

Linguistic challenges for bilingual schoolchildren in Rosengård

Petra Bodén¹ and Gudrun Svensson²

¹Department of Linguistics and Phonetics, Centre for Languages and Literature, Lund University

²Department of Scandinavian Languages, Centre for Languages and Literature, Lund University

Abstract

Preliminary results are presented from a longitudinal study of SLA in a segregated urban area and a primary school with a high proportion of pupils with immigrant background.

Introduction

Second language acquisition

As any adult who has tried to learn another language can verify second language acquisition (SLA) can be a frustrating and difficult experience. Abrahamsson and Hyltenstam (2004) have suggested a hypothesis of maturational constraints in SLA, which is based on their own research as well as on an extensive review of the literature on the critical period hypothesis (Lenneberg 1967) and the sensitive period hypothesis (Selinger 1978). Their hypothesis acknowledges an interaction between maturational constraints and non-biological factors such as social and psychological conditions for SLA. The maturational constraints explain the gradual deterioration of the ability to learn a second language over time whereas the variation in level of success between learners who have started to learn a language at the same age is explained by non-biological factors. The non-biological factors are considered to play a marginal role in early childhood, which is why many studies appear to support the idea of a critical period of SLA. If learning begins before the age of 6 or 7, SLA is more or less automatic (Abrahamsson and Hyltenstam 2004).

Learning conditions at schools with a high proportion of immigrant pupils

In schools with a very high proportion of pupils with immigrant background (80% or more), it is not only individuals who have arrived in Sweden after 6 or 7 years of age that face great difficulties. An analysis by the Swedish National Agency for Education (Skolverket 2005) shows that the school results for children with

immigrant background at schools with a very high proportion of immigrant pupils are worse than those for children with immigrant backgrounds at other schools.

It is possible that some of the factors that are claimed to explain children's successful SLA do not apply for these children. It may be wrong to assume e.g. that they have a weaker connection to the original culture and the mother tongue than the typical adult learner, more and better linguistic input, and so on. These children grow up in segregated urban areas with a high proportion of newly arrived immigrants and get little exposure to the Swedish language both at home and outside of home. Yet many of them have come into contact with Swedish very early in life through day-care. Therefore, non-biological factors of the kind mentioned above should have little importance according to Abrahamsson and Hyltenstam's hypothesis of maturational constraints in SLA. The question is, however, if the environment in which these children grow up is so unfavourable that automatic and effortless SLA is not possible, despite the early first contact with the Swedish language.

Aims of the study

We know little about the SLA of children with immigrant background that grow up and go to school in urban areas such as Rosengård. Studies of youth language in Rosengård and similar areas show that far from all children there have achieved a native-like proficiency of Swedish at age 17 or 18 (Bodén forthc). In the project presented here we follow two school classes in a Rosengård primary school (grundskola) during at least three years with the aim to describe the children's linguistic

development. Both their phonological and lexico-grammatical development is investigated.

The database

Data is currently being collected at a primary school in Rosengård, Malmö. Two classes containing a total of approximately 40 pupils participate in the study (the number of pupils varies slightly from semester to semester). We began to record the first class in 2004 and the second in 2006. All pupils have an immigrant background, although most of them are born in Sweden. Some of the recordings and tests have been made at a school in Lund (with a considerably smaller proportion of immigrant pupils) too for comparison purposes.

A number of different types of recordings and linguistic tests have been designed to document the children's development towards a more native-like Swedish. Every semester the pupils are recorded or tested at least once. The testing of the children's knowledge of Swedish pronunciation contains both tests of perception and production. The lexico-grammatical tests are designed to capture both performance and competence.

Recordings

Recordings are made of the children during semesters 1, 3, 4, 5 and 6. The recording during the third semester is elicited using picture cards that illustrate both minimal pairs and other words of interest. One of the recordings during the fourth semester tests the children's production of word accents by asking them to add plural suffixes to given nonsense words. All other recordings contain spontaneous speech: 'unstructured narratives' or 'extended descriptive narratives', i.e. either speech elicited with open-ended questions or by asking subjects to retell a story (Beckman 1997).

Tests

Two word tests and one phonological listening test are used to document the children's competence in Swedish during their first year in school. The word tests contain everyday words: concrete nouns, adjectives, verbs, prepositions and a few abstract phenomena. The word test is carried out using simple answer sheets containing boxes with pictures illustrating different words, see Figure 1. The child is asked to put a cross over the picture illustrating the test

word. The empty box can be checked if the child feels that he or she does not know the given word.



