

ZOFIA CHŁOPEK

ORCID: 0000-0001-5324-8710

Instytut Badań nad Edukacją i Komunikacją Politechniki Śląskiej, Gliwice, Poland

Inter- and intralingual transfer in primary school students' written production in their L3*

1. Introduction

Nowadays young Europeans usually acquire two (sometimes more) foreign languages in the course of their education. The psycholinguistic processes of L2, L3 etc. acquisition and use inevitably involve inter- and intralingual transfer. Investigating transfer phenomena observed in learners with different language constellations and from different age groups is important, since results of such research studies expand our knowledge of the mechanisms of the multilingual brain and at the same time provide foreign language teachers and learners with information and guidelines which can be used to prevent negative transfer from occurring and promote the facilitative use of positive transfer. Unfortunately it seems that intra- and interlingual processes taking place in the minds of young L3 learners is a field of study not yet thoroughly explored.

2. Characteristics of young learners

Young children acquire language using mainly the subconscious (implicit) **procedural memory** system, but beginning from about 7 years of age the conscious (explicit) **declarative memory** is slowly gaining in importance (Paradis 2004).

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Moreover, teaching methods often promote conscious processing of information and thus contribute to the development of declarative memory. Studies show that younger and older learners (before and after ca. 11 years of age) process grammatical aspects of language differently, which is explained by the different types of memory participating in the acquisition of these language aspects in early childhood and later in life (Weber-Fox/Neville 2001, Ullman 2001). Around puberty (at the age of about 10–12) learners are usually able to effectively use declarative memory (Paradis 2004).

At the same time, the cognitive capacity of the child grows. According to Piaget, around their 11th birthday learners slowly enter the last stage of cognitive development, i.e. the stage of **formal operations**. In this period of life, such abilities develop as abstract and logical thinking skills, counterfactual thinking skills, the capacity to make and test hypotheses, and to combine different pieces of information in order to solve a problem (Inhelder/Piaget 1958), even though this capacity of the brain is not applied consistently by adolescents and even adults (Day 1981). Thanks to these characteristics of the gradually maturing brain, learners at this age are generally successful at typical school activities, which usually demand conscious processing of linguistic material, understanding abstract grammatical concepts, combining different elements of linguistic knowledge in order to understand or create utterances, coping with differences between languages, as well as inhibiting a non-target language when using the target (i.e. the currently acquired) foreign language (see also Bee 1998/2004). Nevertheless, it must be kept in mind that the frontal cortex, which stores cognitive functions such as executive control, logical thinking skills or problem-solving abilities, develops and myelinates relatively slowly, even until 30 years of age (Tierney/Nelson 2009).

In spite of the developing declarative memory and cognitive abilities, young learners who have had limited foreign language learning experience (i.e. who have not learned a language using the declarative memory system) may be expected to be characterised by relatively low meta-linguistic awareness and cross-linguistic awareness, as well as psychotypology. **Meta-linguistic awareness** (or language awareness) is the ability to describe language by means of meta-language (which develops as a result of teaching), as well as the sensitivity to language as a tool of communication (which develops as a result of learning, through reflection on and manipulation with linguistic forms) (Jessner 2006). Two important components of meta-linguistic awareness are linguistic analysis (i.e. the analysis of formal language knowledge) and executive control (i.e. attention and monitoring processes) (Bialystok/Ryan 1985, Friesen/Bialystok 2012). Connected with these abilities is **cross-linguistic awareness**, i.e. the sensitivity to interlingual connections and the ability to compare one's languages (Jessner 2006). As Chan et al. (2017) point out, cognitive abilities in general and meta-linguistic and cross-linguistic awareness in particular may facilitate the development of **psychotypology**, i.e. one's subjective perception of the typological distance or closeness between languages (Kellerman

