline and to assess their own and their students' skills relative to those requirements (see Räsänen/Klaassen 2006, p.274). As EMI programmes attract mobile international students, the teaching staff will also require an adequate grasp of intercultural issues affecting their teaching/learning environments.

Teachers

The support and administrative staff will also be affected. Clearly, the direct support staff will require a sound knowledge of English, as they will often be the first point of contact for prospective and actual students. These direct support staff will be in admissions, exam offices, guidance and other student services, including IT support and library facilities. Progressively, as EMI programmes spread across the university, administrative services less directly concerned with the teaching process will be affected. All kinds of central policy departments, such as academic affairs, human resources, information services, even finance and legal affairs, will find themselves increasingly required to present documents and explain them in English. At a certain proportion of EMI programmes, the ripple effects of English on all parts of the university become irresistible. A change of instructional language can change almost everyone in the entire institution. However, it is not irreversible.

Support staff

The products clearly change with EMI. The learning materials (books, articles, on-line materials, etc.), instructions and guidelines switch to English, as do the students' products (papers, reports, presentations, etc.). The impact continues through the examinations and testing

Products

Choices in delivery

instruments, to evaluation instruments and any forms that are required to be completed, such as for registration, complaints or appeals. Moreover, all regulations and information documents relating to the study have to be conveyed in English. This may extend further to all the regulations affecting the employment of teaching and support staff. Gradually, then, a very large part of the documents the university uses or creates as part of its educational function will be expressed in English.

Processes

Finally, the processes change, but sometimes less obviously. The processes employed for L1 teaching and learning may seem less effective in EMI, because the teachers and the students are likely to have a lesser grasp of the language. Moreover, as students and staff become more culturally diverse, the sharing of fundamental concepts about learning approaches will diminish. As a consequence, teaching staff will find themselves adapting their teaching techniques so that the way in which learning is constructed is modified. I describe these changes in more depth in Sections 5 and 6 of this article.

It is also possible to expect changes in the basic educational processes of how a student matriculates from one year to another on the way to graduation, so that, for example, students may be given more, or even fewer opportunities to complete particular components of the study programme. Students may acquire the option to take courses in increasingly varying sequences. Clearly, these latter changes are not dependent on a change of language of instruction. They could equally be implemented in an L1 environment. However, it is likely that an EMI environment will induce some innovative thinking about the educational processes, as new challenges from a more diverse student and teacher population will be likely to arise more frequently.⁴

4. Language issues for EMI in a non-English-speaking environment

Entry criteria

In adopting EMI, universities have to take decisions regarding language competences. Clearly, they need to set an entry criterion for the level of English students are required to have. In many cases universities base their criterion on school-leaving qualifications. In jurisdictions such as the Netherlands, universities may base their admittance decisions only on the school-leaving qualifications, assuming the prospective students have the required grade in the specified subjects in their qualifications.

⁴ The summary of the impact of EMI across the university may also be valid for other L2-medium of instruction. However, it also illustrates the huge challenge any institution faces if they adopt an alternative L2.

English will usually be one of these subjects. Nevertheless, a degree of variance in the students' language abilities can be expected even if they have the same grade in English. For students from the European Higher Educational Area (EHEA), the principle of non-discrimination applies: students with the specified equivalent school-leaving qualifications are acceptable. Candidates from outside the EHEA require an IELTS or TOEFL⁵ certificate (typical grade requirements: IELTS 6.0, or TOEFL iBT 79, paper-based 550; higher scores for the University College Maastricht and for Knowledge Engineering at Maastricht University⁶).

It is instructive to note that many UK universities typically require an IELTS score of 6.5 or 7 or higher, even for bachelor's programmes. This will generally apply to students from the EHEA too. It is not my purpose here to argue that universities in non-English-speaking countries need to set the same entry standard as UK universities. However, the standard set does reflect other conditions for potential language and content learning in EMI programmes. Moreover, the generally lower requirement level of English in Dutch universities, for example, may also reflect the level of English in the school-leaving examination. Furthermore, one could invoke political and economic considerations too, such as whether a country should base its entry requirements on the examination criteria of a foreign country, and whether it is desirable to require many young people to take the examinations of a foreign organization.

IELTS, TOEFL

The entry standards prescribed for English may depend on whether or not a university decides to provide specific opportunities for students to develop their language during their studies. If a sufficient amount of language learning is provided, then students will likely reach a higher level in English than when they entered. Moreover, the attainment could be measurable. However, if a university is unwilling to invest in language learning during the studies, then it may be setting entry criteria too low.

Too low?

