Decision-making in Translation
A Pilot Study of Students' Translation Processes

Helle Dam-Jensen

Abstract This paper describes and discusses the results of a research experiment established with the purpose of finding out how a group of MA students go about the task of solving potential translation problems. The study is based on the assumption that bilingual dictionaries are widely used by students, but that students lack the competence required to give reasons for their decisions when choosing between equivalents listed in the dictionary. In a broader perspective, this means that they do not use the tools available in an efficient way. On the basis of the results, dialogue protocols are discussed as a research method. Moreover, it is suggested that a number of process-research methods should be used in the classroom as well as collaborative work to improve the ability of students to justify their choices in the translation process and to encourage critical thinking.

Keywords process research, translator training, dialogue protocols, equivalents, tools, decision-making

1 Introduction

As a teacher of translation, one often wonders why and how students decide on their solutions of potential translation problems, for example solutions to specific linguistic problems that they encounter during the translation process. A comparison between the source text and the target text allows to list and classify mistakes, assess quality etc., but it does not give insights into "the conditions that lead to an output, a translation" (Chesterman 2008: 265): the translation process. I will argue that knowledge of these conditions can provide a basis for working systematically with students' translation competences in the classroom based on the assumption put forward by Massey (2005: 628) that the acquisition of translation competences is a dynamic process and that translator training therefore must be process oriented. Furthermore, I will argue that it is possible to improve students' process operations and strategies by applying knowledge from process research, as also proposed by Dam-Jensen/Heine (2009), knowledge either about how students work with a translation or about process-research methods. The first step involved in doing this is to find out what kind of processes students use when translating, and then to use this knowledge for the building of hypotheses which can subsequently be tested in further studies.

This article outlines a pilot study conducted in the spring of 2009 at the Aarhus School of Business (ASB) in Denmark with the aim of unveiling aspects of the translation process of a group of MA students. The pilot study is the first of a number of experiments aiming at exploring the process that students go through when confronted with a specific type of potential linguistic problems. As indicated in the first paragraph, the research study is inspired by challenges encountered in translation classes, and its motivation can be captured by the following quote from House (2000: 153): "[…] an interest in improving the quality of translations, through research which links alleged procedures or strategies with products."

When constructing a text, no matter whether it is a translation or any other type of text, the text producer will be confronted with a variety of problems. These problems are individual in the sense that they only exist if the text producer feels "a conflict between where […] [he/she

is] and where […] [he/she wants] to be; that is, between […] [his/her] present state and […] [his/her] goals, or between […] [his/her] own goals" (Flower 1993: 42–43). In this sense, text production can be seen as a problem-solving activity. As the experiment set up for this study examines students working in pairs, a problem is taken to be present if either of the pair members finds something problematic.

It goes without saying that students of translation may be confronted with a myriad of different potential translation problems. Varantola (2000: 121) gives the following phenomena as examples[1]:

- equivalent
- grammatical collocation
- lexical collocation
- examples
- idiomatic usage
- longer passage
- para-structure
- text structure
- stylistic information
- encyclopaedic information

At the beginning of the course (Spanish Text Analysis and Text Production), the applicability, advantages and disadvantages of various tools (see section 2), such as bilingual and monolingual dictionaries, corpora, and the Internet, were discussed. The purpose of the study outlined in this article is to find out how a group of students choose an equivalent when the bilingual dictionary gives a number of synonymous equivalents, but no systematic meaning-discriminating labels of their usage.

With a view to achieving this purpose, an experiment was designed in which a group of 14 students were asked to translate a text in pairs. The translation sessions were audio- and videotaped. The video recordings and the transcribed audio recordings were then used as research data. Before outlining the linguistic problems that the experiment deals with, and before describing and analysing the data of the experiment, the assumptions on which the study rests will be presented.

2 Basic assumptions

In the process of translating, students (as well as professional translators) in some cases can rely on their own knowledge. In this study, it is assumed that a translation unit is a translation problem whenever the translation is not based on the translator's own knowledge. In such cases, the translator will have to seek information from other sources. Such sources include dictionaries, reference books, different types of corpora, grammar books, the Internet etc. With regard to the way in which students go about the task of obtaining information from dictionaries, Bowker (1999: 166) states that: "(…) the majority of students tend to exhibit an inordinate amount of blind faith in their dictionaries". Various reasons can be given for this, but an intuitive explanation may be

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[1] It should be mentioned that to my mind this division of problem types is a theoretical one, as in practical life they are often intertwined.

anything from acceptance of the dictionary as an authority, laziness, impatience and lack of time to lack of knowledge about how to use other tools in an efficient way.

It is a basic assumption of this study that students have difficulties in providing evidence for their choices between equivalents listed in the dictionary. In other words, they do not use other tools in an efficient way.

3 Study design

For the purposes described above, an experiment was designed in which 14 MA students of Spanish at the Aarhus School of Business (ASB), Denmark, were asked to translate a text in pairs as part of their translation course (Spanish Text Analysis and Text Production). The course is an obligatory, general course for MA students of Spanish at the Department of Business Communication. The course is taken by students specialising in Translation and Interpreting, students specialising in International Business Communication and students specialising in European Studies. All the students study Spanish as a foreign language. The text chosen for the experiment was an authentic tourist text in Danish outlining guidelines for canoeing on the river Gudenåen in Denmark. This text was chosen because it contained a reasonable number of equivalence problems of the type described above.

