

ON THE RELATION BETWEEN SECOND LANGUAGE COMPREHENSION AND PRODUCTION

Håkan Ringbom
Åbo Akademi

This paper discusses the differences between second language comprehension and second language production, which primarily stem from the difference in direction between form-function and function-form mapping. The main differences concern the temporal relation between comprehension and production, the role of formal accuracy, the gap normally existing between comprehension and production, and the role of transfer.

In the extensive research on second language acquisition, the use of terminology is frequently both vague and confusing. In this paper I shall look at the basic concepts of comprehension, production and learning of a second language, trying to shed some light on what the relations between these concepts are.

Comprehension and production are, of course, closely related in the sense that they are both concerned with the study of *performance*, especially its underlying processes, whereas learning (or acquisition, as well as development) is concerned with changes in the learner's *competence*, and the processes leading to such changes. What underlies changes in competence is hardly possible to study directly; it has to be investigated through studies of performance. Within the field of psycholinguistics comprehension, production and development of the L1 are all studied separately, normally in strictly controlled experimental conditions, and little or no mixing between them occurs, primarily because language development takes place at a very early stage. Also, the research problems are normally of a very restricted character. In second language research, on the other hand, it seems very difficult to keep the learning aspects apart from the communication

aspects of comprehension and production. As Brown puts it, (1986: 221), the idea of L1-comprehension is 'uncluttered' by notions of language learning, but in second language research the notion seems to intrude all the time. According to Haastrup even 'such an (uncluttered) approach is of restricted value to second language research' (Forthcoming: 305).

There is certainly considerable interaction between learning processes and communication processes. In the words of Faerch, Haastrup & Phillipson (1984: 186), 'they operate simultaneously, though at different levels of consciousness. If the wish to communicate is in focus (...) there may be a process of learning taking place simultaneously. However, most foreign language learning (...) probably takes place indirectly, as a by-product of communicating in the foreign language'. The learning processes cannot be described in isolation, but have to be dealt with together with or through the communication processes of comprehension and production. The communication processes, on the other hand, can be described irrespective of learning, but in second language research it is essential not to neglect their interaction with learning. We can also assume that there is interaction between comprehension and production in learning.

Let us first try to define the main difference between comprehension and production. Broadly, in comprehension you start out from an input, linguistic forms, to which you assign a meaning, by mapping the form on to relevant existing knowledge. In production, on the other hand, the mapping starts out from a pre-verbal intention, to which it is the speaker's task to give linguistic form. Now, this difference in direction between form-function and function-form mapping has some important corollaries, which seem not to have been sufficiently explored:

1. Comprehension generally precedes production in development.
2. When faced with communication problems, the reader/listener relies on inference procedures, whereas the speaker/writer has to use so-called compensatory strategies. The unfamiliar item whose meaning the reader/listener tries to infer occurs in a specified linguistic and

situational context, which is often of decisive help to his inferencing. The inferencer can rely on both linguistic and contextual cues inherent in the situation to solve his communication problem. The speaker/writer, on the other hand, does not get the same help from the context. He either has to modify his original intention, using a word or phrase which is only similar to the originally intended word, or has to devise some roundabout way (gesture, use of L1, circumscriptions) to communicate the meaning of an L2-word he does not know.

3. The success of comprehension is based on communicative efficiency (L2-comprehension being typically partial or approximate), while formal accuracy is also important in production.

4. There is generally a gap between comprehension and production in that the learner can normally comprehend much more than he can produce in a foreign language. This gap varies in different linguistic areas and is affected especially by cross-linguistic distance and the quantity and quality of the input.

5. The role of the L1 is different in comprehension compared with production because the existence of linguistic items in the input is of prime importance in comprehension.

The first of these points may seem unnecessarily cautious in phrasing, and some people have certainly stated it more categorically, by saying that comprehension always precedes production. I believe, however, that some caution is needed here. Faerch & Kasper (1987) give the example of a young Danish learner correctly using the German word *neusprachlich* in conversation, although he afterwards said that he had never come across the word before. But he was able to construct the compound because he knew its elements and he was probably also influenced by the existence of the equivalent L1-word, *nysproglig*.

