



# Surface transfer in the acquisition of grammatical gender in L2 Swedish

## A longitudinal study

Kamil Długosz (Adam Mickiewicz University, Poznań)

## Abstract

This longitudinal study explores two specific aspects of the acquisition of grammatical gender in L2 Swedish: the use of a default gender and surface transfer. Twenty-one L1 Polish university students of L2 Swedish were tested by means of an untimed gender assignment task after two, three, and four semesters of studying. The data were analysed using a two-way ANOVA for repeated measures. Participants had more success in assigning gender to Swedish nouns that shared gender across Polish and Swedish than to Swedish nouns that differed in gender across the two languages, regardless of length of experience in learning Swedish. Contrary to previous studies that observed overgeneralisation of utterance gender forms in production, this study did not identify the tendency to use utterance as a default, presumably because participants had unlimited time to perform the task. This finding points to a dissociation between the knowledge of grammatical gender and the ability to use it during processing.

**Keywords:** grammatical gender, surface transfer, default gender, Swedish



## 1. INTRODUCTION

The objective of the present study is to investigate two specific aspects of the acquisition of grammatical gender (hereafter, gender) by L1 Polish learners of L2 Swedish in a longitudinal design: the tendency to use a default gender and surface transfer from L1. Previous research has demonstrated that adult L2 learners make use of a default gender across different tasks (e.g., Franceschina 2001; Dewaele & Véronique 2001; White et al. 2004; Klassen 2016). For example, L2 learners of Swedish, a language with two genders (uter and neuter), tend to overgeneralise uter gender (Andersson 1992; Nyqvist & Lahtinen 2021), the most likely reason being the higher frequency of uter nouns compared to neuter nouns (75% versus 25%, e.g., Bohnacker 2003). L2 learners also experience influence from their L1 when learning gender (e.g., Sabourin et al. 2006; Bordag & Pechmann 2007; Lemhöfer et al. 2008; Bianchi 2013; Paolieri et al. 2010). If a noun in L2 shares gender with its translation equivalent in L1, L2 learners are typically more accurate and faster in different types of production (e.g., Bordag & Pechmann 2007; Bianchi 2013; Klassen 2016) and comprehension tasks (e.g., Bordag & Pechmann 2007; Lemhöfer et al. 2008), a finding referred to as the “surface transfer” (Sabourin et al. 2006) or “gender congruency effect” (Sá-Leite et al. 2020).

The Polish-Swedish language pair offers an interesting test case for studying the tendency to use a default gender in conjunction with surface transfer. Here, the only possibility to study surface transfer is to observe learners’ performance regarding neuter nouns, which either overlap in gender with their Polish translations or do not. Creating a gender-mismatch condition with a proper number of uter nouns is not possible as the vast majority of them share gender with their Polish translations. At the same time, as already mentioned, learners of L2 Swedish are less accurate with neuter nouns because they overuse uter gender. Therefore, gender errors with neuter nouns made by L1 Polish learners of L2 Swedish can be caused by the tendency to use uter gender as a default, influence from L1 Polish, or both. This provides an opportunity to examine which of them plays a more important role in the acquisition of gender in L2 Swedish. Using a longitudinal design, this study seeks to capture the dynamics of transfer and the use of uter gender as a default in L2 Swedish.

The paper is organised as follows: Section 2 gives an overview of previous research on default gender and surface transfer in L2. Section 3 outlines the gender systems of Polish and Swedish. The body of the study is presented in Section 4, and Section 5 discusses the findings.

## 2. GENDER ACQUISITION IN L2: FOCUS ON DEFAULT GENDER AND SURFACE TRANSFER

In a language with gender, each noun belongs to one of several lexical gender classes (Corbett 1991). In the mental lexicon, the gender information is represented at the lemma level as part of each lexical item (Carroll 1989) or as a gender node to which all nouns of a particular gender are linked (e.g., Schriefers & Jescheniak 1999).

What is particularly challenging for L2 learners is the task of gender assignment, which is at the heart of the present study. There is ample evidence that L2 learners exhibit higher error rates, even after prolonged language exposure (Andersen 1984; Dewaele & Véronique 2001; Kupisch et al. 2013). L2 learners typically reach an average accuracy ranging from 70% to 90% across different types of tasks testing gender knowledge (White et al. 2004; Sabourin et al. 2006; Alarcón 2011; Kupisch et al. 2013), which distinguishes them from native speakers who make virtually no gender errors.