The students had not worked in pairs in translation classes before, but they were used to doing group work[2] in other classes so they were familiar with collaborative types of tasks[3].

The students were paired at random, although this could turn out to be problematic. Pavlovic (2007: 47) points out that it is not possible to know the outcome of an experiment that involves collaboration between students who are not used to working together. There is, of course, a potential risk of a lack of collaboration[4]; but prior knowledge and experience of the students who took part in the experiment rendered it likely that they would work together harmoniously even though they might not have been used to working together.

The experiment took place in a large classroom at the ASB. The students worked at one end of the room, while the researcher was working on her own laptop at the other end, trying to be as "invisible" as possible. When asked, the students said that they had not felt inhibited by her presence, precisely because of the physical distance between the researcher and the students.

For the experiment, the students had at their disposal the tools that they are expected to be used to working with. These included the two available bilingual dictionaries, Danish-Spanish/Spanish-Danish, published by Gyldendal and Munksgaard[5,6], the monolingual dictionary generally recommended in the teaching of Spanish at the ASB, *Clave – diccionario de uso del español*

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[2]   In this work, I do not distinguish between pairs and small groups.

[3]   To this it may be added that group work is systematically used in schools in Denmark.

[4]   The term 'collaborative' is used here in the general sense of the word, denoting individuals working together on an assignment. Distinctions between cooperative, collaborative and interactive, as accounted for by Oxford (1997) and others, are not taken into consideration.

[5]   Many students have these dictionaries in electronic format on their own laptops, but as these were not available on the laptop that we were provided with for the experiment, students had at their disposal dictionaries in book format. They are used to using other dictionaries in book format, so this was not thought to affect the ecological validity of the study to any large extent. The students that brought their own laptops were of course allowed to use their electronic dictionaries.

[6]   Pocket dictionaries were not taken into account.

actual, and the grammar book *Spansk basisgrammatik* (Jensen 1990). In addition, they had access to the Internet and it was made explicit that they were free to use online resources, such as Google searches or online corpora, as in any other translation task which they are asked to do during their studies. The following two Spanish corpora had been recommended in class: *Corpus del español* (available from the Brigham Young University), and CREA (available from the *Real Academia Española*). In addition, the participants were told that they could bring whatever tools they preferred. Some students brought their own laptops with them, and some brought other textbooks.

For practical reasons, each pair was allowed 30 minutes to translate as much as possible of the text into Spanish[7]. They were told that it was not important how much they could translate; time was not an issue. In correspondence with the skopos theory (Reiß/Vermeer 1984), they were given a brief instructing them that the text to be translated was to be used as information to Spanish tourists who were considering renting a canoe to paddle on the river Gudenåen.

Before initiating the experiment, the students were given a 15-minute warm-up exercise, which is common practice in this kind of research in order to "get going" (see for example Ericsson/Simon 1993: xiv-xxxii, 82, Göpferich 2008: 32, Heine 2010: 248, Jääskeläinen 2000: 74). To this end, a fragment of the text which they were to translate was used so that there would not be a sudden transition to the actual exercise in question.

Lastly, it should be mentioned that all the students were asked in writing to rate their own competences as Internet users ("poor", "average" or "good"). Ten of the students regarded their own knowledge as average, two as good, and two as average/good.

4 Linguistic problems of equivalence

As mentioned above, the translation problems dealt with in this study have to do with equivalence. Equivalence problems can occur for various reasons, for example if an equivalent cannot be found in a bilingual dictionary in the case of, for example, culture-bound words or specialised terminology, or if the bilingual dictionary gives a number of synonymous equivalents between which the translator has to choose. As already mentioned, it is this latter situation that is the object of this study.

The text used in this experiment was chosen because it included a number of lexemes for which the dictionary provides a number of synonyms. In some cases, meaning-discriminating labels of their usage are provided, whereas in other cases they are not. The choice between these synonyms (or the decision to choose something else entirely) was regarded as constituting a translation problem.

The lexemes are listed below with a characteristic of the information provided by the two dictionaries. A potentially acceptable translation of the Danish lexemes into English is given in parenthesis.

tur ('trip')

In both dictionaries, *tur* has several equivalents with meaning-discriminating labels, although in one of them (Gyldendal 2008), two equivalents are given without meaning-discriminating labels.

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7   I am well aware of the fact that the study might have benefited from an extension of the time limit (see section 8). However, as such a study would be very time consuming, both with respect to the actual carrying out of the experiment and, especially, because of the huge amount of data that a larger study would create, I had to make do with a smaller-scale study.

udstyr (**'equipment'**)

In Munksgaard, the first three equivalents are given without meaning-discriminating labels, and the subsequent equivalents are provided with meaning-discriminating labels.

In Gyldendal (2008), three equivalents are given without meaning-discriminating labels, followed by several equivalents with meaning-discriminating labels.

pakning (**'loading'**)

In Munksgaard, four equivalents are given without meaning-discriminating labels. After that, different equivalents are given with meaning-discriminating labels.

