Successful learning in L3 German through CLIL? Findings from a study of the oral production of Swedish pupils in lower secondary school

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Abstract: This article presents findings from an empirical study of oral production in German as a second foreign language (L3 German). It is based on the oral productions of 24 L1 Swedish pupils attending lower secondary school and compares the productions of CLIL learners to non-CLIL learners and German native speakers; its main objective is to investigate whether the CLIL approach has a positive impact on oral L3. The analyses focus on the size and frequency of the productive vocabulary as well as on the employment of communicative strategies.


Keywords: CLIL, L1, L2, L3, oral L3 German, productive vocabulary, communication strategies

1. Introduction

Over the last several decades there has been an increase in the requirement for multilingual skills on the global labour market. Within the European Union citizens are more mobile than ever and this puts higher demands on our foreign language skills. The importance of acquiring a functional communicative ability in foreign languages is stressed in the EU language policy, which is evident in the following excerpt from the White Paper of the European Commission (1995: 45):

It is no longer possible to reserve proficiency in foreign languages for an elite or for those who acquire it on account of their geographical mobility. In line with the resolution of the Council of Education Ministers of 31 March 1995, it is becoming necessary for everyone, irrespective of training and education routes chosen, to be able to acquire and keep up their ability to communicate in at least two Community languages in addition to their mother tongue.

The goal that every citizen within a near future in addition to his/her mother tongue should master two further foreign languages is based on three premises:

- Studies in foreign languages lead to success in many school subjects;
- studies in foreign languages enhance intercultural competence;
- studies in foreign languages enable an increased mobility on the labour market (ibid.: 47-49).
An expectation of our pupils’ achieving communicative competence in foreign languages is also expressed in the national curricula as well as the syllabuses for foreign languages in compulsory (Skolverket 2011a) and upper secondary school (Skolverket 2011b) in Sweden. Although this expectation mirrors the vision of a multilingual EU, in reality Swedish schools are struggling to reach the political goal. Even though the grade “pass” in foreign languages has recently been valued more highly in the grading system, rendering a somewhat higher number of pupils attending foreign language classes, instruction in traditional foreign languages such as French and German is limited. Many pupils choose to end their foreign language studies after only a year or two, and the number of pupils continuing their foreign language studies at upper secondary school is alarmingly low. The main reasons for dropping out are supposedly that language learning is difficult as well as time-consuming (Thorson, Molander Beyer & Dentler 2003: 18).

Not only language teachers but also researchers ask themselves how a multilingual competence can be attained given the current problematic circumstances. Wode, Kickler, Knust & Priest (1994) for instance suggest that traditional instruction of foreign languages must become more efficient for the realisation of such attainment expectations (ibid.: 155). The question is what this type of efficient education would look like. Due to high set standards on a political level, on the one hand, and having many learners not reaching acceptable results, on the other, the workload on today’s teacher’s is large. Despite untiring effort and commitment as well as varied teaching methods the goal - to guarantee that every pupil acquires functional communicative skill in a second foreign language - seems unattainable. As previously mentioned, one problem is the high dropout rate at an early stage. Another problem is probably the limited number of hours (3-4 h/week), which does not suffice to enable everyone to reach the expected level of competence. This brings us to the following question: Are there, then, alternative ways to more efficient and effective foreign language education within the current timetable?

2. CLIL

CLIL (Content and Language Integrated Learning) could be one possible path to the attainment of the communicative goals expressed in the national steering documents (Skolverket 2011a; Skolverket 2011b). The success of this type of education seems to stem from the daily authentic communicative situations created by using the foreign language as a means of communication in subject matter, e.g., biology taught through L3 German. This focus on content (different aspects of biology) instead of form (aspects of L3 German, e.g., grammar) seems to motivate learners to engage in oral communication in a foreign language as well as boost their language learning. According to Marsh (2002) CLIL fosters receptive as well as productive and interactive skills and the oral communicative competence in particular since active participation in discussions presupposes extensive practise. Also, being learner-centred it has proven to be beneficial even for weak learners (ibid.: 66-69). In addition to linguistic gains, CLIL has been reported to have a positive impact on the capacity for cognitive processing, suggesting that it facilitates learning in all subjects and therefore should be introduced at an early age (see Mathers 2009). Moore (2006) argues that plurilingual individuals have a greater meta-linguistic awareness and are faster at problem-solving:

