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Second Language Acquisition Digital Teaching Materials: Unit 6 What is the study of Second Language Acquisition?

This teaching material has been made at the University of Szeged, and supported by the European Union.

Project identity number: EFOP-3.4.3-16-2016-00014

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SECOND LANGUAGE ACQUISITION

UNIT #6: CROSS-LINGUISTIC INFLUENCE

6.1 WHAT WE'LL COVER IN THIS UNIT

In this unit we will trace the fascinating arc of research and theorizing concerning the role of first and additional languages in affecting second or foreign language learning. In doing so, you will be able to see why certain theories of SLA are flawed that might seem right to the average person on the street. We'll show the development theories up to the present and conclude with a discussion of the issue of cross-linguistic influence and how its history is important for us today. Details and background on some of these ideas can be found in our coursebook in chapter 2, 4 and elsewhere. In this unit we'll cover the following topics:

- The Contrastive Analysis Hypothesis
- New descriptions of cross-linguistic influence
- New theories explaining cross-linguistic influence
- Why is considering cross-linguistic influence important?

6.2 THE CONTRASTIVE ANALYSIS HYPOTHESIS

If you've heard of one theory of second language acquisition, it is most likely the contrastive analysis hypothesis. Developed by Lado in the 1950s, this theory relied on the psychological theory of behaviorism and the linguistic theory of American structuralism to make the following prediction. Behaviorism has been discussed already in the second on L1A, and it will be spoken about in a bit more depth in the following unit, but it is enough here to remember that behaviorism supports the view that learning is solely driven by habit formation. The second element, American structuralism, leads us to the notion of what it is that habits are built around, concrete structures in language from the sounds of language to meaning. American structuralism was the approach to language popular throughout the 1950s which promoted a concrete number of categories and items which could be used to describe any human language found - including the ones found in the Americas, which provided problems for traditional

philological description based on a European model. Combining these two forces together, one of the first theories of SLA was born, the contrastive analysis hypothesis, or CAH.

The key idea behind the CAH was that if language was a set of habits which was expressed over a concrete set of structures, some of which were shared by languages and some of which were new, then to learn a second language one needed to transfer those habits from the L1 which were the same with the L2, and then learn the new habits that present in the L2 which were not present in the L1. Along the way the old L2 habits which were not expressed in the L1 needed to be suppressed or “extinguished”.

This is a concrete and quite popular theory which has endured since the 1950s, despite the fact that it has been seriously challenged, and even refuted. Concerning the influence of the first language on the second, the CAH posits two possible types of transfer, positive, where the L1 habits fit into the L2 system, and negative, where error is created. This can be seen in the following examples, taken from Gass and Selinker 2008: 92-94:

If an Italian L1 speaker would like to ask the question “Does the baby eat well?” They may base this on Italian, as seen in the following example (using a traditional 3-line example, where the second line is the word for word gloss and the third line is the translation. The English is incorrect, and is the result of negative transfer. In the second example, showing positive transfer. It is possible to see that a Spanish L1 speaker might transfer their own L1 word order to Italian, and in doing so would produce a correct sentence.

Negative transfer example

Italian L1:

Mangia bene il bambino?
eats well the baby
“Does the baby eat well?”

L2 English formed on the basis of Italian:

*Eats well the baby?

Positive transfer example

Spanish L1:

¿Come bien el niño?
“eats well the baby”

This theory then make testable hypotheses concerning the learning of “language habits” which many people found confirmation of in their own classrooms. Indeed, it certainly did appear to the casual observer that habits were being transferred, extinguished and forgotten.

READING TASK: HOW MUCH ERROR IS DUE TO L1 INTERFERENCE?

Before we go on, it is worth considering how much we implicitly believe in the CAH.

Take a moment to consider the question: Do you believe that language is a set of habits and that the L1 is a major source of error in L2 learning?

Now read the following text which answers that question and see how your point of view might change. Take a moment to note the main points that the make.

Are most of the mistakes that second language learners make are due to interference from their first language?

First, we should recognize that knowledge of one or more languages can contribute positively to many aspects of second or foreign language learning. If the languages are relatively close cousins (for example, English and German, Spanish and French), there is much that learners already ‘know’—including the alphabet, cognate words, as well as some basic principles of syntax.

On the other hand, the transfer of patterns from the native language is one of the major sources of errors in learner language. When errors are caused by learners’ perception of some partial similarity between the first and second languages, they may be difficult to overcome, especially when learners are frequently in contact with other learners who make the same errors.

Aspects of the second language that are different from the first language will not necessarily be acquired later or with more difficulty than those aspects that are similar. Second language learning is not simply a process of putting second language words into first-language sentences. In fact, learners may not always be able to take advantage of similarities unless they are pointed out to them. Learners can be overly discriminating, failing to take advantage of similarities because they assume, sometimes incorrectly, that the languages must be different.