Importantly, errors made by L2 learners are not random. They can be rooted in (misleading) gender assignment strategies or L1 influence. Overgeneralisation of a particular

gender is a very common phenomenon in L2 acquisition. In French and Spanish, for example, it involves the choice of masculine in lieu of feminine gender (Franceschina 2001; Dewaele & Véronique 2001; White et al. 2004). In a longitudinal case study by Franceschina (2001), a highly proficient L1 English learner of L2 Spanish overused masculine gender in determiner phrases in spontaneous oral production. Much in the same way, in elicited production and comprehension tasks conducted by White et al. (2004), low and intermediate L1 English learners of L2 Spanish tended to overgeneralise masculine gender in determiner phrases. An interesting study was reported by Klassen (2016) who studied intermediate L1 Spanish learners of L2 German by means of a picture naming task. The author manipulated gender congruency between Spanish, a language with a binary gender system (masculine and feminine), and German, a language with a tripartite gender system (masculine, feminine, and neuter), the critical manipulations being masculine in Spanish/feminine in German and feminine in Spanish/neuter in German. While in the former case the use of non-target masculine gender could be due to both L1 transfer and treating masculine as a default, the use of non-target masculine in the latter case could only be attributed to treating masculine as a default. Klassen (2016) observed that masculine gender was used as a default in both cases, suggesting that it was the default strategy rather than L1 transfer which affected learners' picture-naming performance.

Resorting to a default gender has been related to performance issues. As argued by White et al. (2004), learners sometimes fail to retrieve the appropriate item from the lexicon, presumably due to communication pressure. Another explanation has to do with the unequal distribution of gender values. As pointed out by Sabourin et al. (2006), as approximately two thirds of Dutch nouns have common gender, a very simple default gender strategy can be employed by learners of L2 Dutch: "if the gender of a noun is not known, then assign the noun to the common gender" (Sabourin et al. 2006:13).

Returning to the topic of L1 influence, Sabourin et al. (2006) proposed two types of transfer that may be operative in L2 acquisition of gender: deep transfer and surface transfer. While the former refers to the transfer of the abstract gender feature, the latter means transferring the L1 gender values. Deep transfer has been evidenced in many studies showing that learners whose L1s encode gender outperform those with ungendered L1s (e.g., Sabourin et al. 2006; Ellis et al. 2012), regardless of the similarity between the two gender systems. Surface transfer, which pertains to the merits of the present study, has also been reported (e.g., White et al. 2004; Bianchi 2013). For example, White et al. (2004) observed that L1 French learners of L2 Spanish performed worse in terms of gender accuracy when the nouns had different genders in L1 and L2. Bianchi (2013) reported on results from acceptability judgement and elicited production tasks conducted with L1 German learners of L2 Italian. A combined analysis of gender assignment errors in both tasks revealed that learners had more success in assigning gender to L2 nouns that shared gender between German and Italian than to L2 nouns with different genders.

Much of the evidence in favour of surface transfer comes from processing studies that demonstrate gender congruency effects. For example, Paolieri et al. (2010) examined gender congruency effects in L1 Italian learners of L2 Spanish by means of a forward translation task. Participants were to translate nouns from L1 Italian to L2 Spanish by producing either a bare noun or a noun phrase (definite determiner + noun). The results showed that participants translated both bare nouns and nominal phrases faster when the nouns shared gender between Italian and Spanish. Importantly, gender congruency effects have also been studied in language pairs with asymmetric gender systems. For example, Lemhöfer et al. (2008) tested the extent of gender congruency effects in L1 German learners of L2 Dutch using lexical decisions and picture naming. In lexical decisions, participants were presented with nouns on a computer screen and had to decide as quickly as possible whether or not it

was a real word in Dutch. Before they saw the noun, they were presented with an indefinite determiner (unmarked for gender) or a definite determiner (marked for gender) for 250 ms. In picture naming, participants had to name pictures together with their definite determiner. Note that while German has three genders, i.e., masculine, feminine, and neuter, Dutch has only two, i.e., common and neuter. Dutch nouns with common gender were considered gender-congruent when their German translation was masculine or feminine, and Dutch nouns with neuter gender were considered gender-congruent when the gender of their German translation was also neuter. Lemhöfer et al. (2008) found that learners performed better in both tasks when the L1 German translations of the L2 Dutch nouns had the same gender.