In Gyldendal (2008), the first equivalent is given without a meaning-discriminating label, but with an example. After that, different equivalents are given with meaning-discriminating labels.

sejltur (**'sailing trip'**)

Both dictionaries suggest *paseo en barco.* Munksgaard gives *de vela* ('with sails') in parenthesis.

sejle (**'to paddle'**)

Munksgaard has two entries. One gives two equivalents without meaning-discriminating labels. The other gives a label and three equivalents.

Gyldendal (2008) has several entries. Some of them give examples and others meaning-discriminating labels.

fornøjelse (**'entertainment'**)

Munksgaard has two entries. One gives four equivalents without meaning-discriminating labels, and the other gives one label and two equivalents.

Gyldendal (2008) has three entries. Some equivalents are given meaning-discriminating labels, whereas others have examples.

5 Introspective methods and dialogue protocols

When choosing a method, one has to ensure that it is capable of giving insights into the phenomena under investigation. The phenomenon under examination in this study is the processes involved in the act of translating texts which contain lexemes presumed to constitute a translation problem for the subjects. Processes may be either internal or external, in the sense of Schubert (2009):

1. Internal processes: thoughts, viz. deliberations and decisions, involved in the execution of the translation product
2. External processes: acts which lend themselves to direct observation, such as the use of tools, communication with informants and recipients of products and printing activities

The method applied in this study involves audio- and video-recordings of dialogues between two students working together on a translation. This provides two types of data: the visual images produced by the recordings, and the protocols resulting from the transcriptions of the dialogues.

The protocols can be said to give information about both internal and external processes. They can be taken to be external if they are understood at face value (if they are interpreted on

the basis of their linguistic meaning). However, they can also be regarded as internal because they can be said to reflect thoughts about the translation process and decisions made.

The visual images give information about the external processes, viz. the use of tools and of the computer[8]. Furthermore, they complement information from the dialogues as a source for explaining unclear passages.

The translation products were used to find out what kinds of decisions were made when these could not be deduced from the dialogues.

Various kinds of criticism have been directed at the use of protocols as the basis for scientific conclusions.

Firstly, the use of verbalisations (whether resulting from dialogues or from individual speech) as a reflection of thoughts is generally taken to imply an accessibility problem as it is impossible to gain access to people's minds. Secondly, it is adduced that the act of verbalising during the translation process interferes with the translation process as it is problematic to perform two cognitive activities simultaneously (see for example Jääskeläinen 2000: 74), and that, in particular, there may be interference between two types of translation, written and oral (Toury 1995: 235–236). Dialogue protocols are a variation of think aloud protocols (TAP); but while subjects of TAP are asked to verbalise their thoughts and actions with respect to a task carried out on an individual basis, dialogue protocols are the result of data obtained from subjects working in pairs. Interference can therefore be said to be an inextricable part of dialogues.

Furthermore, it is a widespread view that only processes which are actively processed can be verbalised, whereas automatic (subconscious) processes do not lend themselves to verbalisation (see for example Jääskeläinen 2000: 15, Kiraly 1995: 41, Kovačič 2000: 98). As we will see from the data analysis presented in this article, many decisions do not produce verbalisations; but rather than being due to an automatic solution process, this fact seems to be caused by a lack of ability to verbalise decisions.

A different point of criticism is that verbalisations are incomplete because subjects do not verbalise everything that goes on (Hansen 2005). However, I agree with Kiraly (1995: 41) (as quoted by Hansen [2005: 516] when discussing the influence of experience and emotion on verbalisations) in that "even if verbal reports are necessarily incomplete and do not reveal everything, what they do reveal is important". Jakobsen (2003) presents a Translog study of the effects on the translation process of producing verbalisations. He concludes that his study does not invalidate TAP as a research method, but that data from TAP and logging can be combined in the building of hypotheses.

With respect to the dialogue-protocol method in particular, it is an advantage that it inevitably generates verbalisations, whereas subjects may forget to speak when working individually. Moreover, it has been adduced that the verbalisations obtained on the basis of dialogues are more spontaneous and natural (Krings 2005: 352). An indication of this in my study is that students joke and use everyday language during the experiment. On the other hand, students did not chat during the experiment, which they probably would have done when working in private surroundings. This could be said to reflect negatively on the ecological validity of the study.

The construction of dialogue protocols in this study is an experimental method in the sense that it involves an artificial set-up. Criticism has been directed at this kind of method

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[8]   It should be mentioned that the video recordings only allow access to the activity on the screen from a distance.

for various reasons. First of all, it has been argued that subjects behave differently in an experimental setting in comparison with a "non-artificial" situation, even when solving the same kind of task. To this it may be added that in an experimental situation, subjects are distracted less (or at least in a different way) by external phenomena. When translating in their usual surroundings, they may be distracted by the phone or doorbell – or they may simply take a break[9]. Such disturbances (or breaks) are not present in an experimental situation.

It goes without saying that the very nature of an experimental setting gives different working conditions than those students (or professionals) are used to in non-artificial working situations, and that this affects their work. Having said that, it may also be adduced that it is close to impossible to access students in their everyday working situations (which are very private), and that choosing a text type that they are supposed to be able to translate and making available the tools that they are used to working with will increase the possibility of producing reliable data.

As already mentioned, students were asked to work in pairs in the experiment even though they do not usually do so in translation classes. Despite this fact, this method was chosen because it was thought that it would give useful insights into the competences and problem-solving strategies of the students, for example with respect to the usage of tools.