1983). Although even very young children show signs of meta-linguistic awareness (Chan et al. 2017), it really begins to develop at the age of ca. 7–11 years, which is probably related to the improved functioning of the declarative memory system and cognitive abilities (Paradis 2004). At this stage of life learners begin to understand that language is an arbitrary system of signs, characterised by systematicity, which can be treated as ‘an entity or object in its own right that can be manipulated consciously’ (van Kleeck 1994, after Wallach 2008:131). The development of meta-linguistic abilities is enhanced by the acquisition of literacy skills and learning a new language (Olson 1977, Bialystok 1997, 2005, Kovelman/Baker/Petitto 2008, Marinova-Todd/Zhao/Bernhardt 2010). These typically engage learners in cognitively demanding tasks involving explicit learning processes which require ‘attention, awareness, and effort, relying on the processing of information in working memory’ (Tellier/Roehr-Brackin 2013:82) and meta-linguistic tasks, which ‘require children to use attentional processes to operate on linguistic forms’ (Friesen/Bialystok 2012:47). Thus, learners whose literacy skills are still incomplete and who have not had much experience with (conscious) foreign language learning may be characterised by a relatively low level of meta- and cross-linguistic awareness, as well as psychotypology. They may not be able to analyse their languages or control language use, or make use of all linguistic competences while learning a new language. This may result in inconsistent and unpredictable errors, caused by interlingual or intralingual transfer, as well as other individual factors.

It should be also emphasised that young learners’ **native language is still in the process of development**. Even though the L1 oral competences develop rapidly for the first five years of life or so, thanks to the effectively functioning procedural memory (Paradis 2004), learners around puberty are still in the process of L1 acquisition. The mother tongue vocabulary is expanding, further development of morpho-syntactic knowledge takes place and pragmatic rules are gradually mastered. At the beginning of school education children learn how to keep up a conversation, how to build sentences with indirect meanings and how to communicate meanings in a polite and convincing manner (Bee 1998/2004:303). Moreover, literacy skills typically lag behind oral competences. As noted by researchers long ago, a high level of L1 proficiency paves the way towards effective acquisition of a non-L1 (Cummins 1978) and L1 literacy skills contribute to the cognitive development of the child in that they provide a foundation for the understanding of the logical and ideational functions of language (Olson 1977). The incomplete L1 competences of young learners may not provide them with a solid basis for L2/L3 development, and they may be an additional reason of low meta-linguistic awareness of such learners.

3. Inter- and intralingual transfer

Psycholinguistic processes taking place in the bi-/multilingual mind have been the topic of many research studies (for an overview, see De Angelis 2007, Chłopek 2011). In particular, researchers have often directed their interest towards language transfer. Transfer is a natural consequence of the fact that language acquisition and use lead to the development of synaptic connections both within each language system and between language systems present in the brain. These connections inevitably lead to intra- and interlingual interactions between language elements/features, which become particularly intensive in the case of some learning or communication problems (Chłopek 2009).

Interlingual transfer is the use of a non-target language item, feature, rule etc. during target language production or reception. It is usually evoked by the existence of similarities or differences between these languages (Sharwood Smith/Kellerman 1986, Odlin 1989, De Angelis 2007, Chłopek 2011:ch. 4.2).

A number of factors determine the intensity and direction of interlingual transfer. The first important factor is language proficiency. Transfer is particularly intensive in the case of a fluent non-target language and a weak target language, which is why beginners often make a lot of transfer errors. The second crucial factor influencing language transfer is typological distance between two languages, especially its subjective perception, i.e. psychotypology. Learners who are able to notice similarities between their languages (or only believe that such similarities exist) are likely to seek support in their other languages. The third factor which is believed to shape language transfer is the recency of use. A language which was recently activated is the more probable source of transfer than a language which remains dormant. Moreover, some researchers point to the importance of the status of each language. A language which has the status of a foreign language is more likely to influence a new foreign language than a language with the status of the mother tongue (Ringbom 1987, 2006, Williams/Hammarberg 1998, Ecke 2001, van Hell/Dijkstra 2002, Gabryś-Barker 2005, Chłopek 2009, 2011:ch. 4.3, 2013, Henry 2014).

Intralingual transfer is the use of a target language item, feature, rule etc. during production or reception. According to Richards (1971:198, after Darus 2013:214), intralingual errors ‘reflect the general characteristics of rule learning, such as faulty generalization, incomplete application of rules and failure to learn conditions for rule application’. However, they may also result from the interference of similar forms and/or meanings of lexical items. Research studies indicate that intralingual transfer is a common phenomenon, since learners often search for words or structures within the currently used language (Williams/Hammarberg 1998, Ecke 2001, Chłopek 2009, 2011:ch. 4.8).