The modulatory role of proficiency in the target language on surface transfer has not been systematically investigated. However, there is some evidence to suggest that higher L2 proficiency may result in a decrease of the degree of gender congruency effects during language processing (Bordag & Pechmann 2007). This is expected since it is generally acknowledged that cross-language activation is stronger for low proficient bilinguals than for highly proficient bilinguals (e.g., Sunderman & Kroll 2006). Note, however, that acquisition studies revealed surface transfer even in advanced L2 learners (Sabourin et al. 2006; Stöhr et al. 2012).

Grammatical gender in L2 Swedish has been the subject of a few studies with converging results. Andersson (1992) analysed longitudinal speech data from two learners with L1 Finnish and two learners with L1 Spanish in terms of different gender markers. Consistent with other L2 studies, he found gender to be problematic for learners. Of considerable importance is the finding that they displayed a strong tendency to overuse *uter* gender, which did not disappear in the course of development, and that they did not experience any influence from their L1s. Nyqvist and Lahtinen (2021) analysed gender agreement marking in written narratives by L1 Finnish school learners of L2 Swedish. One of the findings was that the learners had less difficulty with *uter* gender, but they also overused it. The influence of L1 Finnish was not taken into account since Finnish is a non-gendered language.

Gender assignment in L2 has also been shown to be affected by other factors, such as the morpho-phonological shape of a noun (e.g., Hardison 1992), cognateness (e.g., Lemhöfer et al. 2010), and frequency (e.g., Sabourin et al. 2006). Note, however, that morpho-phonological information plays only a minor role in gender assignment in Swedish because nouns usually do not provide cues to gender (see Section 3). As far as cognateness and frequency are concerned, they were controlled for in the present analysis.

To sum up, two main findings emerge from the research overview provided above: L2 learners tend to use a default gender in language production and perform better on gender assignment when L2 nouns are congruent in gender with their L1 translations.

### 3. GENDER ASSIGNMENT IN SWEDISH AND POLISH

Swedish has two genders: *uter* and *neuter*. The former value is a continuant of Old and Middle Swedish masculine and feminine which have coalesced into one gender value (Skrzypek 2010). *Uter* nouns make up 70%–80% of all nouns and *neuter* ones 20%–30%, and this holds true for both formal and informal, written and spoken discourse (e.g., Bohnacker 2003). Gender assignment is considered to be arbitrary to a large degree, with only a small number of reliable gender cues (Andersson 1992). There is a tendency for animates to be *uter*, but the semantic basis for gender assignment is generally weak. When it comes to formal cues to gender, nouns ending in “-a” and “-e” are generally *uter* but with common exceptions, such as *öga* (‘eye’) or *öra* (‘ear’), which are *neuter*. In addition, a majority of Swedish nouns deriving suffixes are *uter*, but they are infrequent in the input (Andersson 1992:38).

Polish in turn has three gender values: masculine, feminine, and neuter. According to Stefańczyk (2007:48), masculine includes ca. 50% of all nouns, thus being the most frequent gender class, followed by feminine with the frequency of ca. 40%. Neuter is the least frequent in Polish as it only covers 10% of nouns. Gender assignment is highly predictable from the morphological shape of the noun in the nominative singular. Nouns ending in a consonant are masculine, nouns ending in “-a” and “-(o)ść” are feminine, and nouns ending in “-o” and “-e/-ę” are neuter. These gender-to-ending regularities apply to approximately 99% of all nouns included in the analysis by Stefańczyk (2007).

To sum up, the gender systems of Swedish and Polish are asymmetrical. While Swedish has two genders, i.e., uter and neuter, Polish has three, i.e., masculine, feminine, and neuter. It is assumed that uter gender corresponds to both masculine and feminine gender. While in most cases the gender of Swedish nouns cannot be predicted by their formal properties, gender assignment of Polish nouns is highly transparent. What the Swedish and Polish gender systems have in common, however, is that the neuter gender is the least frequent.