Translating in pairs reflects not only individual cognitive processing (if this is relevant), but also the way in which individuals interact in a group. This may of course produce interesting data regarding the psychodynamics of group work, but such data has been omitted in this study. It should merely be noted that the psychodynamics of group work can be problematic as pointed out by Kussmaul (1995: 11–12) and by Pavlovic (2007: 48), who gives as an example that one group member may become the leader not due to superior academic capacities, but due to personal characteristics. This could of course be an obstacle to the study of students' knowledge.

In conclusion, it is assumed that a dialogue-protocol study may produce data appropriate for analysing students' behaviour with respect to the translation of lexemes that involves choosing between synonyms. In a broader perspective, it is hoped that the results may also help to complete the picture of shortcomings and prospects of the method, as well as suggesting what other methods could be used in future studies of the same translation problem.

6 Analysis of the experiment

In order to find out how the students solve the potential linguistic problems, the following elements from the protocols have been analysed:

- Which strategies do students use?
- What is the basis for the decisions reached?

In the analysis below, the strategies used in the translations of each linguistic problem are presented in a table. Subsequently, the dialogue of each pair is analysed.

The strategies used are divided into the following types:

- Consultation of dictionary: Danish-Spanish
- Consultation of dictionary: Spanish-Danish
- Consultation of dictionary: monolingual

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[9]   This does not necessarily mean, of course, that they stop thinking about the task at hand.

- Internet search
- Recourse to internal resources

The term "internal resources" is borrowed from Pavlovic (2007: 89), and is defined as the resources that the translator possesses as a result of past experiences, competences and knowledge[10] from long-term memory.

In the following, the processes are accounted for with a starting point in each potential equivalence problem. It should be mentioned that the students used Danish in their discussions.

Kanotursudstyr (kanotur **and** ***udstyr)*** ('equipment for canoeing trips' ['canoeing trips' and 'equipment'])

All the pairs start out by splitting up the compound into two parts: *kanotur* ('canoeing trip') and *udstyr* ('equipment'), apparently presupposing that the lexeme cannot be found in the dictionary. They then deal with *kanotur* and *udstyr* separately.

There are different ways of dealing with the translation of *kanotur.* Table 1 shows the strategies used by the seven pairs.

Table 1: kanotur

Pairs 3 and 6–7:	**Pairs 1–2 and 4:**		**Pair 5:**
Danish-Spanish dictionary	Internal resources		Leave out the translation of *tur* ('trip')
	Pair 2:	**Pair 4:**	
Internal resources	Danish-Spanish dictionary	Internet search	
	Internal resources		

The three pairs (3 and 6–7) that start out by consulting the dictionary have no luck as the compound has no entry. They split up the compound and proceed to deal with *tur* ('trip').

Out of the three pairs that start out from internal resources, only one pair (1) do not use other strategies. This pair split up the compound and go on to deal with *tur.* Pair 2 come up with *viaje en canoa* ('journey in canoe') from internal resources. They then proceed to consult the Danish-Spanish dictionary. As they do not find an entry for the compound, they discuss using the Internet, but end up splitting up the compound and continue with *tur.* Pair 4 come up with a solution from internal resources, which they check on the Internet[11]. They are not happy with what they find and decide to leave out the translation of *tur.*

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10   Pavlovic (2007) specifies knowledge as 'long-term memory'. It seems to me, however, that text producers do not only draw on knowledge from this limited capacity of the brain, but on knowledge in general.

11   It is not clear from the transcription or from the video recordings which collocation they suggest.

Only one pair (5) do not proceed to *tur*. Pair 5 do not discuss the translation of *kanotur* ('canoe trip') as an isolated segment, but leave out the translation of *tur* without discussing it.

In conclusion, only two of the pairs come up with a solution for *kanotur* as a segment. The distribution of strategies applied in the translation of *tur* is depicted in table 2.

Table 2: tur

Pairs 1–3 and 7:		Pair 6:
Danish-Spanish dictionary		Internal resources
Pair 3:	**Pairs 2 and 7:**	
Spanish-Danish dictionary	Internet search	
Internet search		

After having discussed the equivalents found in the dictionary, pairs 1 and 2 decide on the same equivalent (*excursión*), but without being certain. *Excursión* would be an acceptable translation of *kanotur*. Pair 1 consider choosing it "as we can't find anything better", and although they find it odd: "… although it sounds funny …". Pair (2) also consult a website on canoeing trips, but do not find evidence. They end up choosing *excursión* as a part of a tentative solution for the whole compound. They choose *excursión* because it seems better than *viaje* ('journey'): "*excursión,* isn't it a little bit better?"

Pair 3 look up equivalents found in the Danish-Spanish dictionary and discuss. The discussion involves evaluation against personal experience. They look up one of the equivalents in the Spanish-Danish dictionary (*vuelta* ['walk' or 'drive']), but are not convinced by the Danish equivalents found. They then look up a different equivalent found in the Danish-Spanish dictionary (*excursión*) and feel more confident, in particular after having found the collocation *excursión canoa* on the Internet. They decide on this as "it actually sounds okay". This solution is incorrect as the preposition *en* is missing.

One of the members of pair 6 suggests *viaje,* but without confidence: "erm … it's not a *viaje,* because that is". This is what they choose without giving any explanation. *Viaje* is not acceptable in this context as it suggests a longer journey.