[…] bi- and plurilingual children, in favourable contexts, do not hesitate to use all language resources at their disposal, individually and collectively. They are more open to variation and they show greater flexibility in adapting to new linguistic systems. Such orientations seem to relate to greater awareness of language patterns, and more efficient (strategic) use of the resources at hand to facilitate discovery, both at translinguistic and interlinguistic levels. These strategic skills could be constitutive of a plurilingual expertise (ibid.: 135).

2.1. CLIL in Sweden

In Swedish education CLIL was introduced in the late seventies (see Åseskog 1982) but was not used on a larger scale until the nineties (Falk 2001: 3). Of the most common CLIL-models early total, early partial and late partial, the latter is most frequent in Sweden, i.e. in lower or upper secondary school (Terlević Johansson 2011: 13). By 1999 four percent of all compulsory schools and 23% of upper secondary schools were reported to offer CLIL (Nixon 2000: 3). Even though these figures might seem remarkable one must bear in mind that they, due to a broad
interpretation of the definition of CLIL, encompass programmes that include CLIL in only one subject for as little time as a couple of weeks. The most common language by far used as a medium of instruction in CLIL education in Sweden, as in many other European countries, is English (75%), which is the first mandatory foreign language. As a consequence, most scientific evaluations of CLIL are based on projects involving CLIL in English at the upper secondary level.

How efficient is this type of instruction then? In Canada, where CLIL has its origin, it has for nearly five decades been an immensely popular and widespread phenomenon. The vast number of evaluations shows clear advantages as regards foreign language competence, attitude towards the target language and culture. Furthermore, no detrimental effects could be seen on the L1 or on the subject matter (Swain & Lapkin 1981: 127-130). The question is what the effects of CLIL are in a Swedish context. Regarding CLIL in English the results described in two theses point to a positive influence on some aspects of receptive and productive skills even though no significant advantage was confirmed for the CLIL groups. The limited advantages might be a result of, for instance, limited linguistic competence of teachers and the many hours of extramural input of English that Swedish youngsters receive through different media on a daily basis (see Sylvén 2004; Washburn 1997).

2.2. CLIL in German in a Swedish context

The so-called Nödinge project (1998-2001) launched by researchers at the University of Gothenburg was the first Swedish scientific evaluation of CLIL in a second foreign language, in this case L3 German. It aimed at investigating the outcome of CLIL in a language to which, unlike English, learners are exposed only in school. Thus, by analysing outcomes in an L3 context the effects of CLIL should be more easily established. In addition, the teacher in this project was a native speaker of German who was a qualified teacher, familiar with CLIL, which is a necessary prerequisite for a successful learning environment (Terlević Johansson 2011: 39).

The test population consisted of three groups of pupils from three different schools, one CLIL group and two control groups. In addition to the traditional classes of German as a foreign language subject, the CLIL pupils were taught 80%, i.e. a total amount of 680 hours, of the subjects social studies, history, geography and religion in German, which corresponds to approximately 15% of their schooling. The controls were only taught German as a traditional foreign language subject.

Longitudinal investigations of receptive as well as productive skills were conducted regularly. The earlier analyses within the project had shown positive results for the CLIL group as regards receptive skills as well as written production (Klawitter Beusch 1999: 52; Martins 2003: 29). Also, the results of the CLIL group proved to be more homogenous (Horstmann 2001: 49).