#### 4. THE STUDY

This longitudinal study investigates the acquisition of gender in L2 Swedish in learners who learned two asymmetrical gender systems: a tripartite system in their L1 Polish and a binary system in their L2 Swedish. More specifically, the study focuses on two aspects related to gender-assignment performance of language learners, i.e., the tendency to use a default gender and surface transfer. As mentioned in the introduction, surface transfer in this language pair can only be studied by considering gender assignment of neuter nouns. At the same time, neuter gender is overgeneralised by L2 learners of Swedish. Therefore, the question arises whether surface transfer found in other language pairs in previous research could be superseded by the tendency to use a default gender. The present study addresses this question by analysing gender assignment of Swedish nouns under gender-match (neuter in Polish and Swedish, feminine/masculine in Polish and uter in Swedish) and mismatch (masculine/feminine in Polish and neuter in Swedish) conditions. If learners perform better with uter than with neuter nouns, it may suggest that they use uter gender as a default. If they perform better with gender-congruent neuter than with gender-incongruent neuter nouns, it may indicate that they benefit from surface transfer from L1. Using such a design, the study may reveal both the tendency to use uter as a default and surface transfer. In turn, if learners perform similarly with gender-congruent and gender-incongruent neuter nouns, it may suggest a lack of L1 influence.

It has been proposed that the tendency to use a default gender is caused by performance issues, such as communication pressure (White et al. 2004), or insufficient knowledge of gender (Sabourin et al. 2006), which both characterise lower proficiency levels. Likewise, the degree of gender congruency effects has been argued to decrease with increasing proficiency (e.g., Bordag & Pechmann 2007). Therefore, more research is needed to examine whether the default gender and gender congruency effects play a less important role as learners become more proficient in L2. This aspect is tackled in the present study by investigating gender assignment in L2 Swedish in a longitudinal design.

#### 4.1 PARTICIPANTS

The original sample included 27 participants, but 6 of them were removed from the analysis due to missing data at Time 3. This resulted in a final sample of 21 participants (15 women,  $M_{age} = 25.3$ ,  $SD = 5.9$ ), who took part in all three testing sessions. Participants

were students of Swedish philology at a Polish university. They were first exposed to Swedish during higher education ( $M_{age\ of\ acquisition\ of\ Swedish} = 21.9$ ,  $SD = 6.1$ ). Participants also used English regularly. This fact, however, does not play a role in this study because English has no grammatical gender.

Participants were tested three times. At Time 1, they had completed two semesters (one year) of Swedish philology, which corresponded to A2 level. At Time 2, the participants had completed three semesters of Swedish philology, and at Time 3, they had completed four semesters (two years), reaching B1 level. During each term of study, participants received approximately 150 hours of instruction in Swedish and 150 hours of courses that covered topics related to linguistics, literature, and culture.

## 4.2 MATERIALS

The present study used part of the data collected in a larger research project. The data comes from an untimed Gender Assignment Task, which involved 120 nouns. For this study, only 30 inanimate (with one exception for uter gender, i.e., *fjäril*, “butterfly”), non-cognate nouns were selected to create gender-match and mismatch conditions. The following three conditions were included:

1. congruent neuter (ConNeut) – 10 neuter nouns with neuter translations in Polish,
2. incongruent neuter (InconNeut) – 10 neuter nouns with feminine ( $n = 5$ ) or masculine ( $n = 5$ ) translations in Polish,
3. congruent uter (ConUter) – 10 uter nouns with feminine ( $n = 5$ ) or masculine ( $n = 5$ ) translations in Polish.

All nouns were non-transparent, meaning that their gender could not be derived from morpho-phonological properties. The nouns were similar with respect to variables that could influence gender assignment if compared across the three conditions. They were balanced as closely as possible for the number of letters, frequency in Swedish using the Swedish Kelly-list (Kilgarriff et al. 2014), and cognate status. Cognate status was established using the AWSM Tool (<https://awsm-tools.com>) which calculates text resemblance in per cent based on the Levenshtein distance and length of source/target nouns. One-way ANOVA did not reveal any significant differences between the three conditions with respect to any of these variables (see Table 1).

	ConNeut ( $n = 10$ )		InconNeut ( $n = 10$ )		ConUter ( $n = 10$ )		$F$	$p$	$\eta^2$
	$M$	$SD$	$M$	$SD$	$M$	$SD$			
Number of letters	5	1.58	5	1.49	4	0.91	0.88	0.426	0.06
Cognate status	9	12.64	8	11.77	10	14.06	0.02	0.970	0.01
Frequency in Swedish	50	31.36	55	42.61	51	44.45	0.04	0.959	0.01

Table 1. *Stimulus characteristics.*

## 4.3 PROCEDURE

Participants were tested individually and received gift cards for a bookstore for their participation. Each of the three testing sessions included an untimed Gender Assignment Task in Swedish and four other tasks not reported here.