One member of pair 7 mentions *viaje* from the dictionary, but they decide against it as "… okay, this is perhaps a bit over the top". They then find *excursión* in the dictionary and decide to try this in a Google search in a collocation, because they feel that: "This is good". They also search for collocations with *viaje* and *paseo en canoa,* but decide on a collocation with *excursión* without giving any reason.

Pakning (**'loading'**)

Table 3: pakning

Pairs 1, 3 and 5:		Pairs 2, 4, 6–7:
Danish-Spanish dictionary		Internal resources
Pairs 1 and 5:	**Pair 3:**	
Internal resources	Internet search	**Pairs 2, 4 and 6:**
	Spanish-Danish dictionary	Spanish-Danish dictionary
		Pair 6:
		Internet search

The three groups that start out by consulting the dictionary look up the verb *pakke* ('to pack') rather than the noun *pakning*. Pair 1 discuss the different equivalents found, and then one pair member comes up with *preparar* ('to prepare') from internal resources, which is not an acceptable solution. They decide to use this as they cannot find anything better.

Pair 5 start out by discussing the semantics of *pakning*. They then decide to look up the verb *pakke* in the dictionary and discuss the meaning of the equivalents found. As they are not satisfied with any of the equivalents, they decide to paraphrase: *la organización de esto en la canoa* ('the organization of this in the canoe') without giving any reason. The lexical meaning of *organización* is acceptable in this context, but the syntax of the translation of which it forms part is not.

Pair 3 start out by noting that the word *pakning* probably does not exist in Spanish and then look up the verbal equivalent *pakke* in the dictionary. They discuss the equivalents found and decide to check the collocation *hacer la canoa* inspired by the collocation *hacer la maleta* ('pack a suitcase') on the Internet on a website about canoeing. As the search is unsuccessful, they do a Google search. This does not provide them with a satisfactory solution either. They discuss the pros and cons of using *hacerlo* ('make it') and consult websites used previously. They find *hacer el equipaje* ('packing luggage') in the dictionary. They are not satisfied with what they find (*equipaje*) and end up choosing *hacerlo* (not acceptable), thinking that: "Well, I think that it sounds okay after all."

The other four pairs start out by consulting internal resources. Pair 2 first discuss *equipaje* from internal resources. They then consult the previous context to gain a better idea of the meaning. After that, they look up the noun in the dictionary, in which they find *empaquetado* ('packaging'), which they decide to use without giving any reason. *Empaquetado* is used in the sense of wrapping something up and is therefore not an acceptable choice in this context.

One member of pair 4 suggests *preparar* on the basis of internal resources, and the other pair member suggests looking up *forberedelse* ('preparation') in the dictionary. They then discuss the meaning of *preparar* and end up using *preparación*: "*preparación* – that's okay – that's right."

Pair 6 start out by discussing a noun from internal resources (*equipaje*), but they are not sure whether it conveys the meaning of activity. After having made other suggestions, which they abandon immediately, they look up the verb *pakke* in the dictionary. They find two equivalents: *embalar* ('to wrap up') and *envasar* ('to package'). They decide to check a nominal equivalent of *embalar* (*embalación,* which does not exist) on the Internet, but are not satisfied with what they find. They decide to replace it with a verb (*embalar*), which is not a correct solution. One pair member mentions the possibility of returning to the problem.

Pair 7 discuss the appropriateness of *hacer* as in the collocation *hacer la maleta,* which they know. As they do not think that it sounds right, one pair member suggests *preparación* (which is not acceptable). They decide to use this and one pair member is happy with the solution: "It's a really good solution."

Sejltur ('sailing trip')

Table 4: sejltur

Pairs 4−6:	Pairs 1−3 and 7:	
Danish-Spanish dictionary	Internal resources	
	Pair 3:	**Pair 7:**
Pair 4:	Danish-Spanish dictionary	Danish-Spanish dictionary
Internal resources		Internet search

The three pairs that consult the dictionary all find the collocation *paseo en barco* ('boat trip'). Pair 4 mention the possibility of replacing *barco* by *canoa.* They also mention other alternatives: *excursión* and *viaje,* but end up choosing *viaje* without further discussion.

Pair 5 are not sure about *paseo,* as this noun is also used in the sense of 'walk' (noun). They consider translating just *tur,* and discuss the meaning of *paseo.* They decide to use *paseo en barco* as a canoe is also a kind of boat (referring to *barco* ['boat']). *Paseo* could be used if one accepts a rather informal style.

Each member of pair 6 looks up *tur* in the dictionary. They both find *paseo en barco.* As one of the pair members finds that this solution produces a very complex expression, they consult the dictionaries again to find a word with a more general meaning. They find *excursión*, which they decide to use: "*Excursión,* this is perhaps an okay word?"

Pairs 1−3 start out by suggesting *excursión,* which they have used previously (in the translation of 'canoeing trip'). Pair 1 decide to specify that it is a canoeing trip (*excursión en canoa*), whereas pair 2 decide to use just *excursión.* Pair 3, in turn, are not quite satisfied as this would mean failing to use the kind of lexical variation which is characteristic of Spanish. They look up *sejltur* in the dictionary and find *paseo en barco* ('boat trip'), so they replace *barco* ('boat') with *canoa.* Pair 7 also come up with *excursión* as used previously. They also consider *recorrido.* Then they consult the dictionary and find *paseo en barco.* They google *paseo en canoa* and decide on this collocation without further explanation. The dialogue suggests, however,

that they are not entirely convinced of the adequacy of the solution: "Do we pick *paseo*? –Yes, I think so – oh, that's funny, that's the expression that we thought sounded all wrong."