A risk for EMI programmes in the environment in question is that the participants may well use the language that works. In other words, they may use a level of English that works with the other participants, both students and teaching staff. There is a risk of language fossilization, in that particularly the accuracy of their language does not improve. In some cases, students may feel that their level of English regresses to the common level of the learning group. This may not matter if the content learning is not affected, but it may entail that when students graduate, they and the university may over-rate their English competences. By this time certain non-standard features of

Language fossilization

⁵ IELTS: International English Language Testing System (<http://www.ielts.org/>).
TOEFL: Test of English as a Foreign Language (<http://www.ets.org/toefl>)

⁶ The University of Groningen generally requires a higher entry level, e. g. IELTS 6.5.

their English could have become ingrained and thus pervade their written and spoken production. Such variation from the standard versions of English may represent an example of English as a Lingua Franca (ELF), and may be an adequate variety of English for much international interaction (see House 2003; Jenkins 2007). It should not be stigmatized, since it is functionally effective, but speakers of such an ELF should be aware that it is different from standard Englishes and may therefore not always be appropriate for use in standard English environments.

Exit criteria

However, notwithstanding the acceptance of ELF, entry criteria also say something about exit criteria. Universities may consider the need to specify language exit criteria for EMI programmes. Students may expect that their linguistic competences improve during their EMI studies. They will largely be learning the language through osmosis, through studying the disciplines and demonstrating their learning. Clearly, they will pick up the necessary range of domain-specific terminology and the related common expressions. They are likely to acquire many skills too, providing these are adequately incorporated into the EMI programmes: academic writing (papers), presentations, negotiations, meetings, and so on. Some programmes may also feel a need to stimulate practical report writing (recommendations, proposals, progress reports, case study reports, site visit reports, briefing papers, minutes of meetings, forecasting reports, and so on). However, if language gain is to be documented at exit, then it would require measurement against specified criteria.

Findings from research on the language used in EMI programmes have consistently highlighted a range of linguistic issues which can affect learning compared with programmes in the L1. Box 2 elaborates these.

Box 2: Language display in EMI

- Reduced nuances: teaching staff find it difficult to elaborate fine distinctions, especially when handling questions.
- Less humour: teaching staff find their teaching becomes 'drier', and that they cannot play with the language in the way they would in the L1. The language is largely receptive and creativity in language use is restricted.
- Reduced idiomatic expression: EMI participants learn the technical vocabulary, but have more difficulty creating or retrieving the idiomatic expressions that makes the language 'hang together' compared to instruction in the L1.
- Reduced 'accuracy': compared with both L1 and standard English usage, EMI participants are less accurate in their productive language. They may not be aware of the inaccuracies. However, this is tempered by satisfaction that communication works.
- Impoverished culture: assuming an ELF environment, EMI

participants are using the language largely for instrumental purposes. ELF does not have any native speakers, and it lacks a socio-cultural underpinning of literature and the arts. From one perspective the language used may represent a 'deficient' or 'incomplete' culture. An alternative perspective would view this as an emerging culture.

Sources: Jochems et al. 1996; Vinke 1996; Klaassen 2001; Hellekjaer/Wilkinson 2003; Hellekjaer 2005; Airey 2009

We may ask whether content and language integrated learning (CLIL) approaches could help. CLIL implies teaching and learning a subject or a discipline through a foreign language, with both content and language as target goals. The implication is that one teacher strives for both sets of goals, which is the case of CLIL in primary and secondary education. However, higher education functions differently. Learning occurs through students collaborating together with teams of teachers. It is not a single teacher teaching one subject. Moreover, content teachers in higher education may teach through the foreign language (English), but they do not teach the language. This difference has led to the characterization of the higher educational integrated learning context under a different acronym, ICLHE (integrated content and language learning in higher education) (see Wilkinson 2004). In the ICLHE environment, language support may be provided by specialist language staff before the EMI programme (pre-sessional courses), during the programme, or even afterwards. It is the provision during the programme that is likely to be the most integrated teaching and learning (see Box 3).

Box 3: What integration is and what it is not

- Integration is not
 - a course in English which requires no demonstration of any development in language performance.
 - an English course in which content is incidental and unassessed.
- Integration is
 - a course in English in which achievement of content goals depends on achievement of language goals, and vice versa.
 - a course in which content staff and language staff jointly contribute to the design, implementation, and assessment.

5. Instructional methods and techniques in EMI

Sparing use of lectures

The instructional techniques used in EMI are not essentially different from those used in L1 environments, but they tend to be used in slightly different ways. The archetype of higher education instruction is the lecture. Lectures tend to be good for imparting general overviews, providing a broad sweep of a field, or delivering an expert view or analysis of a particular issue. However, questions are often raised about the effectiveness of lectures since retention is assumed to be low as it depends on note-taking and memory, as well as on the impression given by the lecturer. When the lecture is given in English, its effectiveness is tempered by the lecturer's pronunciation: intonation and pronunciation have been reported as being the most criticized aspects of EMI lectures.