This connects with the second corollary. The Danish learner tested a hypothesis, which in this case proved to be correct. If he had heard the word *neusprachlich* he would naturally also have been able to infer its meaning, either because he would have been able to connect the

elements of the compound with items already represented in his mental lexicon, making use of intra-lingual cues and/or because he would be able to associate it with the corresponding L1-word. He might, of course, also have been able to deduce the meaning of the word from the concrete context in which it occurred. The linguistic and situational context is normally part of the input in comprehension and frequently aids inferencing procedures, whereas in production the linguistic and situational context is much less specified.

There is no theoretical reason why the speaker/writer should not use items in production before they are used in comprehension; in fact, it does happen. However, such production preceding comprehension is not especially frequent, and it hardly occurs at all in learners who prefer to 'play safe' and seldom take risks of trying to express something they are not fully sure is correct. The fact that such hypothesis-testing sometimes occurs before comprehension, however, prompts to caution: L2-comprehension need not always precede L2-production, though it generally does.

The success of comprehension is based on communicative efficiency. L2-comprehension is also typically partial or approximate. The decoding of contextual meaning is not necessarily accompanied by decoding, conscious or not, of the structural relationships of the text. Especially when listening to or reading a language related to one's own, attention need not be focussed on structural aspects, since a subconscious L1 = L2 hypothesis frequently works for the basic categories at least sufficiently well for approximate comprehension to be attained. In production, on the other hand, communicative efficiency is not the only measure of success: formal accuracy is also important. Grammar is of much greater importance for production than for comprehension because the learner must be able to choose both the right word and the right form of the word without being given concrete stimuli from an input.

The normal situation is that a learner can comprehend much more than he can produce in a foreign language. However, the width of the gap between comprehension and production is affected by cross-linguistic

distance as well as by the quantity and quality of the input, and it also varies in the different linguistic areas.

In lexis, the customarily made distinction between 'active' and 'passive' vocabulary has been criticized, but it is convenient and there is a basic difference between the two. There are certainly clines in vocabulary knowledge, but it seems probable that these clines exist separately for comprehension and production, depending on whether the word occurs in the input or not. One way of tackling the question what knowing a word really means is listing different parameters, in the form of clines, as in Figure 1 below (Ringbom 1987: 37).

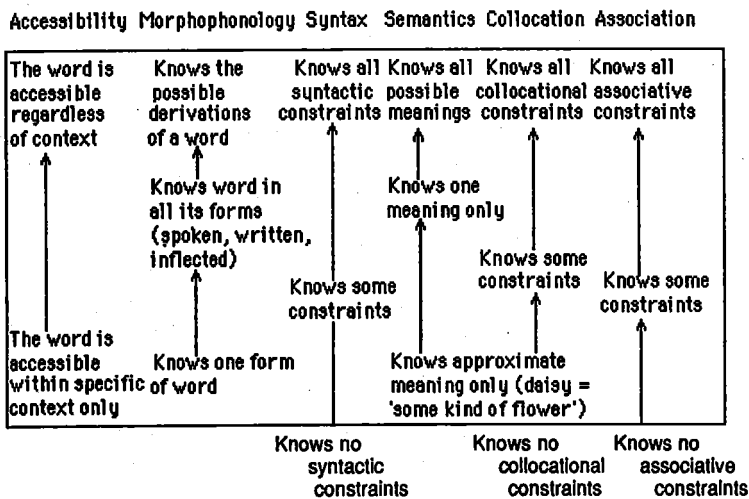


Figure 1. Lexical knowledge

These parameters are then separate for comprehension and production, since the reader/listener accesses the linguistic forms when they occur in the input, while the speaker/writer has to activate the forms himself.

