

TWO LANGUAGES, TWO CULTURES, ONE MIND:  
A STUDY INTO DEVELOPMENTAL CHANGES  
IN THE STUDENTS' VIEW OF LANGUAGE  
AS A TOOL IN CROSS-CULTURAL COMMUNICATION

BOGUSŁAWA WHYATT  
*Adam Mickiewicz University, Poznań*  
*bwhyatt@ifa.amu.edu.pl*

ABSTRACT

In this paper I report on the preliminary results of a longitudinal one-year study of students' progression from a low level of language awareness manifested in their superficial/intuitive use of language/languages to a higher level of language self-awareness manifested in their more controlled use of language. The data gathered for this study include four sources: a language awareness questionnaire, think aloud protocols, error analysis and post error analysis in-class discussions. The results of this study are intended to be further explored in a larger research project.

KEYWORDS: Linguistic self-awareness; language control; translation; bilingual language processing; translator training.

1. Introduction

It is probably not an overstatement to say that for an average language user the gift of language is taken for granted in the same way as the skill of walking providing everything functions without problems. People use language not to reflect upon its nature but to get things done. The view of language characteristic of a foreign language learner especially at university level is definitely given more thought. When asked, most second year students would say that language is a system devised to enable communication that is to exchange meanings. This view seems a good starting point when students of English as a foreign language enter a one-year translation course. Since translation is all about communication and the exchange of meanings across language barriers its practice provides numerous occasions to reflect upon what it means to know a language. It is precisely in this specific kind of communication that the complexity of language is clearly manifested. In other words, it is in translation that

language, culture and mind act together showing a multidimensional network of interdependencies. It is also in translation that the possibilities of language as well as its limitations as far as expressing meaning is concerned are demonstrated, and the skills of the language user are put to the test. Having taught translation at university level for 14 years, I am inclined to think that being exposed to translational experience brings about, firstly, a chance to reflect upon the nature of language/languages; secondly, it helps to see that language is indivisible from its culture; thirdly, it gives the opportunity to test one's cognitive means to make purposeful use of one's bilingual knowledge to convey meaning. The result of this novel communicative experience is often an important milestone in the development of the students' linguistic self-awareness which is a vital precondition for their future linguistic self-confidence from which they will benefit irrespective of the fact whether their future career will be in teaching or in providing translation services.

In this paper I report on a small-scale study which investigates the major changes in the students' view of language as a tool in cross-cultural communication. First, I justify why translation practice is a good context to observe the changes in the attitude students have towards language. Next, I briefly describe the study which I have conducted with the help of my students. Then, I report on the changes which have been observed through research data analysis together with some implications.

## 2. Why translation practice is good to observe changes in the students' linguistic self-awareness

Most people who have at least tried to translate even a simple text would probably agree with psycholinguists with their background in Translation Studies that translation is a complex mental activity. Let us assume that translation is primarily a data driven conceptually based process which provides excellent conditions for a kind of mental gymnastics. One has to move from signs which constitute verbal data in the Source Language (SL) (that is from words or sentences building up the whole text to be translated) via their meaning interpretation based on the mental representation of the signs to verbal data in the Target Language (TL). That is from words via meaning to words. In brief, the whole process involves two languages and thus two cultures but one mind. Pierce (Pierce 1866, quoted after Gorlee 1994: 121) called it simply "an interpreting mind".

For many students this simultaneous use of their two language systems means a novel route for their minds. So far, their bilingual knowledge (understood here as their linguistic competence in both languages) was used mostly in monolingual modes (see Grosjean, 2001, on language modes). That is to say their use of the two languages was rather one way, either from ideas, intentions, thoughts at the mental representation level to their expression in either their native or foreign language (the top-down way) or vice versa, leading from verbal data to their comprehension (the bottom-up way).