Simplification

EMI lectures are also limited in the degree of elaboration and the extent of clarification given. When speaking lecturers have difficulty in differentiating nuances. EMI lectures also display a simplification of both language and content, as well as limited use of wit, humour, and play on words. The simplification may derive from the fact that lecturers feel they have to limit the number of concepts presented in a lecture, speak more slowly, as well as repeat concepts in simple terms. Moreover, problems arise with idiomatic language, which lecturers may not know or suspect that the students will not know, and with the use of metaphor. Metaphorical connotations are likely to be culturally bound and so might not transfer from one language culture to another. What may be an effective metaphor in Dutch may be meaningless in English, or not understandable by students from other cultures. For these reasons, EMI may decide to use lectures sparingly.

Seminars & tutorials

Other common techniques such as seminars and tutorials may be more effective as learning methods since, unlike lectures, they are multi-participant communications. The responsibility is not solely on the teacher, but is shared with the students, who have to take very active roles. In both cases, the student-centred nature of the methods is enhanced in an EMI environment.

Student-centred approaches

Student-centred approaches, such as project-based learning and problem-based learning, have also been widely adopted in the EMI environment. Project-based learning engages team work to handle a real or realistic challenge. It is usually product-oriented and involves a tailored design to enable the goals to be realized. The design can take account of the language competences of the students as well as their content competences. In problem-based learning, students work in collaborative groups to explain or solve a problem. They follow

stepwise learning where the focus is process-oriented. Typically, students are confronted with the input (e.g. a problem, a case, a text) which they discuss in small groups, activating their prior knowledge, elaborating their knowledge, and transferring knowledge from one context to another and from each other. The students set their own learning goals and elaborate these through self-study. Subsequently, they synthesize what they have learned and thus restructure their individual conceptions of the knowledge. The process explicitly engages students in the co-construction of knowledge. Student-centred approaches such as these enable students to actively develop both content and language knowledge, skills and abilities in EMI environments. However, for their effectiveness they depend on careful instruction and guidance, and constructive feedback on both the content and the language.

Which instructional techniques seem to work? In a qualitative study (Wilkinson 2005) using a semi-structured interview schedule, a group of 29 teachers of a wide range of non-language disciplines in three universities emphasized that in EMI the techniques used were not essentially different from L1 teaching; however, there was a difference in emphasis. The respondents were all experienced teachers with at least five years of practice of EMI. None was a native speaker of English. To summarize the findings, the teachers found lectures a less effective instructional method, which consequently was much less frequently used. Where they did give lectures, they explicitly reduced the density of new information and made extensive use of support systems, such as providing the slides and terminology in advance via electronic learning systems.

What the teachers did do was create more time for student participation and discussion, especially as a means to helping the students build their self-confidence. This entailed greater use of small group work, which they would try to monitor as best they could. They would consciously try to adjust the language they used to the students. As one teacher put it, “it’s a question of being very conscious of the actual language you use.” Several teachers required students to present short prepared summaries of previous learning at the start of each teaching session.

Most noticeable about many of these experienced EMI teachers was that they were not rigid about using English. They allowed code-switching to other languages for explanation, exemplification and clarification. Almost as a kind of electronic stimulus in the background, they would enable a multiplicity of languages to underscore the learning while the outcomes were made clear to all in the one common language, English. Moreover, some of the teachers suggested background reading in a variety of languages too. One of them reported using multilingual input to international case studies: students would have to research original language texts and then

Techniques that work

Being conscious of the language you use

Switching to other languages

through English convey the information to fellow students who could not understand the other language in question.

Box 4: Impact of teaching through English

- Quality of education may be lowered because of inadequate productive language skills (writing, speaking)
- Communication becomes 'poorer' because of weaker ability to use colloquial or familiar language, digressions, anecdotes, humour, spontaneous examples
- Lecturing in particular can be a problem: communication becomes 'dry', 'technical', and 'lacks spark'
- More time is required to explain and elaborate terms and concepts.

6. Conclusions about content learning in EMI

L1 and EMI comparison

A number of studies have tried to compare learning in an L1 context with that in EMI (see for example Vinke 1996; Jochems et al. 1996; Klaassen 2001; Airey 2009). However, in many cases comparison is difficult in real situations because there are too many factors you cannot control for. Experimental studies in controlled conditions seem to be lacking, perhaps for ethical reasons. Moreover, there may be biases due to factors such as the L1 of the students in the EMI groups, age and experience, and the surrounding educational and social environment. Moreover, the comparison of performance in a single EMI course in an otherwise L1 programme with its equivalent L1 course in the L1 programme is unlikely to produce sound conclusions. However, there are conclusions that do seem warranted (see Box 4).