The procedure of the task was as follows: participants were confronted with a list of the stimuli in Excel and were asked to assign gender values to them with no time limit imposed. They were instructed to use the gender names (“uter”, “neuter”), letter signs (“n”, “u”),

or indefinite articles (“en”, “ett”). During each of the three testing sessions, participants assigned gender to the same nouns. They were asked to perform a gender assignment only if they knew the meaning of the noun.

#### 4.4 RESULTS

Participants assigned gender to all nouns used in the task. The data were analysed using a two-way ANOVA for repeated measures, which is used when a dependent variable has been measured over two or more time points, or when participants have undergone two or more conditions. The Bonferroni test was applied in the post hoc analysis.

Table 2 presents how accurately the participants assigned gender to nouns in Swedish.

	ConUter	ConNeut	InconNeut
Time 1	84% (13.5)	74% (17.7)	60% (21.1)
Time 2	86% (12.8)	85% (19.9)	77% (21.5)
Time 3	89% (10.2)	86% (16.6)	77% (21.0)

Table 2. Accuracy scores at the three times in the three conditions (standard deviations are given in parentheses).

The analysis yielded significant main effects of *time* ( $F = 4.53$ ,  $p = .014$ ,  $\eta^2 = .079$ ) and *condition* ( $F = 18.70$ ,  $p < .001$ ,  $\eta^2 = .120$ ). The interaction between *time* and *condition* was not significant ( $F = 1.48$ ,  $p = .211$ ,  $\eta^2 = .021$ ). As for the effect of *time*, accuracy scores at Time 1 were lower than at Time 2 and Time 3 ( $ps < .001$ ), but there was no difference between Time 2 and Time 3 ( $p = .242$ ). As for the effect of *condition*, accuracy scores were lower in the InconNeut condition than in the ConNeut and ConUter conditions ( $ps < .001$ ), but there was no difference between the ConNeut and ConUter conditions ( $p = .097$ ).

The development of grammatical gender over time is illustrated in Figure 1.

