Transferable skills in an MT course

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Abstract

The paper describes the process of designing a new MT course for final-year undergraduates. It explains the skills to be acquired as part of the module. The course will include a practical and a theoretical component, and in addition to subject-specific knowledge the course should enable students to gain competence in analysis of language and appreciation of the nature of communication. It is hoped that some of these skills will be transferable from the specific context of MT to wider areas of application. Discrete profiling and evaluation is not envisaged. The paper also defines areas where an MT course can provide opportunities not necessarily offered on conventional translation courses.

This paper describes the process of designing a new course in machine assisted translation (MAT) for final-year undergraduate students at the University of Exeter, UK. The course, entitled "Machine Assisted Translation", will be divided into two fifteen-credit modules, (ECTS value 7.5), an introductory module concentrating on MT and a follow-up module covering translation memory systems and web-based translation aids. It will be offered from October 2001 at the University's School of Modern Languages, and will be open to students from modern-language degree programmes, other subject degree programmes incorporating language study and a period of residence abroad, and computer science students.

The term "transferable skills" refers to the acquisition of abilities which are required for the mastery of the subject to be taught but also have a wider application in other areas. This idea is not new. The teaching of Latin, for example, has survived for generations in British schools after an ability to use that language became obsolete, and was justified on the grounds that the process of learning it fulfilled two important secondary objectives. Firstly, it gave students a sound knowledge of grammar, and this knowledge could be transferred to the learning of other languages; and secondly it inculcated habits of methodical work and logical thinking, skills which could usefully be transferred to other disciplines.

Today the idea of teaching an obsolete subject purely for the fulfilment of secondary objectives would not be considered, but the importance of assessing the learning outcomes of a course as a whole is widely accepted. The Dearing Report (1997), for example, stresses the importance of a broadly-based approach to curriculum design giving proper consideration to the nature of the skills acquired as well as the knowledge taught. I would like to assess the nature of the practical and academic skills to be taught as part of this module and consider to what degree these skills are transferable to other disciplines or areas of activity.

Practical/Vocational Component

There is a well-established distinction between academic and vocational skills, explored in detail, for example, by Barnett (1997), and the traditional preference for "pure" over "applied" studies in higher education means that the value of strictly vocational skills is easy to underestimate. There is a perception that vocational education, as it does not require the same intellectual rigour as purely academic study, has no place on higher education courses. There is also the argument that in this field as in many others the subject-specific knowledge is changing at a very rapid rate and will rapidly become out-of-date.

It is essential, however, that a course on machine-assisted translation should start with the acquisition of hands-on competence in the use of the various programmes available. This is firstly because the theoretical knowledge would be extremely hard to grasp out of context and depends in many cases on manipulating the programmes themselves in order to illustrate and explore various points. Secondly, any language course – and ours is partly if not exclusively a language course - is skills-based and it would therefore be as inappropriate to send our students out without any actual ability to handle the programmes as it used to be to award certificates in French to teenagers who were unable to cope with elementary spoken communication on the day trip to Dieppe. As for the argument that the knowledge will rapidly become obsolete, it is the responsibility of the course convenors to ensure that the programmes and equipment used are as up-to-date as possible.

Theoretical Component

The theoretical component of the course will give students not only a certain amount of subject-specific knowledge but also, more generally, a better understanding of language. What does an MT course have to offer in this area which is not provided by conventional translation courses? There are five main areas.

Analysis of Content

Any translation course will help students to become aware of the need for precise analysis of content. An MT course can, however, require an even more rigorous analysis than that demanded by human translation.

One of the exercises planned for the course at Exeter involves the use of controlled language in order to produce an accurate machine translation. In exercise 1, students are to study raw MT output, identify any unsatisfactory elements, and rewrite the original text input until it produces a satisfactory "raw" result. They will then analyse the changes which have had to be made and categorise them in order to produce a set of rules for pre-editing text. This will be useful in itself as a practical skill, both as a way of making optimum use of MT systems and as a way of familiarising students with the principles of the use of controlled languages. It also obliges the student, however, to undertake a very detailed analysis of the meaning of the sentence.

Exercise 1

Unedited English version:
(1) We have been in correspondance with your company over the last six months.
Raw output in French:
(2) Nous avons été dans correspondance avec votre compagnie sur les six mois derniers.