Inter- and intralingual transfer may be either negative or positive. Negative transfer results in erroneous or non-normative use of the target language, thus causes learning and communication problems, whereas positive transfer leads to

correct language use, at the same time enhancing the efficiency of language learning and the effectiveness of communication. Research studies usually concentrate on negative transfer, since language errors are relatively easy to recognise and analyse.

Moreover, transfer is either subconscious or conscious. Subconscious transfer results from unintentional activation of non-target elements/features stored in the same or in another language system; it is typical of the production of beginner learners, though also observable in fluent language speakers. Conscious transfer arises from intentional activation of a given non-target element/feature; it should be understood as a kind of a learning/communication strategy, used by language learners in order to compensate for some gaps in knowledge and by fluent language users in order to achieve communicative intentions in the best possible way (Meisel 1983, Oxford 1990, Chłopek 2009, 2013).

In some research publications the distinction between form-based and meaning-based transfer is made. If a given person's proficiency in the non-target language is still low, interlingual transfer is predominantly form-based, which means that the phonological, phonetic, orthographical and morpho-syntactic properties of non-target language lexical items and structures are activated and used in target-language utterances. With growing fluency in the non-target language, interlingual transfer becomes also meaning-driven, i.e. non-target language semantic properties are activated and 'taken over' to the target language utterance (Ringbom 1987, 2006, Chłopek 2009). Assuming that semantic transfer is partially grounded in the activation of appropriate concepts, this phenomenon is most probably a consequence of the strength of the connections between a language system and the conceptual system, which grows along with language proficiency (Paradis 2004, Pavlenko 2009). As for intralingual transfer, the results obtained by Gabryś-Barker (2005:59–85) indicate that connections within a native and a non-native language are different, which suggests that language proficiency, and perhaps also the age, methods and contexts of language acquisition, determine the type of this transfer. In the case of a weak foreign language, learned after early childhood in instructed conditions, one may expect predominantly form-based intralingual interactions, whereas such interactions within a fluent language, acquired in early childhood by means of natural communication, may be more meaning-based (and take place with the mediation of the conceptual system).

4. The study

4.1. Aim and research questions

Primary school students in Poland usually learn two foreign languages. In the majority of cases, English is the first foreign language, acquired already in the first grade

or even in kindergarten, and German is the second foreign language, introduced a few years later, i.e. from grade seven or from earlier grades in the case of bilingual programmes (Główny Urząd Statystyczny 2015:104–105; *podstawaprogramowa.pl*). In consequence, learners are usually more fluent in English than in German. The goal of the present research study was to investigate the psycholinguistic phenomena involved in the process of learning German (L3) after English (L2) and Polish (L1), in particular inter- and intralingual transfer. The following research questions were posed:

- (1) Which language is the main source of transfer in the written production of young learners in their L3, if the L1 is a fluent and regularly activated language and the L2 is a foreign language which is typologically related to the L3?
- (2) Which areas of language knowledge (lexis, orthography, morphology, syntax) are the most affected by inter- and intralingual transfer in the case of young foreign language learners?

4.2. Participants and method

The present research study was conducted with 44 learners attending 4th, 5th and 6th grade of a primary school in Wrocław, Poland¹. The school's educational policy is very open to foreign language teaching, and learning English and German is particularly encouraged. In their 1st and 2nd year children learn foreign languages predominantly in a communicative way, by engaging in activities promoting the development of oral skills through sensory and affective engagement (which undoubtedly involves procedural memory to a large extent), and literacy skills are developed through very simple receptive activities. Beginning from their 3rd year more intensive age-appropriate literacy instruction takes place and learners are more often encouraged to concentrate on language forms, not only on the meanings of utterances, which (as mentioned above) may boost conscious declarative memory and enhance meta- and cross-linguistic awareness, as well as psychotypology.

The participants' mother tongue was Polish. They began to learn English in the 1st grade of primary school, at the age of about 7. However, it must be kept in mind that many Polish children have additional contact with the English language which often begins at a very young age. The participants started to learn

¹ The results presented here were discussed in the paper entitled 'Inter- and intralingual transfer in Polish primary school students' written production in their L3–German', presented during the international conference *Zrozumieć Wielojęzyczność* ('Understanding Multilingualism'), which took place on 9th–10th June 2018 at Warsaw University, Warsaw, Poland.