This novel use of bilingual knowledge brings a close confrontation of the two language systems not in theory, as it is the case in a contrastive grammar course, but in practice in well defined specific situations caught in their particular socio-cultural settings. Since translation is a problem-solving decision-making process and most translation problems are open-ended searching for solutions forces students to make comprehensive use of their knowledge. First, they think that their linguistic or bilingual knowledge is enough to translate but soon they experience that to translate they have to make comprehensive use of their entire cognitive knowledge base. What is more, as recently pointed out by new advances in neurolinguistics (Green 1998; Paradis 2004; Bialystok et al. 2005) by using their bilingual knowledge to translate from one language into another they are learning to gain some kind of cognitive control (see De Groot and Christoffels 2006: 189) over their bilingual memory. The progression from what can be seen as a naive view of what is involved in language to a more mature holistic approach is the object of a longitudinal study which was carried out throughout a yearly translation course.

### 3. The study: Description and research objectives

The study is based on data collected from four sources: a questionnaire (see Appendix), Think Aloud Protocols (TAPs), error analysis of students' translation assignments and post error analysis in-class discussion.

The data provided by the questionnaire constitutes the major body of the research whereas the other three sources are used to provide supportive evidence. The subjects were 34 students of EFL in the second year of their BA programme who attended a one-year translation course. The whole project is a pilot study which is going to be replicated on a larger scale in my post-doctoral dissertation. Its aim is not to test hypotheses but to generate them so that they can be verified by a larger study with more statistical validity.

The questionnaire contained 10 questions with multiple choice answers. The questions referred to the students' view of their own linguistic/bilingual/bicultural knowledge in the context of their experience with translation tasks. Think Aloud Protocols were practiced in the classroom to help students get used to voicing their language processing and recorded by the students as a part of their homework translation assignment by the end of the course. For those who are not familiar with the method of thinking aloud let me explain that it is a method taken from introspective psychology (see Börsch 1986; Ericsson and Simon 1980) in which subjects are asked to verbalise all their thoughts while translating a text. Although the method is considered controversial by some scholars as it gives only partial access to the subject's language processing, it nevertheless has been successfully used to study the translation process with focus on explicit problem solving strategies (see Lörcher 1991; Krings 1986; Kussmaul 1995; Gerloff 1986). A randomly selected sample of 10 TAPs (due to the fact that the research

method is extremely laborious, for example TAPs recorded while translating a 196 word text contained up to 5185 words, Whyatt 2007: 334) were analyzed not for language processing but for metalinguistic comments which would evidence developmental changes in the students' view of language. The text used for eliciting TAP data was a section from a book by Ewa Lipniacka (1994) *Xenophobe's guide to the Poles*. The third source of data, error-analysis is based on students' translations of a recipe (less demanding in terms of explicit meaning) at the beginning of the course and a written translation of the text used for TAPs (more demanding in terms of implied meaning) and produced by the end of the course. The post error-correction in class discussions forms the fourth source of data when certain changes were explicitly reported by the students.

#### 4. Changes observed in the study

Let me start the discussion of the changes by quoting some of the comments which come from students after their first experience with translation during in-class discussion:

"I had tremendous problems recalling words from memory"

"my knowledge of the FL is not sufficient to translate"

"I spent so much time on using dictionaries"

"dictionaries do not always help"

"I thought I knew my own language but I had so many doubts"

"I thought I knew this word but it meant something else"

"translation is such a slow tedious process I could never make a living out of it"

From this depressive start where the students' linguistic confidence is a bit shattered there is a gradual process of learning to awaken their self-awareness and eventually build their self-confidence. In a way their initial disappointment with the fact that having the knowledge of the two languages they still experience difficulties when using them for the purpose of translation reflects the common naive view that everybody who knows two languages can translate (see Hejwowski 2004). This widespread opinion clashes with the students' translation performance and as a result they learn to develop a new set of skills. This means that their attitude towards their tools (here languages) will also have to undergo some changes.