In order to improve the raw output the student makes incremental changes and translates them automatically. He proceeds as follows:
(3) We have been writing to your company over the last six months.
(4) Nous avons écrit à votre compagnie sur les six mois derniers.
(5) We have been in contact with your company over the last six months.
(6) Nous avons été en contact avec votre compagnie sur les six mois derniers.
(7) We have been in contact with your company for six months.
(8) Nous avons été en contact avec votre compagnie pour six mois.
(9) We first contacted your company six months ago.
(10) Nous avons contacté votre compagnie en premier il y a six mois.
(11) We contacted your company for the first time six months ago.
(12) Nous avons contacté votre compagnie pour la première fois il y a six mois.

He has found, therefore, that there is difficulty expressing the sense of the English continuous tense, as the French perfect implies a single completed action. There is also a related problem in conveying the idea of the period of time (*over the last six months)*; unless the French were to use a present tense, the implication would be that the contact has now ceased. On a conventional translation course the student simply selects the French present tense and moves on. As the programme will not do this, however, the student must find other solutions. He tries fixing on a point in the past and using *first* to imply that as this was the first contact, it has been followed since by others. But there is even a problem with *first;* does it mean the first time they did it, or that they were the first to do it? He finds he has to use the clumsier adverbial phrase *for the first time* and at last the whole sentence is unambiguous and grammatically accurate in French. Finally he must look at the result and judge it critically. Although he has worked hard to maintain the exact meaning, is the sentence (3) really exactly equivalent to sentence (11)?

It will be seen from this example that the task the student has to carry consists of an extremely detailed analysis of a variety of closely related SL and the TL sentences. Further, each element must be judged according to its importance and the student must decide what can be jettisoned and what must be retained.

SL Competence

Exercise 1 also requires the student to practise manipulating the source language. The SL is not merely being used as a vehicle for practising production of the TL but is being studied and used in its own right. The student will be adding SL writing and editing skills to his TL competence.

Nature of Communication

In learning about MT, especially in the areas of controlled language and evaluation of MT programmes, students are introduced to an area which is usually formally avoided on conventional language courses, that of the value of the imperfect communication. A conventional translation course, for example, will always aim for the most accurate and most coherent version and will consider other versions only peripherally. The question the student of MT will ask, however, is not "Is this perfect?" but "Exactly how imperfect is this?"

Reinhard Schäler (2000) proposes a quality aspect model for translations depending on how good they have to be. The pyramidal structure includes a small number of translation projects where a high quality is required ("mission-critical" or creative work). The next layer requires only medium quality; accuracy is important but fluency and coherence do not matter so much (this includes the bulk of professional translation work). Finally there is a very large number of translations requiring only very low quality, "gist" translation (web pages, for example). This idea may well be new to students who have quite naturally been aiming for maximum standards of acceptability in their work, and leads

to a much more developed and precise analysis of exactly what a text is for. This concept of the purpose of the text has been developed by Juan Sager (1994), who defines it as "the convergence of a writer's intention and a reader's expectation". Simply identifying the author and intended readership is no longer enough when considering the most appropriate translation method. It is necessary to ask a number of other questions as well in order to arrive at a decision. What is the relationship between the author and his readers? What is the intended outcome or result of the message? For whom is the message being translated? Is it even a message where the content is virtually irrelevant? For example, regular personal correspondance or Internet chat may perform its function purely by existing, almost regardless of what is being said. In this way students are encouraged to think about language in a much wider context and see the actual content conveyed by an utterance as only one of a number of elements which, although always present, are revealed only by the pressure of having to decide how much time to spend on a translation.

Exercise 2

The student will be presented with a number of texts requiring translation. He will then classify these according to the quality aspect model and decide on the most appropriate method of translation, whether pure MT, or whether pre- or post-editing will be necessary. Having carried out the translation according to the preferred method he will evaluate the results and decide on the acceptability of the version produced. As in exercise 1, the final phase includes the requirement to arrive at an objective, quantifiable value judgment, and to justify the criteria used, and this gives a more precise focus to the analysis.