Figure 1. An example of an answer sheet.

The phonological test uses the same kind of answer sheets. Two pictures on each answer sheet illustrate a minimal pair like *väg*–*vägg* 'road–wall'.

Methodological difficulties

In particular the testing of phonemic contrasts, both in perception and in production, has proved challenging. Many suitable minimal pairs contain one common word and one considerably less common word. The young bilingual children rarely know the less common one, and sometimes the more common one is unknown to them too. In the listening test, the possible difference in familiarity between the two words in the pair can be taken into consideration by presenting half of the class with one word, and the other half with the other. Another complicating factor was that both words in the minimal pair needed to be easy to illustrate graphically on an answer sheet or elicitation card.

Finally, some elicitation cards revealed cultural differences between the investigators and the bilingual children: the picture chosen to illustrate the word *kung* 'king' was interpreted as a sultan, *fil* 'processed sour milk' was no natural breakfast alternative to the children, and so on.

Results and discussion

The following is based on the material collected during the project's first year.

Understanding of common words in Swedish and the mother tongue

The first test that the children were asked to take investigated the children's lexicon. The Albanian- and Bosnian-speaking children took the test in both Swedish and their mother tongue. The purpose of the test was to investigate all pupils' knowledge of common Swedish words, and in a subgroup compare that knowledge with their knowledge of the same

words in their mother tongue. The results are somewhat surprising. We expected the children to perform better on the test in the mother tongue than on the Swedish test given that the test words were chosen from the basal lexicon of everyday words. However, out of the 12 pupils that took the test in both Swedish and their mother tongue, only seven obtained a better result when the words were presented in their mother tongue, see Table 1. Five pupils did better on the Swedish test. The average number of correct answers in the Swedish test was 14 and in the test in the mother tongue 15. The maximum number of correct answers was 21.

Table 1. Word test results. The maximum number of correct answers is 21.

Pupil code	Swedish (no. of correct answers)	Mother tongue (no. of correct answers)
A0H	18	15
A0S	17	19
A1D	14	15
A2N	17	16
A3U	11	14
A7B	12	15
A7I	14	12
A7K	17	16
B5T	13	18
B6V	12	14
B7M	17	11
B9S	13	18
K8A	15	n/a
S0B	13	n/a
T1I	16	n/a
R0I	7	n/a
O7O	8	n/a
P2O	17	n/a
M0Z	16	n/a
Average no. of correct answers	14	15

The averages of the control group in Lund were 20, i.e. higher than the averages of both tests in Rosengård.

Perception of phonological categories

The purpose of the phonological test was to investigate the children's perception of a few Swedish phonemic contrasts, see Table 2. Some contrasts were very easy for the children, e.g. the contrast between the long and short vowel in *glas*–*glass* 'glas–ice cream' and *väg*–*vägg* 'road–wall', and the stress placement in *kaffe*–*café* 'coffee–coffee shop'. Regardless of what

word in the pair was presented to the children, they were able to identify the correct picture.

Table 2. Phonological test results.

Word 1–word 2	No. of correct identifications of Word 1 (n=9)	No. of correct identifications of Word 2 (n=10)
<i>Phonemes:</i>		
stjärna–kärna	9	3
duka–dyka	2	7
byn–bin	1	9
<i>Vowel length:</i>		
glass–glas	9	10
väg–vägg	7	9
fult–fullt	3	10
<i>Stress:</i>		
kaffet–café	8	7
<i>Accent:</i>		
stegen–steg-en	7	1
and-en–ande-n	1	9
stor prickig–storprickig	8	3

The results of the other minimal pairs are more difficult to interpret. *Kärna* 'stone', e.g., was considerably more difficult for the children to identify than *stjärna* 'star'. Nine out of nine children correctly marked the picture of a star whereas only three children correctly identified the stone. The remaining seven interpreted [ç] in *kärna* as a possible pronunciation of the initial sound in *stjärna*. Note that it would be wrong to conclude that the children could not hear a difference between the two sounds. No child interpreted [ŋ] as a possible pronunciation of the initial sound in *kärna*. It is possible that the children are influenced by the lighter (i.e. more [ç]-like) [ʃ]-pronunciation of /j/ in Central Swedish.

Byn 'the village' was another word that proved more difficult to identify than the other word in the same minimal pair, i.e. *bin* 'bees'. Again, not all pupils who failed to identify the village checked the empty box. Five chose the picture of the bees. In other words, they seemed to interpret [y:] as a possible pronunciation of /i:/.