German in the 4th grade of primary school, at the age of about 10. All of them attended two German lessons weekly, thus their contact with this language was limited, especially considering the fact that young learners in Poland do not usually have much additional exposure to German outside school. At the time of the study, the 4th-graders had been exposed to German for nearly 7 months, the 5th-graders for about 15 months and the 6th-graders for about 23 months.

Table 1. Information about the participants

School year	Mean age	No. of pupils	English (L2)	German (L3)
4	10.3	16	from grade 1	from grade 4
5	11.3	12	from grade 1	from grade 4
6	12.2	16	from grade 1	from grade 4

The participants were asked to write a few sentences about themselves or, optionally, on any topic chosen at will (see Appendix). The task was carried out during a German lesson and was part of the teaching process. During the task completion, the pupils were not allowed to use any materials (coursebooks, dictionaries etc.). The texts were written anonymously. The younger children's texts consisted of short and simple sentences, whereas the older pupils, especially the sixth-graders, wrote more elaborate texts and at the same time made more errors.

The research was conducted by means of an error analysis. All the errors committed by the learners were isolated and classified according to the source of transfer (i.e. L1, L2, L3) and the components of language competence (i.e. lexis, orthography, morphology, syntax) affected by transfer. The classification of errors was partially based on that proposed in Chłopek (2009, 2011, 2013). Errors caused by the lack of knowledge were not taken into consideration, e.g. the error **Meine besten Freundin heißen...* [4/7]² was disregarded, since the teacher had not yet introduced the feminine plural form *Freundinnen*.

4.3. Results and discussion

Altogether 578 errors were noted, 546 were caused by inter- or intralingual transfer, and 32 by other factors (see Table 2). As the obtained data indicate, interlingual transfer is very intensive and there is no dominant source of this transfer, since both non-target languages seem to have a comparable influence on the L3—there are 88 occurrences of transfer from the L1, 89 occurrences of transfer from the L2 and 148 occurrences of transfer from the L1 and/or L2 (325 occurrences in

² The figures in square brackets refer to the school year and the (randomly assigned) participant number, respectively.

total, or 56.2% of all errors). Nevertheless, intralingual transfer is also very strong (203 occurrences in total, or 35.1% of all errors).

The intensity of the inter- and intralingual transfer, as well as the balance between the L1 and L2 influences, can be observed in each of the three learner groups. However, no reliable comparisons between these groups can be made, due to the low number of the participants and too many variables potentially impacting the obtained results (i.e. the participants' age, their L1, L2 and L3 abilities, the level of their meta- and cross-linguistic awareness, and psychotypology).

Table 2. Sources of transfer (L1 – Polish, L2 – English, L3 – German; a slash means 'and/or', e.g. L1/L2 = transfer from the L1 and/or the L2; other reasons = the reason of error was not identified)

Source → Year ↓	L1	L2	L3	L1/ L2	L1/ L3	L2/ L3	L1/L2/ L3	Other reasons	Total raw
4	26	25	49	31	1	1	0	17	150
5	21	27	68	52	0	2	2	12	184
6	41	37	86	65	1	7	4	3	244
Total raw	88	89	203	148	2	10	6	32	578
Total %	15.2	15.4	35.1	25.6	0.3	1.7	1.0	5.5	100

The equally strong influence of the non-target languages is an interesting outcome. The fluent and regularly activated Polish language might be expected to play a dominant role in interlingual transfer. Even though English and German are typologically related and both have the status of a foreign language, the relatively weak English competences and the assumedly low level of psychotypology would predict rather insignificant influences of this language on the L3. However, it turns out that young learners may, after all, exhibit a relatively high degree of meta- and cross-linguistic awareness, as well as psychotypology, which allows them to perceive the existence of similarities between their languages. The foreign language effect may also play a more important role than previously assumed. An additional factor may be the popularity the English language enjoys among young Poles, which contributes to positive attitudes towards it and positive emotions connected with it, which in turn may facilitate its activation.

Conversely, it is not surprising that the target L3 is an important source of language errors. After all, the elements/features of the weakest language whose knowledge is not yet organised and consolidated in the mind may engage in various kinds of interactions with each other, which leads to the mixing of forms and confusion of meanings.