Quality Evaluation

Exercise 2 implies the need for the ability to judge the quality of a translation, to look at the output and say how well the information is being conveyed. Of course students apply such judgments all the time to their own work in the TL but they are rarely required to do so with the absolute precision which MT evaluation requires. Once again more questions have to be answered. Checking over a translation students will ask: "Have I conveyed the information clearly?" and if they decide that there is a better way of doing it, they will adopt the improved solution without stopping to ask either how much better it is, or how they arrived at their decision. Comparison of MT systems, however, will require both these questions to be answered. From the point of view of acquiring a better understanding of language itself it is the second which will be of most benefit.

Exercise 3

Students will be asked to evaluate different commercially available and web-based translation systems. They will be expected to demostrate an understanding of methods of MT evaluation (Hutchins and Somers, 1992) by comparing translations of the same text or sentence using different sets of criteria. The process will provide students with an insight into the complexity of language operation which will rarely come into the compass of a more conventional language course.

Linguistic Awareness

Arising from evaluation studies will be awareness of another area of communication, namely the importance of the degree of linguistic awareness of the recipient of an utterance. One way of arriving at a judgment of the intelligibility of a translation is to present it to a number of native speakers in order to see how much of it they can understand. This will naturally vary, and not only according to expected criteria, like the level of education or the intelligence of the subject. It will depend also on the subject's knowledge of how other languages may work, or their skill in manipulating their own language. The sentence (13) is raw MT output.

(13) Black work: a shock absorber of the crisis.

It may be comprehensible to someone who has a knowledge of French and can identify *black work* as *le travail noir* (unofficial work, work for cash), and *crisis* as coming from French *la crise*, meaning not only *crisis* in general but *economic recession,* but to someone who is looking at it as a piece of original English it may pose more problems.

It is debatable whether such "linguistic awareness" can be meaningfully measured, and on a practical level the difficulty of finding a pool of native speakers who are both representative and co-operative will probably mean that any work undertaken by students in this area will be on a small scale and not subject to rigorous evaluation.

Transferable Skills

The skills described above will, we hope, equip students better for a career in translation or at least in languages. It is important to remember, however, that a substantial proportion of these students, once their studies have finished, may well end up with a first job or occupation which has nothing to do with either area. To what extent are the skills described transferable to other areas of competence?

In a very general sense the analytical skills acquired will have a wide application, but on a more concrete level the most useful areas are likely to be those of SL competence and linguistic awareness.

SL Competence

All translators must have an excellent command of the source language, but the pre-editing task described in Exercise 1 will require them not only to translate but actively to produce it. The need for absolute precision and avoidance of ambiguity will help them to be able to produce documents which are clear, intelligible and easy to use. It will also result in the development of a neutral, non-idiosyncratic style which can enable the text to be more easily handled and edited by a number of users within an organisation. Competence in this type of document

production is clearly a skill which is applicable to a whole range of occupations and organisations.

Linguistic Awareness

In spite of the difficulty of measuring the likelihood of accurate reception of a communication, an awareness of the importance of this area is likely to be useful to our students in a wide range of areas. It is the skill required when "localising", as opposed to translating, documentation produced in one country or culture for use in another. In areas like global business communications (of all types, not just advertising to consumers), communication within international organisations or government communications to ethnically or culturally diverse sections of the population, careful attention to the linguistic knowledge, cultural background and level of education of the recipient will be as vital to the effectiveness of the commmunication as the attention paid to the original formulation of the message.

Profiling and Assessment

Formal competence in the understanding and handling of MT and TM systems will be assessed by means of written examination and compilation of a portfolio of practical exercises and project work. However there are no plans to undertake a formal assessment of transferable skills. It will undoubtedly be useful to provide our students with a profile of the skills we expect them to acquire, and even to encourage them to keep some sort of personal record of the progress they feel themselves to be making in these areas. They will be more receptive to these ideas if they are fully aware of all that they are learning to do. Formal assessment, however, would be inappropriate. Definitions of levels of competence, such as those proposed by Brockbank (1995) are insufficiently rigorous to form the basis for a fair and secure assessment. The skills acquired will in any case form part of the assessment procedure as we have defined the skills to be taught strictly in terms of those which are of use

to our students in order to follow the course. Mastery of these will lead to better overall performance in achieving the aims of the course.

Conclusion

In conclusion we hope that the new course will provide a useful complement to language tuition already available within the University of Exeter School of Modern Languages. In addition to providing an introduction to a relatively new and fast-growing area of translation it will also give students transferable skills which should be of value to them in a wide range of occupations.

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