Sejle ('to paddle')

Table 5: sejle

Pair 1:	Pairs 2–3 and 5–7:	
Danish-Spanish dictionary	Internal resources	
	Pair 2:	**Pair 6:**
	Spanish-Danish dictionary	Danish-Spanish dictionary
	Monolingual dictionary	Internal resources
	Internet search	

The pair (1) that look up *sejle* in the dictionary find the lexeme *navegar* ('to sail', 'to navigate'). They then discuss the meaning of *sejle:* "It says *sejle*, but in a canoe you row, I suppose, so what you say is *remar* ('to row'), I suppose" – "… because *sejle* is for example *navegar,* but I don't know if *navegar* is too specific …". One of the pair members suggests *remar,* which the other pair member seems to agree with, but she then decides to use *navegar* without any further discussion: "Erm, but now I'm using *se navega por un día*." The verb *navegar* per se is an acceptable translation of paddle in this context, but the sentence of which it forms part is not.

Out of the two pairs that start out by discussing solutions on the basis of internal resources, two mention *navegar.* One pair (2) feel unsure and decide to look up *navegar* in the Spanish-Danish dictionary and in the monolingual dictionary. They make a personal evaluation ("Here it says under *navegar: viajar por el agua con una embarcación – navagar un río* ('to travel by water with a boat'); well, then it can be used; I don't know if it's the best – well … but well; but I think, I just don't really like the others; no; hehe … I just haven't got an explanation"), and decide to search the Internet for websites on canoeing. They then do a Google search with the combination *navegar + canoa.* They discuss the adequacy of the websites. Without having found any convincing evidence, they decide to use *navegar* as they do not want to spend more time on the problem: "*navegar en canoa …* well, why don't we write this and then – Yes – Let's see if we can get on with it." The collocation is used frequently, although the verb *navegar* does not imply the use of paddles.

The other pair that come up with *navegar* are pair 6. They then decide to look up *sejle* ('to sail') in the dictionary, and one pair member reads out the equivalents found. One pair member suggests not translating the verb and making an implicit subject referring to *excursión* used previously: "*si solo dura un día*" ('if it only takes a day'). This translation is acceptable.

Pair 4 mention a translation of the whole sentence (incorrect), which is used without further discussion.

Pairs 3, 5 and 7 do not discuss the translation of *sejle.* The lexeme does not appear to be a translation problem as there does not seem to be a gap between what the students want to achieve and their present state of knowledge. The translation by pair 3 shows that they have made an

implicit subject referring to *el paseo en canoa* in the previous sentence. Pairs 5 and 7 both replace the verb with a noun. Pair 5 decide on a noun used previously in the text, whereas pair 7 use a synonym of the translation of *sejltur.* They decide to use *excursión* first and then *paseo.*

Fornøjelse ('entertainment')
Only pairs 1, 3, 4, 6 and 7 got this far.

Table 6: fornøjelse

Pairs 3 and 7:		Pairs 1, 4 and 6:
Danish-Spanish dictionary		Internal resources
Pair 3:	**Pair 7:**	**Pair 4:**
Internal resources	Spanish-Danish dictionary	Danish-Spanish dictionary
Spanish-Danish dictionary		
Internet search		

In one of the pairs (3) that start out by consulting the dictionary, a pair member suggests *placer* ('pleasure'), found in the dictionary. The other pair member places the Danish lexeme in a Spanish sentence. After discussing other lexical problems, she suggests *diversión* ('entertainment'), first in the singular and then in the plural, also found in the dictionary, and places it in the Danish sentence. She then comes up with *experimentación* (noun for 'experiencing'). They look up the Danish equivalent to this lexeme in the Spanish-Danish dictionary and find *aventura* ('adventure'). They then do a Google search for *aventura en la naturaleza* ('adventure in the countryside'). The result seems to confirm the search string, as one of the pair members says: "That's okay, isn't' it?" The other pair member, satisfied with the solution, responds: "Yes, … er, I think it's fine. (…) Yes, I think it's fine. (…) This is good, this part has turned out well." This is not an acceptable translation.

Pair 7 start out by looking up *nydelse* ('pleasure') in the dictionary by mistake. They then look up *fornøjelse* instead and find *diversión.* One pair member reads out three equivalents found. They look up *diversión* in the Spanish-Danish dictionary and then discuss the meaning of *fornøjelse* in the textual context. They decide to use *disfrute* ('enjoyment'), one of the other equivalents found in the dictionary. This is not an acceptable solution.

Out of the three pairs that rely on internal resources, pair 1 start out by suggesting substitution (*divertir* ['to entertain']). They feel unsure, however, whether *divertir* can be used in this context and suggest *entretenerse* ('to enjoy oneself') and *entretenimiento* ('entertainment'). They decide on *entretenerse,* which is acceptable. A member of pair 4 suggests *diversión,* but as they feel unsure, they look up *fornøjelse* in the dictionary. They find two equivalents: *gusto* ('pleasure', 'taste') and *diversión.* They decide on *diversión,* although they are unsure: "Erm, aren't there any others?" "Can we pick *diversión*?" – "Yes, I think so". *Fornøjelse* is not a translation problem for group 6. One of the pair members suggests *entretenimiento,* and the other agrees (this is acceptable). This is what they choose without further comments.