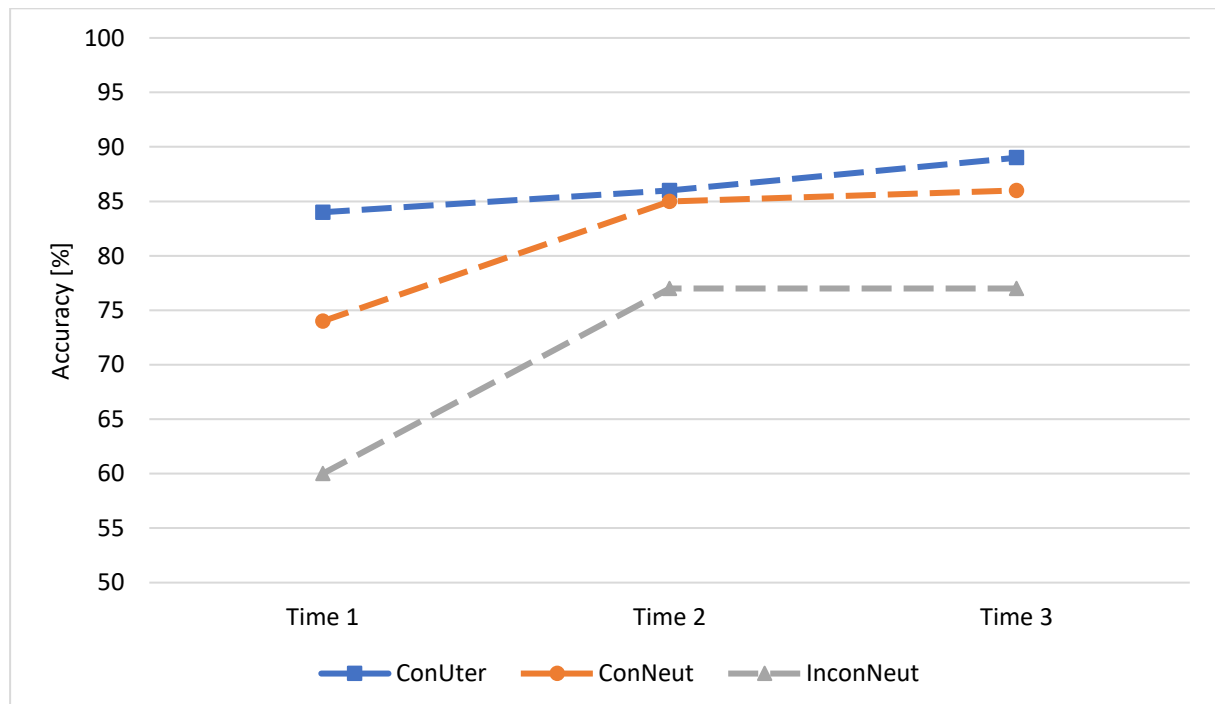


Figure 1. Accuracy scores at the three times in the three conditions.

## 5. DISCUSSION

The aim of the present study was to investigate two aspects of acquiring grammatical gender in L2 Swedish: the tendency to use *uter* as a default gender and surface transfer from L1 Polish. Before discussing the accuracy data with respect to the main aim of the study, let us consider participants' performance more generally from a developmental perspective.

First of all, participants achieved high performance levels already at Time 1, i.e., after a year of extensive exposure to Swedish (ConUter: 84%, ConNeut: 74%, InconNeut: 60%). These performance levels are similar to those reported by Sabourin et al. (2006) for high-proficiency learners of L2 Dutch living in the Netherlands. This leads us to the conclusion that a year of exposure to Swedish was sufficient for participants to master grammatical gender at a relatively high level. The analysis showed an improvement in the accuracy scores over time, meaning that participants benefited from an additional year of exposure to Swedish. However, the accuracy levels in the InconNeut condition were significantly lower than in the other two conditions regardless of length of experience in learning Swedish. This finding points to the possibility of surface transfer from L1 Polish.

In line with previous studies, participants in this study made fewer errors when the L2 nouns were congruent in gender with their L1 translation equivalents. Analogously, they made more errors when the L2 nouns had different genders in L1 and L2. This indicates that for some nouns participants transferred the gender values from L1 Polish into L2 Swedish. As can be seen in Figure 1, surface transfer played a significant role even after two years of studies. Thus, the influence of L1 is an important part of acquiring gender in the initial stages and beyond. Surface transfer emerged despite the asymmetry between the Polish and Swedish gender systems. Note, however, that although the two languages differ in the number of gender values, the Polish gender system maps relatively straightforwardly onto that of Swedish (masculine and feminine → *uter*, neuter → neuter), hence making it possible to create one-to-one mappings for neuter nouns. The interpretation of the results in light of surface transfer from L1 Polish is reinforced by the fact that participants did not perform worse in the ConNeut condition. Therefore, the worse performance in the InconNeut condition could not have been caused by the tendency to use *uter* as a default.

Contrary to previous studies, participants in this study did not have more trouble assigning gender to neuter nouns than to *uter* nouns, presumably because they had unlimited time to perform the gender assignment task. Learners in previous studies overgeneralised *uter* gender in production tasks in which they were under time pressure. Thus, the present results support the view that the tendency to use a default gender is caused by performance issues, such as communication pressure (White et al. 2004). At the same time, they point to a dissociation between the knowledge of gender and the ability to use it under processing conditions. In other words, learners appear to know the correct gender of L2 nouns, but they sometimes fail to access it in language production.

These data offer new evidence on the acquisition of grammatical gender in L2 Swedish from an understudied language pair. In addition, the study advances our understanding of L2 acquisition by showing that L1 influence may occur between dissimilar gender systems. It also highlights the need to consider differences between timed and untimed tasks in L2 acquisition research.

Since participants in this study were university students, the question arises as to what conclusions can be drawn from the findings in terms of their pedagogical implications. First of all, both teachers and students should be aware of L1 effects in the process of L2 learning. In order to minimise the number of errors with nouns that are gender-incongruent with their L1 translation equivalents, teachers could pay more attention to them during lessons.



Analogously, to promote facilitative transfer, teachers could show learners which nouns have the same gender in L1.