Table 3. The sources and types of transfer (CS – code switch, NB – nonce borrowing, ST – semantic transfer, STC – semantic transfer in the case of cognates or only similar forms, LT – loan translation, LTA – loan translation involving article calque, IM – intralingual mix, OT – orthographical transfer, OTC – orthographical transfer in the case of cognates or only similar forms, PT – phonetic transfer, MT – morphological transfer, SLT – syntactic loan translation, SLTWO – syntactic loan translation involving word order calque)

Source → Transfer type ↓	L1	L2	L3	L1/L2	L1/L3	L2/L3	L1/ L2/ L3	Total raw	Total %
lexical: CS	1	38	0	0	0	0	0	39	7.1
lexical: NB	1	7	0	0.5	0.5	0	0.5	9.5	1.7
lexical: ST	0	0	27	0	0.5	0	0	27.5	5.0
lexical: STC	0	0	4	0	0	0	0	4	0.7
lexical: LT	1	0	0	3	0	1	0	5	0.9
lexical: LTA	27	0	0	0	0	0	0	27	4.9
lexical: IM	0	0	4	0	0	0	0	4	0.7
orthographical: OT	35	6	41	79.5	0	8	5.5	175	32.1
orthographical: OTC	7	32	5	56	0.5	0	0	100.5	18.4
phonetic: PT	0	3	10	0	0	0	0	13	2.4
morphological: MT	0	1	110	0	0.5	1	0	112.5	20.6
syntactic: SLT	11	1	0	0	0	0	0	12	2.2
syntactic: SLTWO	5	0	2	9	0	0	0	16	2.9
Total raw	88	89	203	148	2	10	6	546	100

After excluding the 32 errors whose causes were not identified, the remaining 546 errors were analysed in respect of the language area affected by transfer. Table 3 shows the amount of different transfer instances and their language sources. The reason why some numbers are not integers is that in a few cases two possible causes of one error were identified; in such cases, each cause was assigned half a point.

The most problematic language area turns out to be spelling – **orthographical transfer (OT)** and **orthographical transfer in the case of cognates or only similar forms³ (OTC)** are the main causes of errors (174.5 occurrences or 32.0% and 101 occurrences or 18.5%, respectively; 50.5% of all transfer errors in total) (see Table 3). OT is the application of a non-target spelling rule to a target lexical item (sometimes evoked by the pronunciation of a target element) (see examples 1, 2, 3, 5, 6, 8, 11, 13 below). OTC means a ‘takeover’ of the spelling of a given non-target lexical unit which is formally similar to its target counterpart (see examples 4, 9 below).

³ In psycholinguistics, cognates are words which are formally and semantically similar.

It turns out that all participants' languages (L1, L2 and L3) induce orthographical errors in the L3, even if there are no formal similarities between the lexical items in question (there are more OT than OTC instances). This result evidences the instability of the L3 orthography, which is not surprising since young learners are probably also struggling with the spelling of their L1 and L2. The L1 influences also indicate that even though young learners' cross-linguistic awareness and psychotypology are already developing, they are still unaware of the fact that transfer of L1 forms may lead to more spelling errors than transfer of L2 forms. In contrast, adult learners with a similar language constellation (L1 Polish, L2 German and L3 English) make OT errors in their L3 which are predominantly induced by the typologically related L2 (Chłopek 2009).

Another large group of errors comprises those caused by problems with German morphology (113.5 occurrences or 20.8% of all transfer errors). **Morphological transfer** (MT) is the use of a non-target morphological rule or a non-target bound morpheme in an utterance (see examples 2, 7, 9, 11, 13). An interesting result is that the target language (L3) is the source of nearly all instances of MT, which indicates that the pupils are mainly confusing the target grammatical forms or incorrectly using the target grammatical rules. Another result is that no occurrences of morphological transfer in the case of cognates (MTC) were noted. These outcomes suggest that the participants are not yet able to analyse the available linguistic forms, which might facilitate effective utilisation of the multilingual knowledge. The fact that interlingual transfer can hardly be observed may be explained by the fact that compared to orthography, morphology and syntax probably need deeper linguistic processing, as well as relatively high meta- and cross-linguistic awareness. Again, this result can be contrasted with that obtained with adult learners with L1 Polish, L2 German and L3 English, who made relatively few MT and MTC errors and nearly all of these errors were effects of L2 transfer (Chłopek 2009).