Effect of time

The self-reported finding that students devote more time to studying in EMI than in L1 (Hellekjaer/Wilkinson 2003, pp.87-8), notwithstanding certain biases, may be due to a selection factor, that students who choose EMI may require enhanced motivation to study through a language than their own and thus they study harder. Alternatively, it may be due to reading competence. Reading is likely to be more difficult in an L2 than in L1. Thus students need more time to read the equivalent amount of material in EMI than in the L1. Hellekjaer's (2005) study leads one to hypothesize that, if students' reading competences are more limited, then they engage in more surface learning, and do not reach the required level of understanding

that comes through deep learning. Surface learning can result in simple repetition of the content of texts read, without much attempt to transform knowledge or synthesize what has been read with previous reading.

When EMI courses are offered within a largely L1 programme, they lead to real or perceived lower content learning. It may be that universities offer such courses in order to attract international students. However, both universities and students should be aware that the outcomes may be lower than what would have been achieved in an L1 programme or even in a fully EMI programme.

Vinke (2010) and de Bot (2011) have summarized the findings of research into the effect of EMI on content learning. They concluded that there seems to be no evidence that in full EMI programmes content learning is adversely affected by the language of instruction. There are some negative effects, but these have not been shown to impact on the overall content learning outcomes. At Maastricht, in some cases where comparable L1 and EMI programmes have existed, better outcomes have been achieved in the EMI programme, but this may be partly due to motivation and selection factors. It seems that where EMI is established sustainably, the university has adapted itself so that the language is not a barrier at any level of interaction, and the teachers have consciously adapted the teaching techniques to ensure that learning is effective.

Full EMI programmes

While there are reservations about the language exit competences of the students on EMI programmes, these have rarely been measured. Moreover, little account is taken to measure additional potentially positive effects such as the internationalization effects: learning in multicultural groups, learning in a different country, and networking effects.

A further issue for EMI education is the effect on the L1. Much has been written about domain loss for languages (see Phillipson 2003, pp.70-97), especially less widely distributed languages such as Dutch or Danish. In the Netherlands it is becoming increasingly difficult to find academics in domains such as the sciences, business, economics, and many others who are publishing research in Dutch. If students are opting to take all their higher education in English, to what extent will they be able to communicate in their L1 their learning, ideas and experiences of the disciplines studied? If they are international students, will they be effective communicators of their learning to the fellow citizens when they return to their home country? Should we assess a student's L1 ability in the domains taught in EMI? It may not be desirable for EMI programmes to lead to the evolution of a linguistically competent elite, engendering the risk of erecting new barriers to social mobility and compromising social cohesion in any one country. From both a socio-political and a linguistic perspective, it

Effect on L1, domain loss

Choices in delivery

would be valuable too to investigate how the L1 changes as a result of large numbers of L1 students studying through EMI. Such studies could help to document the process of domain change as a consequence of EMI, and they may suggest ways in which universities could attenuate disadvantageous effects of EMI.

**Change staff,
change students**

Returning to the Maastricht University example, the change from Dutch instruction to EMI has been a very gradual evolutionary process. It started small, to gain experience, and was accompanied by detailed careful planning. While new EMI programmes were started in each phase (see Box 1), they began small and took account of the experiences of previous programmes. In this way, no dramatic sudden changes were made. Within the bounds of possibility, each new programme was tested during its initial phases leading to fine-tuning. What did happen gradually was a change of teaching staff, with targeted recruitment and in some cases staff exit where they did not wish to switch to EMI. Moreover, the students changed due to the considerable increase in international students (now about half the total population at Maastricht University). Close attention has also been paid to quality outcomes, through the standard quality assurance processes by visitation committees and accreditation bodies, as well as through thorough-going continuous student evaluation of each course. The high ranking of many of the EMI programmes at Maastricht suggests that content learning outcomes do not suffer an adverse effect of the change of instructional language.

Box 5: Key message

Changing the instructional language to English affects the whole university. Changes are required in the teaching techniques employed, entailing fewer lectures, more small-group work, a student-centred approach, and a willingness to allow other languages as necessary. There seems to be no evidence that English-medium instruction leads to lower content learning outcomes in full EMI programmes. There seems to be a slight negative effect in isolated EMI courses within a generally first language programme. Universities adopting EMI should ensure that deep learning is not compromised and be aware of the possible effects on the first language.

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Biography:

Robert Wilkinson, MSc., current position: Senior Teacher at Maastricht University Language Centre, Netherlands. He has been concerned with English-medium instruction since the mid-1980s, and has established an international association Integrating Content and Language in Higher Education <http://www.iclhc.org/>. He studied French at the University of Ulster, and Applied Linguistics at the University of Edinburgh.

Contact:

b.wilkinson@maastrichtuniversity.nl