3. The study on oral production in L3 German

My thesis, Erfolgreiches Deutschlernen durch CLIL? Zu Lexikon und Kommunikationsstrategien in mündlicher L3 schwedischer Schüler mit bilingualem Profil (Terlević Johansson 2011) was based on a longitudinal empirical study of the oral production of 24 pupils, 8 CLIL pupils and 16 controls. For the groups to be comparable, it was necessary to ensure that they, according to assessments by their teachers, contained weak, intermediate and strong learners. Also, there was a reference group of 6 German native speakers of the same age. The study was a part of the Nödinge project; it intended to explore whether an advantage was visible in oral production in real-time, which is possibly the most demanding type of communication. In this type of situation there is a high demand on the communicative ability of the learner since there is practically no time to plan one’s output, searching for vocabulary or monitoring the correctness of grammar. In other words, oral production in real-time requires a certain degree of automatized knowledge, but relatively high levels of productive vocabulary as well as successful communicative strategies—which means that it reflects the functional communicative competence aimed at in Swedish foreign language classrooms.
3.1. Object of study

The investigation focussed on the following aspects of oral production: vocabulary and the use of communication strategies.

As regards the productive vocabulary the aim was to analyse size (tokens: all produced words), variation (types: different words) and lexical richness (Guiraud Index: measure for variation in relation to length) as well as frequency. Regarding the analysis of size, variation and lexical richness the productions were analysed on a group level and on an individual level. The frequency analysis encompassed determining the frequency of all words produced, of verbs and of adjectives. A qualitative analysis was made based on findings in earlier research which concluded that very basic, so-called nuclear verbs and adjectives play an important role in the production of beginners whereas, for example, function words are considered to be proof of a higher level of competence (Haastrup & Henriksen 2000; Viberg 1993). In addition to the productions in L3 German, comparisons were made with the learners’ productions in L1 Swedish and L2 English. The comparison with the mother tongue was made in order to establish the nature of their narrative profile, i.e. what kind of a narrator is the learner when there are no linguistic obstacles impeding his/her production? Does limited production reflect a limited narrative style or is it simply a result of limited linguistic resources in the foreign language? By comparing L3 German to L2 English I intended to investigate whether there were any differences or similarities in the productions of the learner groups and whether there might be a positive influence by CLIL in one foreign language on a further foreign language that the pupils are learning (Griessler 1998). Apart from the productions in L1, a longitudinal study of the learners’ foreign language productions was made, aiming at investigating whether the vocabulary would expand and show a visibly greater variation or if the learners would cling to the familiar and frequent nuclear words.

As already mentioned, according to the Swedish syllabuses for foreign languages our aim is to ensure that every pupil may acquire a functional communicative competence in the target language. In real-time communication there is practically no time to plan or monitor; as a consequence beginners frequently experience communicative problems due to lexical gaps or retrieval problems. Hence, my aim was to find out what happens when the pupils participating in this study do not find the intended word: Are they able to avoid communication breakdown and if so, by what means do they solve the problem? The analysis of communication strategies aimed primarily at investigating the types of strategies employed, if they were successful or not and if the number of successful strategies grew with time (Washburn 1997). Furthermore, I wanted to explore whether there were differences discernible in the type of strategy employed between learners at different levels of competence (Sundh 2003). Also, a limited qualitative analysis was performed of the creativity and complexity of the learners’ strategies based on two scenes in a book; however, due to its limitations it will not be dealt with here. Unlike in the study of vocabulary no comparisons were made to the L1 or L2.

3.2. Test procedure

Oral productions were elicited by using the well-known elicitation material Frog, where are you? (Mayer 1969), which is a picture book for children. The pupils were instructed to tell the story in their own words and without assistance from the interviewer. The first test round occurred at the beginning of the 8th grade at which occasion the story was told in L1 Swedish. At the end of the 8th grade and at the end of the 9th grade the pupils retold the story first in L3 German and then in L2 English. The same procedure was used both times, i.e. they started in the weaker language (L3) to avoid too much L2-interference. The German reference group was only tested once. On all occasions the pupils’ productions were recorded and later transcribed.