Undoubtedly, the study has certain limitations. First of all, the findings should be interpreted with consideration of the small sample size and the limited number of trials per condition. With 30 stimuli, the study could have been underpowered, which limits generalisation. Furthermore, the period under observation was relatively short and only allowed us to track learners' gender assignment from A2 to B1 level. Future studies should include a wider proficiency range to explore differences between elementary and advanced learners.

## REFERENCES

- Alarcón, I. V. (2011). Spanish gender agreement under complete and incomplete acquisition: Early and late bilinguals' linguistic behavior within the noun phrase. *Bilingualism: Language and Cognition* 14(3), 332–350. DOI: 10.1017/S1366728910000222.
- Andersen, R. (1984). What's gender good for, anyway? In: R. Andersen (ed.), *Second languages: A cross-linguistic perspective* (pp. 77–99). Rowley, MA: Newbury House.
- Andersson, A.-B. (1992). *Second language learners' acquisition of grammatical gender in Swedish*. Doctoral dissertation. University of Gothenburg.
- Bianchi, G. (2013). Gender in Italian–German bilinguals: A comparison with German L2 learners of Italian. *Bilingualism: Language and Cognition* 16(3), 538–557. DOI: 10.1017/S1366728911000745.
- Bohnacker, U. (2003). Nominal phrases. In: G. Håkansson, G. Josefsson & C. Platzack (eds.), *Acquisition of Swedish grammar* (pp. 195–259). Amsterdam: John Benjamins. DOI: 10.1075/iald.33.08boh.
- Bordag, D. & Pechmann, T. (2007). Factors influencing L2 gender processing. *Bilingualism: Language and Cognition* 10(3), 299–314. DOI: 10.1017/S1366728907003082.
- Carroll, S. (1989). Second-language acquisition and the computational paradigm. *Language Learning* 39(4), 535–594. DOI: 10.1111/j.1467-1770.1989.tb00902.x.
- Corbett, G. G. (1991). *Gender*. Cambridge: Cambridge University Press.
- Dewaele, J.-M. & Véronique, D. (2001). Gender assignment and gender agreement in advanced French interlanguage: A cross-sectional study. *Bilingualism: Language and Cognition* 4(3), 275–297. DOI: 10.1017/S136672890100044X.
- Ellis, C., Conradie, S. & Huddleston, K. (2012). The acquisition of grammatical gender in L2 German by learners with Afrikaans, English or Italian as their L1. *Stellenbosch Papers in Linguistics* 41, 17–27. DOI: 10.5774/41-0-131.
- Franceschina, F. (2001). Morphological or syntactic deficits in near-native speakers? An assessment of some current proposals. *Second Language Research* 17(3), 213–247.
- Hardison, D. M. (1992). Acquisition of grammatical gender in French: L2 learner accuracy and strategies. *The Canadian Modern Language Review* 48(2), 292–306.
- Kilgarriff, A., Charalabopoulou, F., Gavrilidou, M., Johannessen, J. B., Khalil, S., Kokkinakis, S. J., Lew, R., Sharoff, S., Vadlapudi, R. & Volodina, E. (2014). Corpus-based vocabulary lists for language learners for nine languages. *Language Resources and Evaluation* 48, 121–163. DOI: 10.1007/s10579-013-9251-2.
- Klassen, R. (2016). When masculine as default supercedes L1 transfer: Bilingual speakers of languages with asymmetric gender systems. In: A. Alba de la Fuente, E. Valenzuela & C. Martínez Sanz (eds.), *Language acquisition beyond parameters: Studies in honour of Juana M. Liceras* (pp. 73–98). Amsterdam: John Benjamins. DOI: 10.1075/sibil.51.04kla.
- Kupisch, T., Akpınar, D. & Stöhr, A. (2013). Gender assignment and gender agreement in adult bilinguals and second language learners of French. *Linguistic Approaches to Bilingualism* 3(2), 150–179. DOI: 10.1075/lab.3.2.02kup.
- Lemhöfer, K., Spalek, K. & Schriefers, H. (2008). Cross-language effects of grammatical gender in bilingual word recognition and production. *Journal of Memory and Language* 59(3), 312–330. DOI: 10.1016/j.jml.2008.06.005.
- Lemhöfer, K., Schriefers, H. & Hanique, I. (2010). Native language effects in learning second-language grammatical gender: A training study. *Acta Psychologica* 135(2), 150–158. DOI: 10.1016/j.actpsy.2010.06.001.
- Nyqvist, E.-L. & Lahtinen, S. (2021). Grammatical gender in L2 Swedish in Finnish-speaking immersion students: A comparison with non-immersion students. *Nordic Journal of Linguistics* 44(3), 281–303. DOI: 10.1017/S0332586520000256.