##### 4.1. Step one: The need to reorganize the students' own bilingual lexicons.

In answer to Question 4 in the questionnaire, "Has the experience of translation forced you to reorganize your English vocabulary?" a vast majority of students (88%) said

“yes”. Since all my subjects are language students at university level, their answer is to be taken as a significant metalinguistic comment. Indeed, the changes in the organization of the students’ mental lexicons come first and mark the start of a long complex process of making new connections and filling gaps in the web of words stored in the students’ long term memory (LTM). The recent advances in the study of bilingual memory offer some explanation of certain difficulties with access and retrieval (Cieślicka 2005; De Groot 2002: 94; Fabbro 1999: 97; Malmkjaer 2002: 69; Presas 2000: 22; Setton, 2003: 139) experienced by bilinguals. In the study which is the object of discussion here it seems that initially translation students try to use their mental lexicons as if they were using a bilingual dictionary, that is they use a word that they want to translate like a dictionary entry and they look for its semantic equivalent. It is possible to say that words are for inexperienced translators self contained pieces and their information processing is in a way trapped at the lexical level. The process is often time-consuming which is reported in TAPs and frequently results in retrieving a wrong label as for example, when translating “cooking apples” as *gotowane jabłka* ‘cooked apples’ or choosing *celery* as the best semantic equivalent of the Polish *seler* and disregarding the fact that both words refer to a different part of the same vegetable. In Poland, we use the root whereas in England celery refers to the stems which are used in cooking or eaten raw in salads.

Indeed the data from TAPs show that initially students experience problems with retrieving words from their long term memory and this slowness of lexical access is especially transparent when they are searching for the mother tongue equivalents of the foreign words in the text they translate (see Ivanova 1998: 96). As pointed out by Lörcher (1991: 273) students translate in a form-oriented way, that is they focus on forms and search for equivalent forms. As a result, the comprehension processes are very superficial and the lack of in-depth comprehension usually leads to erroneous solutions or extends the time of lexical search and therefore slows down the process of translation. It might be possible to state that initially foreign language learners display an unimaginative use of language. An error analysis of their first translations shows that they are translating on a word level trying to provide a TL semantic equivalent for every SL lexical item. A discussion of their translations reveals that their focus on signs overrides a proper constitution of sense (see Hönig 1991 and his comments on the excessive use of microstrategies, or Seleskovitch 1976 on the concept of deverbalisation). In other words, in comprehension, they do not make connections with their knowledge of the world, their own personal experience or common sense. A problematic phrase *to wave aside small change* (Lipniacka 1994: 14), for example, found its natural functional equivalent only when a student was asked to recall from memory a scene from a shop with a similar situation and asked “what would a Polish shopkeeper say to a customer who is trying to find the missing 2 *grosze* (a Polish equivalent of much less than 2 English pence)”. Of course, he/she would say, “never mind, pay it next time”, thus waving aside small change.

To sum up, the difficulties experienced by students show that they rely on word associations when searching in the LTM for equivalents, therefore, their lexical access is not efficient (see Gollan and Kroll 2001 on bilingual lexical access). Such an attitude though is not surprising since most FL vocabulary is acquired still in or outside the classroom by learning word lists not rarely out of context and without pragmatic information about word usage. If one agrees with Fromkin and Rodman (1998: 5) that to know a word means to know its form and meaning, it is undeniable that students know a lot of words but they are starting to discover that their “mental storehouse of information” (Fromkin and Rodman 1998: 158) about the words is very much incomplete. From now on they do not stop at semantic meaning but they become more sensitive to intricacies encoded in words.

#### 4.2. Step two: Rise in students’ sensitivity to details encoded in words

When answering Question 3 in the questionnaire, students clearly indicated that they have become more inquisitive about the FL words they learn and they started to pay more attention to some aspects of information they have previously neglected. The most frequently chosen aspects referred to accuracy (82%), style and register (53%), associations and connotations (70%) encoded in word meaning. This rise of attention to detail helps students to distinguish between synonyms, as it was in the case with searching for a good equivalent for the Polish word *przekąski* which basically means ‘snacks’. Students came up with different solutions such as: *snacks*, *nibbles*, *hors d’oeuvres*, *appetisers*, and even a *starter* was mentioned. Yet it turned out they were unable to distinguish between the words in terms of the appropriateness of their usage. Achieving this developmental stage is not a painless experience for students of a translation course and it becomes clear that semantic equivalence of meaning is much easier to prove (see Hejwowski 2004). Students usually feel challenged and their usual comment to error analysis is “but I found this word in a dictionary”. With time, they learn for themselves that although words are quite rightly in a dictionary, they themselves are responsible for their choice; this knowledge takes students another step forward in their view of language. They gradually learn that “words do not stand for things in an unquestioned way” (Lamb 1998: 141).