4. Results and discussion

The overall results of my study of oral production in the L3 German of Swedish pupils are positive, and even though the differences between the results obtained by the CLIL group and the control group cannot be interpreted as statistically significant due to the limited size of the test population, clear tendencies are visible in the results of the two learner groups, with clear advantages resulting for the CLIL group.

4.1. Productive vocabulary: size, variation and lexical richness

The comparison of the L3 German oral productions of the Swedish CLIL group with the control group showed a substantial advantage for the CLIL pupils in grades 8 and 9. They did not only outperform their peers as regards the production of tokens, i.e. the length of the spoken texts, but also regarding the lexical richness, i.e. the number of types in relation to the length of the productions. The oral productions of the controls in 9th grade did not even reach the CLIL group’s level of productive vocabulary in 8th grade, which is interesting considering the low dose of CLIL received.

Diagram 1: Average number of tokens/types in grade 8

In the CLIL group the average number of tokens/types was 233/83, which corresponded to a GI of 5.4. All values were lower in the control group where the average number of tokens/types was 155/59 with a GI of 4.8.

Diagram 2: Average number of tokens/types in grade 9

As can be seen in diagram 2, after one year the average number of tokens/types in the CLIL group had increased to 292/93, corresponding to the same GI, i.e. 5.4. In the control group there was also an increase in tokens/types to 216/69, with a slight decrease in the GI value: 4.7 due to the fact that the proportional increase of types was somewhat smaller.
Based on the comparison of the Swedish learner productions with the productions of the reference group of native German speakers two conclusions could be drawn: First, the L1 productions of the Swedish pupils corresponded to those of their German peers, which means that the spoken texts were equal as to length, variation and lexical richness. Second, although their L1 productions were comparable, both learner groups had at their disposal a rather limited lexical productivity in their L3 compared with the native speakers. This leads to the conclusion that there is no general correlation between limited L3 production and the narrative style in the learners’ L1.

Compared to L3 German, L2 English production was confirmed to be more advanced, i.e. the CLIL pupils as well as the controls were substantially more skilled in their first foreign language. Likely reasons for this finding might be the longer time of schooling in the L2 and the extensive amount of input outside of school. Also, the CLIL group outperformed the controls, which might be considered remarkable since they scored below average on the national test in English in grade 5. Possibly the CLIL instruction might have a positive effect not only on the language of instruction (L3 German) but on another foreign language (L2 English) as well.

In conclusion, the analysis of the size and development of spoken L3 German vocabulary produced by Swedish learners seems to confirm the positive influence by CLIL on foreign language learning established in several European studies (Burmeister & Daniel 2002; Huibregtse 2001; Lasagabaster 2000).

4.2. Productive vocabulary: frequency

As previously mentioned, frequency was analysed for all words produced, for verbs and for adjectives. Viberg (1993) argues that the basic nuclear verbs are preferred in the foreign language production of beginners and defines them accordingly: “The nuclear verbs are the typologically least marked verbs within their respective semantic fields” (347). As a consequence, they are overgeneralized and very frequent in the beginning (362-364). In the same sense, Haastrup & Henriksen (2000) describe an overuse of nuclear adjectives in the production of beginners due to intralingual factors such as frequency, covering range and formal simplicity. Also, the growth of adjectives is claimed to be very slow compared to verbs and nouns (153-155).

The analysis of the frequency of all words produced by the German native speakers showed that a majority consisted of functional words. As regards nouns, the frequency analysis should be interpreted with caution due to the fact that the options and, thus, variations were rather limited by the story, which was rich in actions but contained only a handful of characters. Nevertheless, the use of pronouns as a replacement of nouns could be investigated. The native speakers displayed personal as well as possessive pronouns among their fifteen most frequent words. Also there were several prepositions. However, only two of the fifteen words were verbs (haben: have and sein: be). No adjectives were on the list. The CLIL group had a more limited amount of function words than the German reference group, but a small increase could be seen from grade 8 to 9. The frequency of pronouns was lower than in the reference group, and possessive pronouns were not used until 9th grade. Further, the CLIL pupils used fewer prepositions but more verbs than the native speakers. Also, in the 9th grade one adjective appeared. Function words increased in the control group as well, but not quite to the same extent, which points to a slower lexical development. There was only one personal pronoun to be found among the fifteen most frequent words and no possessive pronouns, since they were far less frequent in this group. The frequency of prepositions and verbs was fairly similar to the CLIL group.