- Paolieri, D., Cubelli, R., Macizo, P., Bajo, T., Lotto, L. & Job, R. (2010). Grammatical gender processing in Italian and Spanish bilinguals. *Quarterly Journal of Experimental Psychology* 63(8), 1631–1645. DOI: 10.1080/17470210903511210.
- Sabourin, L., Stowe, L. A. & de Haan, G. J. (2006). Transfer effects in learning a second language grammatical gender system. *Second Language Research* 22(1), 1–29. DOI: 10.1191/0267658306sr259oa.
- Sá-Leite, A. R., Luna, K., Fraga, I. & Comesaña, M. (2020). The gender congruency effect across languages in bilinguals: A meta-analysis. *Psychonomic Bulletin & Review* 27, 677–693. DOI: 10.3758/s13423-019-01702-w.
- Schriefers, H. & Jescheniak, J. D. (1999). Representation and processing of grammatical gender in language production: A review. *Journal of Psycholinguistic Research* 28, 575–600. DOI: 10.1023/A:1023264810403.
- Skrzypek, D. (2010). Interactions of grammatical categories: how three genders became two. *European Journal of Scandinavian Studies* 38(1), 91–106. DOI: 10.1515/ejss.1.2008-2010.009.
- Stefańczyk, W. T. (2007). *Kategoria rodzaju i przypadka polskiego rzeczownika: próba synchronicznej analizy morfologicznej*. Kraków: Wydawnictwo UJ.
- Stöhr, A., Akpinar, D., Bianchi, G. & Kupisch, T. (2012). Gender marking in L2 learners and Italian-German bilinguals with German as the weaker language. In: K. Braunmüller & C. Gabriel (eds.), *Multilingual individuals and multilingual societies* (pp. 153–170). Amsterdam: John Benjamins. DOI: 10.1075/hsm.13.11sto.
- Sunderman, G. & Kroll, J. F. (2006). First language activation during second language lexical processing: An investigation of lexical form, meaning, and grammatical class. *Studies in Second Language Acquisition* 28(3), 387–422. DOI: 10.1017/S0272263106060177.
- White, L., Valenzuela, E., Kozłowska-Macgregor, M. & Leung, Y.-K. I. (2004). Gender and number agreement in nonnative Spanish. *Applied Psycholinguistics* 25(1), 105–133. DOI: 10.1017/S0142716404001067.

## APPENDIX: TEST ITEMS

Item	Condition	Item	Condition	Item	Condition
<i>natt</i>	ConUter	<i>intryck</i>	ConNeut	<i>spel</i>	InconNeut
<i>växt</i>	ConUter	<i>djur</i>	ConNeut	<i>kön</i>	InconNeut
<i>konst</i>	ConUter	<i>hav</i>	ConNeut	<i>äventyr</i>	InconNeut
<i>färg</i>	ConUter	<i>fönster</i>	ConNeut	<i>bad</i>	InconNeut
<i>korv</i>	ConUter	<i>öra</i>	ConNeut	<i>ansikte</i>	InconNeut
<i>sko</i>	ConUter	<i>fält</i>	ConNeut	<i>medel</i>	InconNeut
<i>fjäril</i>	ConUter	<i>förlag</i>	ConNeut	<i>fartyg</i>	InconNeut
<i>värk</i>	ConUter	<i>knä</i>	ConNeut	<i>slott</i>	InconNeut
<i>svamp</i>	ConUter	<i>hjul</i>	ConNeut	<i>bröd</i>	InconNeut
<i>ost</i>	ConUter	<i>ljus</i>	ConNeut	<i>fordon</i>	InconNeut

### Kamil Długosz

Adam Mickiewicz University, Poznań  
 Institute of Applied Linguistics  
 Al. Niepodległości 4  
 61-874 Poznań  
 Poland

[kamdlu@amu.edu.pl](mailto:kamdlu@amu.edu.pl)

This work was supported by the National Science Centre, Poland (grant number 2019/33/N/HS2/00349).