The observed lexical errors comprise instances of code switching, nonce borrowing, semantic transfer, semantic transfer in the case of cognates, loan translation, loan translation involving article calque and intralingual mixing. A **code switch** (CS) is the use of a non-target lexical item (a free morpheme, single word or phrase) which involves some syntactic adaptation to the target-language utterance (examples 6, 7). A **nonce borrowing** (NB) is the use of a non-target lexical item which requires its morpho-syntactic and orthographical adaptation to the target language (example 8). **Semantic transfer** (ST) and **semantic transfer in the case of cognates or only similar forms** (STC) take place when a given word is ascribed the meaning of another word. In the former case the forms and meanings of both words are different (example 10) and in the latter they partially overlap (example 11). STC comprises the false friends phenomenon, which is an instance of interlingual transfer; however, the STC observed in the present corpus involved exclusively L3 forms. A **loan translation** (LT) is a calque of a multi-

word lexical unit, which is usually accompanied by the adoption of the non-target morpheme/word order, as well as some morpho-syntactic adaptation to the target language (example 13). **Loan translation involving article calque (LTA)** is treated separately from other instances of LT because this type of transfer seems to be very intensive in the case of native speakers of a language which does not make use of articles; this psycholinguistic process concerns primarily noun phrases (Chłopek 2014) (examples 3, 5, 9, 14). Finally, an **intralingual mix (IM)** is a new, non-existent word which emerges in the process of combining two different target language forms (example 12).

The total number of lexical errors observed in the present corpus amounts to 116 (which makes 21.2% of all transfer errors). Among them, the most common are cases of CS (39 instances or 7.1% of all transfer errors), ST (27.5 instances or 5.0% of all transfer errors) and LTA (27 instances or 4.9% of all transfer errors). The sources of these errors are, however, different. In all cases but one the pupils switched into English, thus their incomplete L3 vocabulary induced them to seek support in the L2 forms, probably due to the typological closeness of English and German, and maybe also the status of the L2 and L3. The nature of the observed semantic transfer is intralingual, which indicates a still unstable knowledge of the form-meaning lexical relationships within the target language. The fact that Polish noun phrases lack articles naturally induced transfer from this language into German; even though the learners were acquainted with the English article system, this knowledge was probably not strong enough to support the correct formation of German noun phrases. It may be assumed that since the L1 of the respondents was a fluent language, at least part of the observed LTA is a case of conceptually driven transfer of meaning (see Chłopek 2014).

It should be stressed that no occurrences of the false friends phenomenon (a case of STC, see above) nor of semantic extension (i.e. the enhancement of the meaning of a target lexical item under the influence of a non-target lexical item) can be found in the present corpus. Also, there are very few instances of loan translation. These three transfer types are quite common in the case of adult users of a fluent L1 and L2 and a relatively fluent L3 (Chłopek 2009). The present outcome is probably the consequence of the participants' low L2 and L3 competences resulting in the dominance of transfer of form (lack of semantic extensions and few loan translations), as well as the low level of psychotypology (lack of interlingual semantic extensions and the false friends phenomenon).

Syntactic transfer is very weakly represented in the present corpus, most probably because the participants were still unable to build complex sentences in their L3. The observed transfer was classified as either **syntactic loan translation (SLT)** or **syntactic loan translation involving a calque of word order (SLTWO)**. The former is the process of word-for-word translation of a non-target syntactic structure (example 1), whereas the latter is a calque of the word order of a non-target sentence (example 14).

Finally, a few errors were classified as instances of **phonetic transfer** (PT), even though they were actually spelling errors. In the case of PT, the influence of the (sometimes incorrect) pronunciation of a given lexical unit influences its spelling (examples 5, 9).