7 Results of the analysis

In general, the lexemes which were assumed to represent translation problems turned out to be so in the majority of cases, as the present state of the text producers did not coincide with their goals (compare quote from Flower 1993 in the introduction).

As can be seen from tables 1–6, there are basically two ways of initiating the translation process: either by using the Danish-Spanish dictionary or by having recourse to internal resources, the latter being most typical.

When the first strategy used is consultation of the Danish-Spanish dictionary, it is generally followed by other strategies. This means that students do not rely only on knowledge acquired from the dictionary. Only in two cases is the solution reached on the basis of the dictionary alone (pairs 1–2 when dealing with *tur*), and in each of these cases the same equivalent is chosen without any explicit reason given, and neither of the pairs is satisfied with the solution.

Only in five cases is the Internet used, the monolingual dictionary is only used once, and the Spanish-Danish dictionary is only used on three occasions.

A count of the strategies that lead to a decision shows that in the majority of cases no reasons are given for student choices and that, in many cases, decisions are reached on the basis of personal evaluation. Personal evaluation characterises the situation in which the subjects base their decision on personal preferences. Utterances such as "I don't really like the others" and "although it sounds funny" are examples of personal evaluation.

Table 7 depicts the distribution of the above-mentioned types of decision-making[12].

Table 7: Decision-making

No reason is given	Nothing better can be found	Support on the Internet	Personal evaluation
13	3	1	6
Discussion of lexical meaning	**Tentative solution**	**Want to get on with it**	
2	1	1	

Table 7 shows the categories in which decision-making can be structured. Each lexical item was presupposed to occasion a decision-making process. However, it turned out that a few lexical items were not translated because a solution was chosen that excluded the translation of the lexeme under investigation (2 cases), and that there were cases in which the lexical item did not constitute a translation problem (4 cases). Moreover, not all pairs managed to get as far as the others: two pairs did not deal with the translation of *fornøjelse.*

In many cases, no explicit reason is given to support a translation. Although the meaning of a translation unit and different solutions are discussed, in the majority of cases the decisions

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[12]   It should be mentioned that this table depicts the systematic patterns as not all decision processes lend themselves to a straightforward classification. For instance, this is the case when the dialogue is not clear.

made are not based on explicit arguments. This picture is supported by the fact that, in many cases, the students feel unsure about the decision reached. This may lead to the conclusion that they are not competent in using tools such as the Internet or a monolingual dictionary efficiently to help them solve translation problems. Their search strategies may not be precise enough for the Internet; and they seem to be reluctant to use monolingual dictionaries, perhaps because the Internet is always at hand and seems quicker to use.

There is no straightforward explanation of why the subjects do not express explicit support for the decisions they reach. One possible explanation is that the students lack the ability to communicate about choices: they do not possess a meta-language in which they can give support to the decisions reached. The result is either that they fail to give reasons for their solutions, or that they choose solutions according to their own taste or at random. Translation problems are discussed in class on the basis of consciousness-raising tasks originally developed for the teaching of grammar (see for example Ellis 1993a). The teacher selects a number of translation problems from translations carried out by the students, who then identify and discuss the problems and possible solutions and, in the case of grammatical mistakes, induce the generalisation according to which the problem can be explained. This type of task is supposed to help students arrive at an explicit understanding of the data (Ellis 1993a: 239) by noticing the gap between a feature and "their existing interlanguage representation" (Ellis 1993b: 99), that is, the gap between an adequate solution and their own solution.

I assume that the reason why students do not express support for their decisions is that they lack the ability to externalise thoughts in the problem-solving and decision-making process, even though they have carried out the above-mentioned tasks in order to strengthen this ability. Furthermore, it can be assumed that translators who have the ability to communicate about problems, decisions and solutions are also capable of making choices which they can justify; that they 'know why they act as they do'. A consequence of this is that the ability to communicate has to do with the level of competence. Translation competence has been the object of much research with the aim of unravelling different sub-competences needed by the translator and how these are acquired. Some of these studies make such sub-competences explicit in models (PACTE 2005, Göpferich 2008). The ability to meta-communicate does not seem to be included in either PACTE's or Göpferich's model, but it may correlate with Kelly's (2005: 32–33) negotiation skills, included in interpersonal competence, and in Risku's (1998: 261) co-organization competence.

The ability to use tools is included as a sub-competence in both PACTE's and Göpferich's competence models ('instrumental sub-competence' in PACTE's work and 'tools and research competence' in Göpferich's work). Göpferich/Jääskeläinen (2009: 174–175) point out that various studies show that there are differences in the way that reference works and dictionaries are used by professionals, students and bilinguals. They give as an example that a study presented by Jääskeläinen (1989) showed that novices tend to use bilingual dictionaries, whereas advanced students prefer monolingual dictionaries. Presumably, there is a relation between the level of the sub-competence and the use of tools in the sense that the use of monolingual dictionaries requires a higher level of competence. This assumption is supported by the results of the study presented in this article (although the subjects are advanced students and not novices).