There are, however, situations where no significant difference has been found between 'active' and 'passive' vocabulary. Takala (1984) has shown that after six years of English at school Finnish comprehensive school students in the countryside did not really understand significantly more English than they could produce. Although one comment on Takala's work is that he really measured an extremely high level of comprehension, since he used translation from and into the foreign language as his means of measurement, it is clear that there is great variability in this vocabulary gap. It is also obvious that the characteristically foreign classroom learning situation of Takala's investigation was an important contributing factor in closing the gap between active and passive vocabulary: the input the students received in the classroom was the only contact they had with English. Another important factor, of course, is the fact that Finnish and English are totally unrelated languages.

If, on the other hand, we learn a language closely related to our L1, and especially if we learn it in a natural environment, where there is much more input than a classroom can offer, it is inevitable that we will understand much more than we will be able to produce, just as we do in our L1. Our comprehension retrieval procedures are different from our production procedures. The speaker/writer may not find it possible to access entries without a full specification of sound and meaning, which leads to the breaking up of communication. If the reader or listener, on the other hand, is not quite sure of the meanings of all words, he can still attain at least approximate comprehension.

In grammar, the concept of cross-linguistic distance is absolutely crucial for how wide the gap is between comprehension and production. In the Scandinavian languages the grammatical structures of Swedish, Norwegian and Danish are so similar that the basic rules for one language normally work quite well for comprehension of the others. Thus a Dane does not have to do any conscious learning of grammar in order to be able to understand Swedish: what he needs is primarily to learn some points of phonology and lexis where the languages are not similar. Production, of course, is a totally different matter, but then motivation to learn to produce another Scandinavian language is rare for those not

having migrated from one country to another, since inter-Scandinavian communication generally works when everybody speaks his mother tongue.

In phonology, perceiving the sounds of a new language is much easier than producing them. At least within a European context, the perception and recognition of the closed system of the sounds of another language do not cause very great problems for the learner, except in the initial stages. The productive ability, on the other hand, shows extreme individual variability. Thus nearly everybody fairly soon learns to perceive and recognize the sounds of the new language, but not necessarily to produce them in a near-native way.

Much of what has been said in points 1 to 4 applies not only to the production and comprehension of a second language but also to the L1. The importance of linguistic form in comprehension, however, has consequences which apply only to L2, since the learner's linguistic forms and the procedures he uses may be either L1-forms and L1-based procedures or L2-forms and L2-based procedures, or a combination of these. Because comprehension by definition contains linguistic L2-forms in the input, formal similarities between these forms and forms already known, cross-linguistic as well as intra-linguistic, become exceptionally important for comprehension, while they do not have the same significance for production. Forms, especially if they occur in a clear situational context, activate other forms, and these potentially activated forms may be either in the L1 or the L2. The learner's tendency is to try to relate the forms of the input to existing relevant knowledge, wherever possible. To be able to activate such relevant knowledge structures will facilitate comprehension, but the less similarity between input and existing knowledge that is perceived, the greater effort will be required in the form of application of conscious inferencing procedures, for example when one learns a wholly unrelated language.

If we accept this, there will be more interaction, both cross-linguistic and intra-linguistic, in comprehension than in production. That there is more interdependence between L1 and L2 in comprehension than in production has been suggested for bilinguals (Kolers 1966, cf. also Bergh 1986),

and this would suggest that there is also more transfer from L1 on comprehension than on production. The different roles of the L1 in comprehension and production have, however, not been investigated, primarily because research on L2-comprehension is quite scarce.

What, however, should be pointed out is that from a psycholinguistic point of view the question of L1-influence should not be seen in terms of cross-linguistic differences vs. cross-linguistic similarities, but as a question of perceived similarities vs. the lack of such similarities, which is not quite the same thing. The L2-learner is constantly seeking to facilitate his task by making use of previous knowledge. The natural procedure for him when he is faced with new material or a new task is to try to establish a relation between the new material or task and what he already knows. Psychologically, we do not establish negative relations until we are sure that a positive relation does not exist (Schachter 1983, Noordman-Vonk 1979).