#### 4.3. Step three: Learning to make the most of contextual constraints

Translation provides an excellent learning environment to experience the power of context on the choice of linguistic means to express certain specific meanings. When translating a text from one language into another students are acting within what can be called “constrained creativity”. The open-ended nature of translation problems (Krings 1986; Kiraly 1991) forces students to creatively search for specific solutions. The

analysis of TAPs and translation errors shows that when it comes to creative thinking (see Kussmaul 1995; MacKenzie 1998) students initially fall into two categories. One group consists of those who are afraid of being creative and the other, much smaller group, consists of those who have a personal tendency to be over-creative. The first group over-relies on dictionaries when searching for solutions and their thinking is not fluent and very much convergent, the other group goes too far in their creative thinking and ends up making up non-existing words even in their own language. Soon, with more translation tasks, they learn to modify these extreme views. Quite quickly, they become aware that words should be treated more like “bundles of meaning” to use Kussmaul’s (1995) term which within the activation of the semantic features model are highly influenced by context which will enhance some features while suppressing others. Learning to read this contextual impact helps students to discriminate while choosing TL equivalents in their translation process. This found confirmation with 76% of students who admitted in the questionnaire that they started to pay more attention to context and situation when learning new vocabulary or putting to use words that they already had stored in their memory. This developmental change is noticeable in TAPs recorded by the end of the yearly course when students monitor their choices for contextual appropriateness. Comments like, “it means the same but it doesn’t fit the context” become quite frequent in TAPs. Also, at this stage students become less obsessed with dictionaries, more critical of the information they find in them (see Whyatt 2006) and before they start the lexical look-up they take in contextual information and in this way they narrow down their search. Consequently, their language processing speeds up and they find the task itself more rewarding as they admitted in the questionnaire.

Students in a way start to reap the benefits of their rise in self-awareness of contextual constraints. They quickly learn the skill of intertextual analysis and display more and more self-confidence when making use of their knowledge of grammar to move backward and forward within the SL text to search for contextualised meaning (see Lörcher 1986 on translation as a prospective retrospective process). Here, however, they find another hurdle to climb. It turns out that in many situations the proper understanding of meaning goes far beyond the understanding of linguistic means. In other words, the context refers to both the inner world of the text (the linguistic context, see Newmark 1988: 194) and the outer world of the text (see Gorlee 1994), the extralinguistic context, that is the situation, the real life setting. Learning to interpret the outer world of the text with proper values attached to extralinguistic references is much harder for FL students. They soon find out that their bilingual knowledge has to be supplemented by its bicultural counterpart.

#### 4.4. Step four: Raising awareness of socio-cultural demands on language use

If we accept after Levý (1967: 148) that every text is a picture of reality, it stands in some kind of relation to the socio-cultural heritage it is a part of. Therefore, in the un-

derstanding of the text, students have to go beyond the understanding of the linguistic means into the understanding of some section of reality. Initially, it is a huge challenge, as students seem to focus their entire cognitive attention on semantic value of particular words and tend to neglect their communicative value. To use Fillmore's (1977: 61) view of text as a frame which in the process of comprehension has to be converted into a scene created in the mind of the text's reader, it is possible to say that students often stop at the frame itself and look for an equivalent TL frame without trying to see the scene. Their actions can be likened to putting together a jigsaw puzzle without analysing the pattern picture they are trying to create (see Gorlee 1994 on translation and game theory, and Holmes's map-metaphor in Hönig 1991: 77). Lörcher (1986: 288) would say that they are not using their expectation structure, and Hönig (1991) would call it overreliance on microstrategies. In psycholinguistic terms, their comprehension relies on bottom-up processing and the top-down processing is insufficient to result in creative interpretation in which one naturally uses his/her general world knowledge and experience. A change in the students' language processing patterns occurs gradually and it is not a general tendency, as it is documented in Think Aloud Protocols. The change affects mostly their comprehension patterns (see Dancette 1992: 379) where students become aware that a thorough comprehension of a text requires constant reference to the knowledge of the reality it describes, its cultural norms, values, habits – the entire repertoire of knowledge which is acquired together with one's native language, and which most of the time is taken for granted by native speakers of the language. In translation tasks it becomes clear that FL learners lack this kind of knowledge or at least have serious gaps. A high percentage (65%) of the students stated that through translation they became more aware of the cultural differences encoded in both languages.