As described above, the students, in many cases, make decisions without giving a reason, without feeling sure, or because they cannot find anything better. Furthermore, they do not seem to discuss which strategies to use when searching on the Internet ("why Google", "why

not a corpus" etc.). It should be mentioned, though, that this study does not reveal the search history and movements on the Internet. In a future study, this could be looked into by means of screen capture. The two major conclusions that can be derived from this study are (1) that the students are not able to externalise thoughts, decisions and problems; and (2) that the students are not capable of using tools such as the Internet or a monolingual dictionary to clarify translation problems. These conclusions are discussed in the next section, and further perspectives are suggested.

8 Conclusions and perspectives

As the study presented in this article is of a qualitative nature, the results cannot be generalised. Rather, they can be used to generate hypotheses which can be used in the classroom and in further research studies.

Starting from a research perspective, it can be argued that dialogue protocols have proven to be useful for studying student behaviour when translating. I agree with House (1988: 95–96) in that introspective data produced by pairs is richer and more natural and can therefore be recommended rather than individual protocols. However, the study reported in this article does not lend support to House's assumption because the data is composed of dialogue protocols only. Furthermore, the data produced in this study is of a limited kind, and it is probable that a more detailed study could produce more exhaustive data by extending the time frame (with due consideration to the amount of data generated, as commented on in the introduction), and by working with a whole text. This could, for instance, give insights into the way in which the students complete their work, including if they actually do return to problems and how they deal with them. Furthermore, in future studies it is imperative to include a mixture of methods in order to produce more fine-grained studies on the basis of this pilot study. This can be done by including screen capture and retrospective interviews, for instance. Screen capture gives insight into the way students use the Internet as a tool, and retrospective interviews offer the possibility of asking about reactions to the lexemes which are presupposed to be translation problems.

From the perspective of training, it can be hypothesised that the results can be used in the following ways, among others. If we assume that it is not only the students of this study that (apparently) lack the ability to meta-communicate in the translation process and do not fully benefit from the tools available, methods to improve their skills in these areas should be implemented and tested in the classroom. As mentioned above, Dam-Jensen/Heine (2009) suggest that methods from process research can be employed in the classroom to improve learning strategies. In this article, I argue that retrospective interviews can be used to discuss translation problems. The advantage of this method is that it enables the teacher to structure the dialogue by means of questions, thereby directing the students' attention towards potential problems and ways to solve them. Integrated Problem and Decision Reporting (IPDR), as described by Gile (2004), can also be used. In contrast to interviews, IPDR does not allow the teacher to structure and guide the process in the same way. In IPDR, students make comments without cues. It can, of course, be argued that the fact that there is no interference from the researcher/ teacher results in more objective data; but, on the other hand, it can also be adduced that this may result in insufficient, superficial or irrelevant data. The advantage is that students may make comments which they would not have made in a more structured interview. The data obtained by IPDR can be used either in individual tutorials or as a starting point for discussing

problem-solving. In addition, dialogue protocols (such as the ones presented in this study) can also be used as a source for discussing decision-making. Lastly, in order for the teacher to gain insights into the students' use of the Internet and as a starting point for discussing the Internet as a translation tool, screen capture can be used. The recordings can also be used in the classroom either to illustrate efficient search strategies or searches which are not fruitful. It goes without saying that the methods suggested here do not constitute an exhaustive list.

Apart from process-research instruments, other methods can be used as a starting point for discussing decision-making in the classroom. As suggested by House (2000: 159), collaborative work can be used systematically for various purposes. In the context of the present study, group work seems to have major advantages, although professional translators tend to be individually responsible for translation tasks, and therefore the use of group work does not assimilate real-world work modes. It is claimed that some of the advantages of collaborative work are that it stimulates interaction, thereby increasing interest among the participants and encouraging critical thinking (Gokhale 1995), abilities which are essential to a translator. This is supported by a qualitative study presented by Postholm (2008). Her work is based on the idea that dialogues can stimulate understanding (with a reference to Vygotsky 1978, 1986/2000, and Bakhtin 1986), and that interaction in terms of elaborating, explaining and defending meanings increases learning (Brown/Palincsar 1989). Her findings show that "discussing and countering each other's opinions" does in fact have a stimulating effect on academic results (Postholm 2008: 151).

A further perspective is that it is imperative that students learn how to give reasons for their choices in the problem-solving and decision-making process, not only as part of being a competent translator, but also as part of their professional lives in collaboration with other professionals. Professional translators must be able to support and make explicit choices at both macro- and micro-level if they are to be members of collaborative teams in the workplace. Additionally, this may lead to recognition of the knowledge base that translators possess as experts, but which translators in some markets lack today. Research carried out in the Danish and the Israeli translation markets indicates a lack of occupational status of translators: "[…] many clients and people in general do not understand or recognize their [translators'] possession of this knowledge base […]. This leads us to conclude that the general *lack of awareness/recognition of the level of expertise required to translate* may in fact be the heart of the matter – the overall reason why translator status is relatively low." (Dam/Zethsen 2010: 207) It can be assumed that the ability to externalise and justify translation choices can help to improve the status of translators.   ●

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Helle Dam-Jensen
Aarhus University, Business and Social Sciences,
Department of Business Communication
hed@asb.dk