The same trend can be seen in the results of *fult*–*fullt* 'ugly–full'. Three children mistook *fult* for *fullt* but no child mistook *fullt* for *fult*. In other words, they seemed to interpret [ʊ:] as a possible pronunciation of /ø/.

Finally, the minimal pair *duka*–*dyka* 'to set the table–to dive' caused confusion among both

the children hearing test word 1 and those hearing test word 2. *Duka* was mistaken for *dyka* by four children and *dyka* for *duka* by two children.

Whereas it is fairly easy to understand what allophonic variation the children assume for /fj/, it would appear that they still struggle to understand the status of the [ɰ:] and [y:] sounds, see Figure 2.

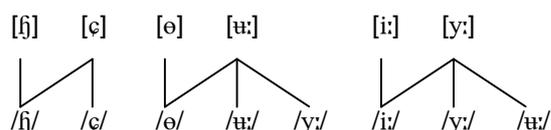


Figure 2. An illustration of the allophonic variation the children appear to assume for some Swedish phonemes based on their answers in the phonological test.

The minimal pairs meant to test the children's perception of the word accent distinction are also difficult to interpret. Seven of nine pupils were able to identify *stege-n* 'the ladder' but only one of ten identified *steg-en* 'the steps' correctly. Seven chose the picture of the ladder instead. Whereas *stege-n* was simple to illustrate graphically, Swedish *steg-en* was more difficult which may have influenced these results. The results of the minimal pair *and-en-ande-n* 'the mallard-the genie' are equally difficult to interpret. If the children were not able to perceive the word accent distinction, then we would expect half of them to choose the mallard and half of them to choose the genie regardless of what the test word was. However, most children chose the picture of the genie. Before distributing the test, we spoke to the children about mallards and genies and showed pictures to make sure that they all knew the words in question (which they did). However, the picture of the genie admittedly was more fun and colourful, and it sparked a greater interest in the children. When faced with a test word that may have sounded like a homophone to them, they seemed to go for the most fun picture. However, another possible interpretation is that they perceived accent I as a possible rendering of accent II (but not vice versa).

Finally, *storprickig* may have been too a difficult word for the children. The results for *storprickig-stor prickig* are as ambiguous as those for the *steg-en-stege-n* pair above.

A follow-up of the test during e.g. third grade would be interesting. All words illustrated in the

pictures should then be known to the children, thereby simplifying analysis substantially. The control class had no problems perceiving any of the contrasts tested with the sole exception of *duka-dyka*. Out of the 11 children presented with test word 1, five mistook *duka* for *dyka*.

Concluding remarks

The database contains more data than we have had the opportunity to transcribe and analyze so far, and more material is collected every semester. Consequently, much more work remains before we can draw any final conclusions. However, our first impressions are that the children in the Rosengård primary school struggle with the Swedish language, despite an impressive interest taken by both teachers and parents in their education. The fact that they do not have a good grasp of the Swedish phoneme inventory at school start, may be affecting their ability to learn to read and write in Swedish.

Acknowledgements

The research reported in this paper has in part been financed by the Faculty of Humanities at Lund University. The authors would like to thank teachers Selvije Azizi and Ann Falkboo (names in alphabetical order) for a fruitful and inspiring cooperation during the last three years.

References

- Abrahamsson N and Hyltenstam K (2004). Mognadsbegränsningar och den kritiska perioden för andraspråksinläring. In: Hyltenstam K and I Lindberg, eds, *Svenska som andraspråk*. Lund: Studentlitteratur, 221-258.
- Beckman M (1997). A Typology of Spontaneous Speech. In: Sagisaka Y, N Campbell and N Higuchi, eds, *Computing Prosody. Computational Models for Processing Spontaneous Speech*. New York: Springer, 7-26.
- Bodén P (forthc). "Rosengårdssvensk" fonetik och fonologi. In: Ekberg L, ed, *Nordlund. Småskrifter från Institutionen för nordiska språk*. Department of Scandinavian Languages, Lund University.
- Lenneberg E (1967). *Biological Foundations of Language*. New York: Wiley & Sons.
- Selinger H W (1978). Implications of a multiple critical periods hypothesis for second language learning. In: Ritchie W, ed, *Second Language Acquisition Research*. New York: Academic Press, 11-19.
- Skolverket (2005). *Elever med utländsk bakgrund. En sammanfattande bild*. Dnr 75-2004:545. Stockholm: Fritzes.