However, the first language is not the only influence on second language learning. Learners from different backgrounds often make the same kinds of errors, and some of these errors are remarkably similar to those made by first language learners. In such cases, second-language errors are evidence of the learners’ efforts to discover the structure of the target language itself rather than attempts to transfer patterns from their first language.

—Lightbown and Spada 2013:171

As you can see from the above paragraphs, modern linguists are skeptical about the idea that the first language is the main source of error. What’s important to note is that they indeed still do see the L1 as a

potential source of influence, but that this influence may not be as the CAH would predict. They note that a similarity between the two languages may cause learners to make errors - wrongly generalizing, as we will later see - and differences may indeed not be as difficult to acquire. Clearly the straightforward view presented by the CAH is not what people believe today.

The CAH was ultimately rejected, and here is a list of some of the evidence which ultimately led people to abandon it.

First, Chomsky's generative theory of language replaced habit formation models in the late 1950s and 1960s. As we've seen already, this view supports the idea that learners are learning the rules of language, and not a series of habits which follow the rules of language. The distinction is a subtle, one, but has deep implications for how we conceive of language in the mind.

Second, the CAH was nicely predictive, and the errors that it predicted did not always occur. Take for example the following Hungarian sentence, with its 3-line gloss:

A Hungarian example for the CAH

Akönyv asztal alatt van.
the book the table under is
"the book is under the table"

Unattested forms:

*the table under
*alatt az asztal

The CAH would predict that Hungarian learners of English would produce constructions like **the table under* and that English speaking learners of Hungarian would produce constructions like **alatt az asztal*. You will probably have noted that both of these constructions are highly unlikely, and you surely have never heard them spoken.

Third, a similar example shows that learners are *selective* in how they apply language transfer. Look at the example in the text below and see if you can see the problem that it poses for the CAH. These examples are produced by native speakers of Czech who are second language learners of both English and Russian. In the example the * indicates that the form is unattested. How does the CAH stand up to such data?

	<i>L2 English</i>	<i>NS Czech</i>	<i>L2 Russian</i>	<i>NS Russian</i>
<i>Plural forms</i>	*teacherele *workwomanici	ucitelé delnice	ucitele rabotnice	ucitelja rabotnicy
<i>Past tense</i>	*arisenul *he dieel	vznikl vzniknul umrel	vozniknul on umrel	voznik on umer

—Gass and Selinker 2008: 157

As you can see, learners are transferring the Czech plural and past tense morphemes to their L2 Russian but not to their L2 English. The first important point to note here is that they are being selective in when they transfer and when they do not. That is, this is not the automatic firing of habits. The second point to note here is that the forms they are producing in Russian are incorrect. It may indeed be as Lightbown and Spada noted in the passage above, that the similarity of languages has made the possibility of negative transfer more likely.

Finally, it was shown that learners were producing many other types of errors that could not be accounted for by the CAH. For example, second language learners of English, just like children learning L1 English, tend to overgeneralize regular past tense morphemes, producing examples such as **He goed there yesterday*.

Examples like these - and many more - led scholars to abandon the CAH.

6.3 NEW DESCRIPTIONS OF CROSS LINGUISTIC INFLUENCE

While the CAH was abandoned as an explanation for transfer, interest in the issue of the influence of the L2 on second language acquisition continued, particularly in Europe. There were two developments in this continued investigation into the role of the L1. First, a widening scope of influence was investigated well beyond the relatively straightforward effects of “positive” and “negative” transfer of structural features. That is, more complex effects were found. Second the scope of L1 influence was widened to include other languages including any additional language and furthermore the effect of additional languages on the L1 itself.

One development in terminology reflects this widening of scope: while transfer is still discussed, the area of interest in general is referred to as “cross-linguistic influence” and includes the following:

Some effects of cross-linguistic influence:

- transfer
- rate of learning
- route of development
- avoidance
- interference and facilitation
- additional language influence
- influences on the L1
- borrowing
- language loss

As you can see from the list, the scope of cross-linguistic influence is much wider than was originally considered with the CAH and also touches on other fields as well, such as bilingualism and sociolinguistics by including such well-known issues as borrowing and language loss. We'll have a look at some of these effects below.

First we'll have a look at a classic data set as an example of how complex the effects of transfer can be. In the following you can see data from a study where native speakers of Dutch were asked to predict which uses of the Dutch verb "break" could be used correctly in English. You can see in the table below that there is quite a bit of variety in their estimations of transferability, yet in each case, the verb break could be used in the exact same way in Dutch as in English.

The translatability of Dutch “break” to English. All instances are transferable. Why do you think that these speakers were more or less inclined to say that the English versions were also correct?