In the translation context where students act as mediators between two languages, they soon learn that they are actually mediating between larger entities or – to put it differently – that languages only express content which is culturally based in individual realities which differ due to their unique history, geographical location or geo-political situation. Becoming aware of it has an overwhelming effect on how they approach language as a means in cross-cultural communication. It is possible to say that students are starting to develop what can be called cross-cultural communicative empathy. It is probably the most difficult aspect to learn.

#### 4.5. Step five: Developing cross-cultural communicative empathy

Empathy, the ability to put oneself in the position of somebody else, is a natural feature for good communicators. As pointed out by Grice (1975: 47), we can communicate because we cooperate with one another and follow certain rules/maxims. In translation, this communicative cooperation is much more complex, as it involves a mediator/translator. The translator, to comprehend the meaning of the SL text, has to show empathy with its author, and with potential receivers. Then when transferring the mean-



ing into the TL he/she has to show empathy with the potential receivers of the translated text (Nord 1997: 12). The analysis of the TAPs reveals that it is more common for the students to exercise empathy with the SL text's author, as it is in a way enforced by the need to comprehend the intended meaning. Comments like, "what do they [authors] mean by this?" appear in protocols but they are not widespread. Most protocols reveal superficial comprehension and lack of macro-level analysis when all the vital questions about the nature of the text can be asked and answered so that some kind of communicative interaction can be established (see Whyatt 2003: 135). This attitude is irrespective of the direction in which translation proceeds, that is it does not matter if the SL text is in the students' native or foreign language. Of course, the risk of interpretation error is naturally lower if the author and the translator belong to the same cultural heritage.

If the ability to show empathy with the author of the SL text is faintly represented in TAPs, the ability to show empathy with the potential readers of the translated text is practically non-existent. When in my PhD project (Whyatt 2000) I asked 40 translation students in a questionnaire attached to a translation task whether they thought about the receiver of their translation when they were translating their SL text, 63% said "no". A simple example comes from students' translation of a cake recipe. In Poland, ingredients such as *flour* or *sugar* are usually measured by a glass which for every Polish person holds about 250 ml. However, when translated literally into English as *add a glass of sugar*, it does not carry the same meaning, and an English user of the translated recipe would wonder what kind of glass is meant here; is it a *wine glass* or a *brandy glass*, etc. The same happens with *spoons*, which for an English person need to be more precisely named either as *table spoons*, *tea spoons* or any other specific spoons.

This lack of ability to judge the receiver's comprehensibility – that is an ability to estimate what they know and what can be taken for granted, and what they need to be told to get the right meaning – can in effect have serious consequences for the communicative quality of translated texts. Most novice translators overestimate the comprehensibility of their translations.