- (1) Ich habe zwölf Jahre Alt (target: Ich bin zwölf Jahre alt, ‘I am twelve years old’; SLT of the Polish structure *mieć X lat*; OT caused by the overgeneralisation of the capitalisation rule which applies to German nouns) [5/12]⁴
- (2) Meine Lieblingsjahreszeit ist den Fr \ddot{u} chling, denn es ist warm, alles bl \ddot{u} cht und die Natur erw \ddot{a} cht (target: Meine Lieblingsjahreszeit ist der Fr \ddot{u} hling, denn es ist warm, alles bl \ddot{u} ht und die Natur erwacht, ‘My favourite season of the year is spring, because it is warm, everything blossoms and nature awakes’; MT induced by the knowledge of German accusative forms; two cases of OT evoked by the – not necessarily conscious – Polish orthographical rules governing the use of the graphemes *h* and *ch*; OT caused by the overuse of the German umlaut \ddot{a}) [6/6]
- (3) Sie ist sympatshish und Fr \ddot{a} ndin (target: Sie ist sympathisch und eine [gute/echte?] Freundin, ‘She is nice and she is a [good/true?] friend’; OT caused by the influence of the English spelling, i.e. the existence of the grapheme *sh*; OT induced by the Polish grapheme *q* corresponding – to some extent – with the German phoneme; LTA involving a calque of the Polish nominal phrase *przyjaciółka*) [4/13]
- (4) Ich komme aus Polen und Ich wohne in Breslau (target: Ich komme aus Polen und ich wohne in Breslau, ‘I come from Poland and I live in Breslau’; OTC induced by the spelling of the English pronoun *I*) [5/4]
- (5) Hund ist Supa Freund (target: Ein/Der Hund ist ein super Freund, ‘A/The dog is a great friend’; two cases of LTA involving calques of the Polish nominal phrases *pies* and *wspaniały przyjaciel*; OT caused by the overgeneralisation of the capitalisation rule which applies to German nouns; PT evoked by the pronunciation of the German adjective *super*) [5/11]
- (6) Maine klasa... Prima (target: Meine Klasse... Prima, ‘My class... Great’; OT involving the use of the Polish grapheme corresponding with the German phoneme; CS into Polish, i.e. the use of the Polish noun *klasa*) [4/14]

⁴ All examples come from the present corpus.

- (7) Ich kommen aus Polish (target: Ich komme aus Polen, 'I come from Poland'; MT caused by the knowledge of German verb inflection, in particular the ending *-[e]n*; CS into English involving an – incorrect – use of the English adjective *Polish*) [5/2]
- (8) Er mag basketball und Dogs (target: Er mag Basketball und Hunde, 'He likes basketball and dogs'; OT caused by the lack of capitalisation of English and Polish nouns; NB of the English noun *dogs* which was adapted to the target language by means of capitalisation) [4/8]
- (9) Ich habe _super Familie: [...] _Broder und zwei Schwester (target: Ich habe eine super Familie: [...] einen Bruder und zwei Schwestern, 'I have a great family: [...] a brother and two sisters'; LTA involving a calque of the Polish nominal phrase *wspaniała rodzina*; LTA involving a calque of the Polish nominal phrase *brat*; a case of simultaneous PT and OTC most probably caused by the spelling and the incorrect pronunciation of the English noun *brother*; MT caused by the knowledge of rules governing the plural endings of German nouns or simply analogy to such plural noun forms as e.g. *Brüder, Väter, Mütter*) [6/3]
- (10) Ich wohne aus Polen (target: Ich komme aus Polen, 'I come from Poland'; ST whereby the meaning of the German verb *kommen* was ascribed to the German verb *wohnen*) [6/4]
- (11) Meine Liebblingsmonat ist Juni, die sonne schneit (target: Mein Lieblingsmonat ist der Juni, die Sonne scheint, 'My favourite month is June, the sun shines'; MT involving the application of the German ending of feminine pronouns *-e*; OT caused by the lack of capitalisation of English and Polish nouns; STC involving the use of the German verb *schneien* with the meaning of the German verb *scheinen*) [6/14]
- (12) Ich bin einzehn (target: Ich bin elf [Jahre alt], 'I am eleven [years old]'; IM created on the basis of the existing forms such as *dreizehn, vierzehn* etc. combined with the numeral *eins*) [5/2]
- (13) Meine liebling hobby ist kunst [...] (target: Mein Lieblingshobby ist Kunst [...], 'My favourite hobby is art [...]'; MT involving the use of the German ending of feminine pronouns *-e*; LT of the English nominal phrase *favourite hobby*; two cases of OT caused by the lack of capitalisation of English and Polish nouns) [5/6]
- (14) _ Sommer ist warm und _ Winter ist kalt nicht (target: Der Sommer ist warm und der Winter ist nicht kalt, 'Summer is warm and winter is not

cold'; two cases of LTA caused by the lack of articles in the English/Polish nominal phrases *summer/lato* and *winter/zima*⁵; SLTWO resulting in the wrong placement of the particle *nicht*, most probably due to the position of this particle when used with verbs) [6/1]