<i>Dutch sentence (all are grammatical)</i>	<i>English equivalent</i>	<i>% responses translatable</i>
1. Welk land heeft de wapenstilstand <i>gebroken</i> .	Which country has broken the cease-fire?	28
2. Zij <i>brak</i> 't wereldrecord.	She broke the world record.	51
3. Zij <i>brak</i> zijn hart.	She broke his heart.	79
4. De golven <i>braken</i> op de rotsen.	The waves broke on the rock.	35
5. Hij <i>brak</i> zijn woord.	He broke his word.	60
6. Hij <i>brak</i> zijn been.	He broke his leg.	81
7. Het ondergrondse verzet werd <i>gebroken</i> .	The underground resistance was broken.	22
8. Dankzij 'n paar grapjes was 't ijs eindelijk <i>gebroken</i> .	Thanks to a few jokes, the ice was finally broken.	33
9. 'n Spelletje zou de middag enigszins <i>breken</i> .	A game would break up the afternoon a bit.	11
10. Zijn val werd door 'n boom <i>gebroken</i> .	His fall was broken by a tree.	17
11. 't Kopje <i>brak</i> .	The cup broke.	64
12. Nood <i>breekt</i> wet.	Necessity breaks law (a saying).	34
13. Sommige arbeiders hebben de staking <i>gebroken</i> .	Some workers have broken the strike.	9
14. Na 't ongeluk is hij 'n <i>gebroken</i> man geworden.	After the accident, he was a broken man.	61
15. Zijn stem <i>brak</i> toen hij 13 was.	His voice broke when he was 13.	17
16. De man <i>brak</i> zijn eed.	The man broke his oath.	47
17. De lichtstralen <i>breken</i> in het water.	The light rays break (refract) in the water.	25

—Gass and Selinker 2008:156

The CAH would predict that with such similar languages, students would be quite willing to transfer, especially as it would be known that many of these uses of *break* would indeed be possible. Specifically how do you account for the fact that number 6, “He broke his leg” was given an 81% acceptance rate, but number 13, “Some workers have broken the strike” received only 9%? Clearly these learners are making a

decision based on some principle. It clearly has something to do with how semantically transparent or opaque the situations are. Breaking one's leg is semantically transparent, while breaking a strike is not as it's more metaphoric. You can see this pattern throughout the data - but how about number 3, "She broke his heart"? Sure this is metaphoric, but it scored a 79% acceptance rate. The reason for accepting this must be due to the heart as the center of emotion being a universal metaphor across languages and cultures. Once again we see learners with agency thinking about what they do and don't want to transfer - quite a difference from the automatic nature of the CAH.

Let's look at a couple of other specific type effects. First, cross-linguistic influence can affect the rate of learning. The CAH hypothesis predicted that the rate might be quicker if languages are similar, but the effect of the similarity might be complex. For example, in a classic study it was shown that Arabic speakers' rate of vocabulary development was slower in early years of learning when compared to Spanish speakers. The obvious answer to why this is might have to do with the larger number of cognates in English and Spanish when compared to Arabic. Nevertheless, it was shown that Spanish speakers knew more non-cognates, too. Thus the effect cross-linguistic influence was not just to allow the transfer of similar forms, but it freed up processing time for learners so that they could learn non-cognates more quickly as well. This effect must have equalized over time, but in the early years it must have a large influence. One would think that the exact same situation would happen with Hungarians who are learning English.

Second, cross-linguistic influence might affect the route of development. In learning English negation, there is a stage that all learners - and children learning L1 English, too - go through where *not* is placed after auxiliary verbs. At this point, German speakers typically add an extra stage to their learning of English negation and use post-verbal negation, as might be found in German, thus *I'm steal not the base* (referring to playing baseball) which other learners would be unlikely to produce. This there is another stage added to learning English negation for L1 speakers of German.

Third, the L1 can influence learners to avoid using a structure in the L2. Consider the following data from the production of relative clauses. What patterns do you see here in the data that need explanation?

Relative clause production in English across four L1s:

Table 4.4 Relative clause production

NL group	Correct	Error	Total	% errors
Persian	131	43	174	25
Arabic	123	31	154	20
Chinese	67	9	76	12
Japanese	58	5	63	8
American	173	0	173	—

Source: From "An error in error analysis" by J. Schachter, 1974, *Language Learning*, 24, 205–214 by Research Club in Language Learning. Reprinted by permission.