#### 4.6. Step six: Learning to cope with inefficient workings of the mind

There is another important developmental change in the students' attitude towards language as a communicative tool which needs to be mentioned, namely learning to use their memory and knowledge store incorporating also their cross-cultural knowledge. Starting to use their bilingual linguistic knowledge to translate, students experience a different pattern of activation of the knowledge they have, and they have to position themselves in what Grosjean (2001) called a "bilingual language mode". In brief, they have to learn to perform new moves in their mind and it is not surprising that it takes time to work out the best routes. Students usually take the expressive limitations of their mother tongue as well as gaps in their foreign language competence quite calmly, and

they usually do not spare effort to search for solutions better than the ones which first come to their mind. However, it is much more difficult for them to come to terms with the inefficient workings of their own memory. TAPs reveal frequent cases of intense language processing interrupted by outbursts of frustration because of memory blocks and retrieval problems. One of the students openly admitted in her TAP that the hardest thing for her is to recall the needed word from her memory when she knows it is there on the tip of the tongue. The result of this mind battle comes in the form of strategies, or triggering mechanisms which students learn to resort to to gain access to the information they have stored in the LTM. Mostly they use a dictionary (Rose 1991; Atkins 1998 on the EURALEX project), which will not give them what they are looking for but it will stimulate access to what they have in mind but cannot currently retrieve without help. It appears in the protocols that it is the retrieval problems from their native word-store that are harder to take for the students, and they often find themselves undermining their native language competence. This is confirmed by the questionnaire data, where the majority of students (94%) admitted that, to their surprise, they felt they did have some problems with handling their native language. Indeed, error analysis shows some odd native language usage. Since making mistakes is an important part of learning, it is clear from the protocols and in-class discussions that students are becoming self-aware of their own mind traps. They become more concerned with correctness, more conscious of negative transfer and vigilant to spot false friends (see Kussmaul 1995) and avoid ambiguity. Eighty-eight percent of the students admitted that they found translation more difficult than they expected, but also challenging. The most important of all, though, is the fact that to interpret and convey meaning across language barriers, they have to make a comprehensive use of all the knowledge they have stored in their mind, with linguistic knowledge being an important but not self-sufficient part. The outcome of this particular guided self-discovery comes in the form of starting to question their own knowledge, checking for confirmation and using reference material to expand their knowledge base. All in all, with their growing concern for the communicative quality of translations they produce, they are starting to enjoy exerting some kind of control over the workings of their mind.

## 5. Conclusions and some implications

One might say that through translation students learn all the simple facts about language and communication which they always knew and took for granted. Perhaps the word *learn* should be replaced by “re-discover” or “re-experience”, and it is possible to liken an FL learner to a person who has to learn to walk with some kind of aid and thus has to re-discover all the facts about gravity and balance. It is my hope that the results of this modest study show that despite the methodological effort to make foreign language teaching more communicatively based, it is still clear that students linguistic knowledge is not contextualised enough. Perhaps, as teachers we could make it more real to em-

phasise the cognitive connections which hold between words and the general knowledge base of a word user. In the developmental steps that were discussed in this paper, students in a guided way gradually come to view language in a holistic way with its intricate network of connections reaching far beyond its linguistic means into culture, reality, imagination. With awakening the students' self-awareness of the orchestrated effort one has to make to carry meaning cross-linguistically, the task of translating itself becomes for them a more and more rewarding activity. And although they experience the limitations of the languages they work with and shortcomings of their own mind, they learn to use linguistic means like a craftsman learns to use their tools and materials. Translation, after all, is a game of skill in which a solitary player takes the challenge to bridge a communicative gap between nations that differ in many respects and are similar in what is human. Further research is needed to retrace the developmental continuum which stretches between a novice and a professional translator.