5. Conclusion

The aim of the present research study, conducted with young Polish-speaking learners of L2 English and L3 German, was to answer the following research questions: (1) Which language is the main source of transfer in the written production of young learners in their L3, if the L1 is a fluent and regularly activated language and the L2 is a foreign language which is typologically related to the L3? (2) Which areas of language knowledge (lexis, orthography, morphology, syntax) are the most affected by inter- and intralingual transfer in the case of young foreign language learners?

The obtained results indicate that the L3 system of beginner language learners is characterised by high instability, which calls forth both interlingual and intralingual interactions between language elements/features. Both non-target languages of the respondents call forth intensive interlingual transfer, although the L3 is an important transfer source as well. Nevertheless, even though all language systems present in the mind participate in language transfer, their role in supporting L3 production is different. The language areas mostly affected by inter- and intralingual transfer are orthography, morphology and lexis. The L1 is an important source of orthographical transfer, as well as loan translations involving article transfer. The L2 mainly supports orthographical transfer in the case of cognates and is the language the participants switch to in the case of lexical difficulties. The L3 itself is searched in the case of morphological and orthographical problems, and it is also the main source of semantic transfer.

The inter- and intralingual transfer observed in the present corpus is predominantly form-based. Since the respondents are far from fluent in their L2 and L3, this outcome is partially in line with the above-mentioned studies suggesting that the dominance of transfer of form versus transfer of meaning depends on language proficiency. Moreover, the factors inducing transfer from the learners' L2 may be their developing perception of the typological closeness between English and German, and the foreign language status of the L2 and L3. It is more difficult to explain the observed instances of form-based transfer from the participants' L1, especially the amount of OT occurrences. It is possible that the pupils' high competences in their L1 and its regular activation contributed to their reliance on this language during L3 production. However, it should be borne in mind that

⁵ In some contexts *the summer* and *the winter* are correct forms.

young learners' meta- and cross-linguistic awareness, as well as psychotypology, are still in the process of development, which means that they may be cognitively unprepared to regularly analyse their languages and to notice the similarities and differences between them in a consistent manner.

To conclude, both inter- and intralingual transfer are psycholinguistic phenomena which inevitably accompany the acquisition of non-native language competences. Young language learners may be expected to make various, often inconsistent errors, predominantly resulting from form-based transfer, though with growing meta- and cross-linguistic awareness, as well as psychotypology, their ability to make use of their linguistic repertoire (both forms and meanings) may develop. Predicting learners' errors may be useful for teachers working with young learners of foreign languages.

Finally, it must be emphasised that the present research was conducted with a small group of learners, thus it can offer only preliminary conclusions. Moreover, there are additional factors, not mentioned in the present paper, which may have induced the observed errors, such as e.g. the teaching methods, the material taught, the participants' individual personality traits and learning styles, and the learning strategies applied by them.

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Appendix – language task

Klasa: Wiek: lat Płeć: dziewczyna / chłopak (weź w kółko)
Niemieckiego uczyć się od klasy: Angielskiego uczyć się od klasy:

Napisz proszę coś o sobie lub na dowolny temat! (min. 40 słów)

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Inter- and intralingual transfer in primary school students' written production in their L3

The paper presents the results of a preliminary research study of inter- and intralingual transfer in young learners' written production in their L3. The research was conducted with Polish-speaking primary school pupils with two foreign languages, L2 English and L3 German. The analysis of the participants' errors indicates that all languages of a third language learner may participate in transfer processes. The language areas most affected by transfer are orthography, morphology and lexis. The observed errors point to the gradually developing meta- and cross-linguistic awareness of young learners, as well as their perception of the typological distance between their languages.

Keywords: interlingual transfer, intralingual transfer, language errors, third language learners, primary school students.