The investigation of the frequency of verbs produced showed similar patterns in the reference group of native speakers as well as in the two learner groups: haben and sein were very frequent, as were motion verbs. The reference group used several nuclear verbs frequently even though a couple of less frequent ones appeared on the list due to the content of the story. The CLIL group produced a substantially lower number of verbs than the native speakers. Nevertheless, a slow increase could be seen. The nuclear verbs were somewhat more frequent among them than in the production of the native speakers. A small decrease was visible in a couple but not all the nuclear verbs. This tendency seems to correspond to the findings in Viberg (1993), namely that the use of nuclear verbs slowly decreases. The verb production of the control group was, similarly to the CLIL group, very limited compared to that of the native speakers. Moreover, it was notably smaller than that of the CLIL group: their production in the 9th grade

was more limited than the CLIL group’s production in the 8th grade. Here, too, the verbs sein and haben were among the most frequent ones, with the difference that the first was much more frequent than the latter. Contrary to the tendency in the CLIL group there was no decrease in nuclear verbs in the control group.

The type of adjectives used by beginners were, according to Haastrup & Henriksen (2000), mainly dimensional (klein: little; gross: big) and emotional (froh: glad) ones.

Regarding the adjectives in my study it was evident that they were significantly less frequently used than verbs by all three groups. In the group of German native speakers only approximately 30% of the fifteen most frequent adjectives were used by at least half the group. Also, the native speakers seemed to use more specific and less frequent adjectives, such as e.g. wütend: furious and zufrieden: content, instead of nuclears. The production of adjectives in the CLIL group was rather similar to that of the German reference group, which is due to the limitations imposed by the story. However, the use of nuclear adjectives was more frequent in the CLIL group. The nuclears klein and gross were less frequent in the second test round in grade 9, which matches the claims of a slow growth of production of adjectives in Haastrup & Henriksen (2000). The production of adjectives among the controls was fairly similar to that of the CLIL group, just somewhat more limited. The nuclear adjectives were among the most frequently used. Unlike the tendency found in the CLIL group, the nuclear dimensional adjectives did not decrease in the control group.

In conclusion, the tendencies found show a frequent use of nuclear words for both learner groups even though there is an advantage for the CLIL pupils in the sense that they use more functional words, e.g., pronouns, suggesting that they have a better command of L3 German than their peers in the control group.

4.3. Communication strategies

There are many different taxonomies as regards communication strategies, some of which are more and some less elaborated for the number of categories and subcategories (Dörnyei & Scott 1997; Faerch & Kasper 1983; Smits 2002). My study is based on a limited number of categories due to the fact that it investigates the communicative competence of learners who are nearly beginners with simple and limited oral productions. In accordance with Washburn (1997) and Sundh (2003) a distinction will be made between two main types of categories: negative categories, which are based on the L1 and do not lead to successful communication, versus positive, successful strategies based on the L3.

Table 1: Categories of communication strategies employed in L3 productions

<table>
<thead>
<tr>
<th>Negative/L1 based strategies:</th>
<th>Positive/L3 based strategies:</th>
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<tr>
<td>Reduction</td>
<td>Borrowing</td>
</tr>
<tr>
<td>Abandonment of message</td>
<td>Paraphrase</td>
</tr>
<tr>
<td>Asking for help</td>
<td>Ad hoc-constructions</td>
</tr>
<tr>
<td>Codeswitching</td>
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Let us now have a look at a few examples from the spoken learner texts illustrating some of the categories:

Scene 19 in *Frog, where are you?* (Mayer 1969) illustrating *Abandonment of message*:

“Und (.3) in der Teich .. der Hund und der Junge ist ..sehr ..mm .. ((ja, skit samma)) “ (JoÅ9)
Translation: “And in the pond .. the dog and the boy is .. very .. mm .. ((oh, whatever))”

In the example above the learner has a problem retrieving the intended word and therefore abandons his message.