## REFERENCES

- Atkins, S. (ed.). 1998. *Using dictionaries*. Tübingen: Max Niemeyer Verlag.
- Beylard-Ozeroff, A., J. Kralova and B. Moser-Mercer (eds.). 1998. *Translators' strategies and creativity*. Amsterdam: John Benjamins.
- Bialystok, E., F. Craik, C. Grady, W. Ishii, R. Gunji and C. Pantev. 2005. "Effect of bilingualism on cognitive control in the Simon task: Evidence from MEG". *NeuroImage* 24. 40–49.
- Börsch, S. 1986. "Introspective methods in research on interlingual and intercultural communication". In House, J. and S. Blum-Kulka. (eds.). 195–209.
- Brislin, R. W. (ed.). 1976. *Translation: Application and research*. New York: Gardner.
- Cieślicka, A. 2005. "Semantic priming effects in bilingual word fragment completion". *Poznań Studies in Contemporary Linguistics* 40. 111–133.
- Cole, P. and J. Morgan (eds.). 1975. *Syntax and semantics*. Vol. 3: *Speech acts*. New York: Academic Press.
- Cook, V. (ed.). 2002. *Portraits of the L2 user*. Amsterdam: John Benjamins.
- Dancette, J. 1992. "Measurements of comprehension of the source text: theory and practice". In Lewandowska-Tomaszczyk, B. and M. Thelen (eds.). 379–386.
- De Groot, A. 2002. "Lexical representation and lexical processing in the L2 user". In Cook, V. (ed.). 32–61.
- De Groot, A. and I. Christoffels. 2006. "Language control in bilinguals: Monolingual tasks and simultaneous interpreting". *Bilingualism: Language and Cognition* 9(2). 189–201.
- Ericsson, K.A. and H.A. Simon. 1980. "Verbal reports as data". *Psychological Review* 87. 215–251.
- Fabbro, F. 1999. *The neurolinguistics of bilingualism: An introduction*. East Sussex: Psychology Press Ltd.
- Fabiszak, M. (ed.). 2007. *Language and Meaning: Cognitive and Functional Perspectives*. Frankfurt am Main: Peter Lang.
- Fillmore, C. J. 1977. "Scenes-and-frames semantics". In Zampolli, A. (ed.). 55–81.
- Fromkin, V. and R. Rodman. 1998. *An introduction to language*. New York: Harcourt Brace College Publishers.

- Gerloff, P. 1986. "Second language learners' reports on the interpretive process: Talk-aloud protocols of translation". In House, J. and S. Blum-Kulka. (eds.). 243–262.
- Gollan, T.H. and J.F. Kroll. 2001. "Bilingual lexical access". In Rapp, B. (ed.). 321–345.
- Gorlee, D.L. 1994. *Semiotics and the problem of translation*. Amsterdam: Atlanta.
- Green, D.W. 1998. "Mental control of the bilingual lexico-semantic system". *Bilingualism: Language and Cognition* 1(2). 67–81.
- Grice, H.P. 1975. "Logic and conversation". In Cole, P and J. Morgan (eds.). 41–58.
- Grosjean, F. 2001. "The bilingual's language modes". In Nicol, J. (ed.). 1–21.
- Hejwowski, K. 2004. *Kognitywno-komunikacyjna teoria przekładu*. Warszawa: Wydawnictwo Naukowe PWN.
- House, J. and S. Blum-Kulka (eds.). 1986. *Interlingual and intercultural communication*. Tübingen: Narr.
- Hönig, H.G. 1991. "Holmes' 'Mapping Theory' and the landscape of mental translation process". In Van Leuven-Zwart, K. and T. Naaijken (eds.). 77–89.
- Ivanova, A. 1998. "Educating the 'language elite'. Teaching translation for translator training". In Malmkjaer, K. (ed.). 92–109.
- Kiraly, D. 1991. Towards a systematic approach to translation skills instruction. [Unpublished Phd dissertation, University of Illinois, Urbana.]
- Krings, H. 1986. "Translation problems and translation strategies of advanced German learners of French (L2)". In House, J. and S. Blum-Kulka. (eds.). 263–276.
- Kussmaul, P. 1995. *Training the translator*. Amsterdam: John Benjamins.
- Lamb, S. 1998. *Pathways of the brain*. Amsterdam: John Benjamins.
- Larson, M. (ed.). 1991. *Translation: theory and practice, tension and interdependence*. New York: Binghampton.
- Levy, J. 1967. "Translation as a decision making process". In Venutti, L. (ed.). 148–159.
- Lewandowska-Tomaszczyk, B. and M. Thelen (eds.). 1992. *Translation and meaning*. (Part 2.) Maastricht: Rijkshogeschool, Faculty of Translation and Interpreting.
- Lipniacka, E. 1994. *Xenophobe's guide to the Poles*. London: Ravette Books.
- Lörscher, W. 1986. "Linguistic aspects of translation processes: Towards an analysis of translation performance". In House, J. and S. Blum-Kulka. (eds.). 277–292.
- Lörscher, W. 1991. *Translation performance, translation process and translation strategies*. Tübingen: Narr.
- Mackenzie, R. 1998. "Creative problem-solving and translator training". In Beylard-Ozeroff, A., J. Kralova and B. Moser-Mercer (eds.). 201–206.
- Malmkjaer, K. 1998. (ed.). *Translation and language teaching*. Manchester: St Jerome Publishing.
- Malmkjaer, K. 2002. *The linguistics encyclopaedia*. London: Routledge.
- Newmark, P. 1988. *A textbook of translation*. London: Prentice Hall International Ltd.
- Nicol, J. (ed.). 2001. *One mind, two languages: Bilingual language processing*. Oxford: Blackwell.
- Nord, C. 1997. *Translating as a purposeful activity*. Manchester: St. Jerome Publishing.
- Paradis, M. 2004. *A neurolinguistic theory of bilingualism*. Amsterdam–Philadelphia: John Benjamins.
- Presas, M. 2000. "Bilingual competence and translation competence". In Schäffner, C. and B. Adab (eds.). 19–31.
- Rapp, B. (ed.). 2001. *The handbook of cognitive neuropsychology*. New York: Psychology Press.
- Rose, M. 1991. "Seeking synapses: Translators describe translating". In Larson, M. (ed.). 5–12.
- Schäffner, C. and B. Adab (eds.). 2000. *Developing translation competence*. Volume 38. Amsterdam: John Benjamins.