In comprehension, then, L1-influence largely depends on what formal similarities the learner can perceive between L1 and L2 and to what extent L1-based procedures are really helpful for L2. Cognates provide an example here. Sometimes the cross-linguistic similarities may lead the learner astray, as in the case of false friends. But since the false friends are normally first met in a concrete context, pairs of the type Eng. *blanket* - Sw. *blankett* are not as treacherous as one might think at first: they are much more likely to produce errors in production. In comprehension, wrong interpretation of false friends is often ruled out by the context. The proportion between good cognates and false friends is certainly also in favour of the good cognates: this proportion between English and French has been estimated to 11 good cognates to one false friend. For speakers of Germanic languages the relative ease with which it is possible to acquire a reading knowledge of another Germanic language, where lexical and grammatical similarities to the L1 will continuously be perceived, shows the importance of so-called 'positive transfer' or positive cross-linguistic influence, as far as comprehension is concerned.

When it comes to production, the role of the L1 is slightly different and more complex. In L2-production, there will be examples not only of overt cross-linguistic influence, which depends on perceived similarities, but also of covert cross-linguistic influence, where L1-procedures have been used to fill gaps in L2-competence. Covert cross-linguistic influence always has a negative effect: it results in errors, omissions and avoidance. Thus for example Finnish learners of English at the early stages of learning frequently omit articles and prepositions, just as beginning English or Swedish learners of Finnish frequently omit most Finnish case endings. This is because the learner lacks a precise reference frame for these grammatical functions in his L1, and covert cross-linguistic influence thus depends on the learner *not* having been able to establish cross-linguistic similarities. This learner will use L1-procedures in production because he has neither a functioning cross-linguistic reference frame, nor available L2-procedures.

What do these corollaries then lead to? One conclusion I would like to draw is that we should be careful with our terminology. Applied linguists make frequent vague use of the concepts of learning or acquisition, without specifying their relation to comprehension and production. For example, in investigations of differences between age groups in learning other languages the question whether there are differences between young children and adults has usually been discussed in terms of learning, e.g. the younger the learner the better the learning. Yet many or even most of such differences as have been found may be differences of production mechanisms, not differences in learning ability. Comprehension is still relatively neglected in second language research: yet comprehension must be regarded as a necessary prerequisite for learning. Thus, in order to understand what learning is, we must first understand what comprehension is. What we often seem to forget is that if we can understand another language, regardless whether it is the result of teaching or of our having a closely related language as L1, we have already attained considerable competence in that language. How such knowledge accessible only for receptive use might most easily be transferred to productive use is a question to which we have no answers yet, since even the question itself has rarely been put in research. But

should it be possible to find a satisfactory answer in research, language teachers all over the world would certainly be most grateful.

References

- Bergh, G. 1986. The neuropsychological status of Swedish-English subsidiary bilinguals. *Gothenburg Studies in English* 61.
- Brown, G. 1986. Preface to thematic issue on comprehension. *Applied Linguistics* 7, 221-225.
- Gass, S. & Selinker, L. (eds.) 1983. *Language Transfer in Language Learning*. Rowley, Mass.: Newbury House.
- Faerch, C. & Kasper, G. 1987. Perspectives on language transfer. *Applied Linguistics* 8.
- Haastrup, K. (forthcoming). Lexical Inferencing Procedures or Talking about Words. A Book about Receptive Procedures in Foreign Language Learning, with Special Reference to English.
- Kolers, P. 1966. Reading and talking bilingually. *American Journal of Psychology* 79, 357-376.
- Noordman-Vonk, W. 1979. *Retrieval from Semantic Memory*. Berlin: Springer.
- Ringbom, H. 1987. *The Role of First Language in Foreign Language Learning*. Clevedon, Avon: Multilingual Matters.
- Schachter, J. 1983. A new account of language transfer. In Gass, S. & Selinker, L. (eds.), 98-111.
- Takala, S. 1984. *Evaluation of Students' Knowledge of English Vocabulary in the Finnish Comprehensive School*. Jyväskylä: Reports from the Institute for Educational Research 350.