Scene 20 in *Frog, where are you?* (Mayer 1969) illustrating *Codeswitching*:

“..an die huvudet (German: Kopf), er .. tystar (German: bedeutet leise zu sein) die Hund“ (NaA9)
Translation: “on the head he .. silences the dog”

In this example the learner resorts to her L1 and uses a Swedish word in the L3 utterance.
Scene 14 in *Frog, where are you?* (Mayer 1969) illustrating *Paraphrase*:

"Der Junge klettern auf einen grossen-- ...einen kleinen Berg" (TdN9)
Translation: “The boy climbs on a big-- ...a small mountain”

As can be seen in the example, the learner is unable to retrieve the intended word and instead tries to describe what he means by paraphrasing.

The results of the analysis of communication strategies showed that they were frequently employed by the CLIL group as well as by the control group. Furthermore, the majority of the strategies were categorised as negative, being based on the L1. Although this was true for both groups there was a substantial difference between them as can be seen in the following diagram:

Diagram 3: Number of positive vs. negative strategies in grade 8

Although mainly unsuccessful strategies were used it is clear that the CLIL group outperformed the controls as to the number of positive strategies used in the 8th grade: 33% vs. 15%.

Interestingly, one year later 47%, i.e. nearly half, of the strategies employed by the CLIL pupils, were based on the L3 whereas the controls produced only 29% successful strategies, which is slightly less than what their CLIL peers produced a year earlier:

![Diagram 4: Number of positive vs. negative strategies in grade 9](image)

The two most frequent strategies in grade 8 were the same for both learner groups, namely Reducing of message and Asking for help. They were, nevertheless, employed to a greater extent by the controls. In the 9th grade one year later these were still the most frequently used strategies whereas the latter was made use of in only a few cases; instead the second most frequent strategy then was the positive Paraphrase.

The findings lead to the conclusion that even though both learner groups frequently encounter communicative problems in their real-time oral communication, the CLIL pupils were significantly more successful in their communication due to the fact that they more frequently resorted to strategies based on their L3. This might imply that CLIL, in accordance with Wolff (2002), boosts their motivation and their confidence in speaking L3 German.

5. Conclusion

The findings from the study of oral production in the L3 German of Swedish pupils in lower secondary school cannot be generalised due to the limited size of the test population. Nevertheless, there are clear tendencies, confirming the results of a very large number of studies on CLIL, namely that it has a positive influence on foreign language learning and that even such a low dose as given in our project leads to visible gains for the learners in all investigated aspects. In other words, they produce longer and more varied spoken texts, they replace nuclear words with specific words faster as well as use more function words; moreover they seem more confident in using their L3 German and are therefore more successful in oral communication. All these findings point to the fact that they have a better chance of attaining the functional communicative competence stressed in the Swedish national syllabuses for foreign languages. Moreover, the results obtained by the CLIL group were more homogenous, implying that learners at all levels of proficiency (even weak learners) seem to benefit from CLIL. With positive results for all pupils the motivation is high, leading to far fewer pupils dropping out and, ultimately, hopefully to more pupils attaining a functional communicative competence and, thus, meeting the demands of a globalized European community.

Finally, there are some implications for future foreign language education:

Based on the positive impact of CLIL on foreign language learning there should be more support from the Swedish state. For instance, a mandatory CLIL-module could be introduced in the pre-service and in-service training for teachers.

More L3 projects need to be initiated and, also, scientifically evaluated.

Even in traditional foreign language classrooms it is important to create authenticity in order to boost the learners’ confidence and motivation to use their L2 or L3 in authentic communicative situations. There are many ways of doing this, e.g., initiating exchange projects for learners and teachers in cooperation with schools abroad, joining an eTwinning project or simply by e-mailing friends in other countries.

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