- Seleskovitch, D. 1976. "Interpretation: A psychological approach to translating". In Brislin, R.W. (ed.). 92–116.
- Setton, R. 2003. "Words and sense: revisiting lexical processes in interpreting". *Forum* 1(1). 139–168.
- Van Leuven-Zwart, K. and T. Naaijken (eds.). 1991. *Translation studies: The state of the art. Proceedings of the first James Holmes symposium on translation studies*. Amsterdam: Radopi.
- Whyatt, B. 2000. A psycholinguistic investigation into the processes of comprehension and production: A decision making approach towards the preservation of meaning in translation. [Unpublished PhD dissertation, Adam Mickiewicz University, Poznań.]
- Whyatt, B. 2003. "Reading for translation: Investigating the process of foreign language text comprehension from an information processing perspective". *Studia Anglica Posnaniensia* 39. 133–147.
- Whyatt, B. 2006. "Psycholingwistyczne spojrzenie na użycie słowników w procesie tłumaczenia tekstu z języka obcego (angielskiego) na język rodzimy (polski)". *Neofilolog* 28. 70–77.
- Whyatt, B. 2007. "Meaning as a dynamic concept. A Think Aloud Protocol study into strategies employed by inexperienced translators". In Fabiszak, M. (ed.). 329–341.
- Zampolli, A. (ed.). 1977. *Linguistic structures processing*. Amsterdam: North-Holland.

## APPENDIX

**Questionnaire**

1. At what level do you place your bilingual language competence?  
beginner  
intermediate  
advanced
2. Have the translation classes contributed to any changes in your view on language?  
yes  
no  
I don't know
3. Have the translation tasks helped you develop your communicative competence?  
yes  
no  
they confused me  
I don't know
4. Have the translation tasks forced you to reorganize your English vocabulary?  
yes  
no  
they confused me  
I don't know
5. Because of your experience with translation do you pay more attention to details of usage encoded in words?  
yes  
no  
I don't know
6. Which aspects of usage do you pay more attention to?  
accuracy of meaning  
style and register  
context and situation  
associations  
I see no change
7. Has translating texts made you aware of cultural differences reflected in both languages?  
yes  
no  
I knew it before
8. Has translating texts made you aware that your knowledge of the Polish language is insufficient?  
yes  
no

9. Were you surprised by problems with recalling words from memory?
- yes
  - no
10. Is translation more difficult than you thought before you experienced it?
- yes
  - yes, but challenging
  - no