What is it that can be seen in this data? First of all it appears that Persian and Arabic speakers are making many more errors in relative clauses than Chinese and Japanese speakers. On the other hand the Chinese and Japanese speakers are producing far fewer relative clauses than the Persian and Arabic speakers, who are making just about as many as did the native speakers of English. So the Chinese and Japanese speakers are avoiding the production of relative clauses. But why is this? It's due to the structure of the languages. In Persian and Arabic, relative clauses are constructed very much like English. For example, "I saw the woman who speaks English" would literally be in Arabic "I saw the woman who speaks the English" and it is also similar in Persian. In Japanese the relative clause is literally "I English talks woman say" and Chinese is similar. That is, relative clauses are formed differently in English, so Japanese and Chinese speakers avoid producing them. They are in fact, more accurate, since aware of the differences they most likely pay more careful attention to their construction. Again we see that differences might in this case lead to avoidance, but also more accurate use. Quite different than the CAH would predict!

6.4 NEW THEORIES OF CROSS-LINGUISTIC INFLUENCE

The realization that the effects of cross-linguistic influence are more complex than positive and negative structural inhibition or facilitation led to the development of new theories to explain these effects. We'll look at them below, and while doing so it is interesting to realize that whereas the CAH was one major theory to explain transfer, the new view on cross-linguistic influence employs many possible theories which are many times compatible with each other. We'll consider four such theories here. Then there will be an exercise where you can match theories with the data that supports it.

First, the "transfer to somewhere" principle. This theory works on the idea that the L2 provides some hint or clue that allows features from the L1 to transfer to the L2. This might be features which look quite similar, but the interesting thing about this theory is that it suggests that this feeling of relatedness is overgeneralized to features which do not transfer.

Second, the "markedness differential" hypothesis. This key concept here in this theory is "markedness", and features of language which are considered marked are features which are unusual in the language system itself. The hypothesis states that marked features are more difficult to learn, and therefore are less likely to transfer, but if a feature is unmarked it is easier to learn more likely to transfer. Notice that this hypothesis is different from the CAH in that it states that transfer is more or less "likely"; thus, it is not making absolute predictions.

Third is the theory of "perceived linguistic distance" which states that if learners perceive that the L2 is more closely linguistically related to the L1, then transfer from the L1 is more likely. The key variable here is the learner's *perception* of that distance, not the absolute distance between the two languages.

Finally, we should mention the theory of the learner's "psychotypology" which states that elements of language which a learner feels are core to all languages might transfer more readily than items which are non-core. Non-core items would be less likely to transfer and would contain structures such as idioms which seem quite specific to one language.

DATA ANALYSIS TASK: MATCHING DATA WITH THE THEORY THAT EXPLAINS IT

Consider the data that we've seen in this unit so far. Which data supports the new theories of cross-linguistic influence that we've seen in this section? One dataset may match up with more than one example

Match the data with the theory that explains it. Carefully consider your answers before moving on to the answers below

New theory of cross-linguistic influence	New data for cross linguistic influence.
1. Transfer to somewhere	___ Hungarian postpositions
2. The markedness differential hypothesis	___ German negation
3. Perceived linguistic distance	___ Dutch "break" translations
4. Learner's psychotypology	___ Relative clauses in Japanese, Arabic, etc.
	___ Czech, Russian, English morphology

The transfer to somewhere theory would help explain the patterns found in the German negation data: learners look like they are overgeneralizing from post-auxiliary negation to creating post-verbal negation for main verbs. This data would also help explain the relative clause data. The Arabic and Persian speakers may see similarities between English relative clauses and their languages and then over generalize the details, thus leading to errors.

The markedness differential hypothesis would easily explain why post-positions in Hungarian are not transferred to English, and why prepositions in English are not transferred to Hungarian: both structures are unmarked in the two languages - they are common and consistent features, and thus easy to learn and unlike to be transferred.

Perceived linguistic distance will explain the unwillingness of Czech speakers to transfer Czech morphology to English, as opposed to Russian - they simply know, or think they know, which languages are more closely related.

Finally the theory of learners' psychotypology will handily explain the Dutch *break* data: these learners seem to have a clear sense of which uses of the verb are core - that is universal - and which are not: they are much more willing to transfer the core uses.

6.5 WHY IS CONSIDERING CROSS-LINGUISTIC INFLUENCE IMPORTANT?

First, knowing about cross-linguistic influence is important because it exists and is particularly salient in foreign language settings, such as teaching and learning English in Hungary. It is quite easy to see the influence of Hungarian on English here, and knowing about the types of influences and types of theories will help us in understanding it. For example while the theory of perceived linguistic distance may help us understand why overt, surface-level transfer of Hungarian morphology is unlikely, we might also look for more subtle types of transfer that are caused by, for example, certain verb plus argument structures as

being seen as “normal” or core to all languages - such as the ungrammatical sentence **I suggested Bob the answer*.

Second, as we and our students learn more languages beyond a second language, cross-linguistic influence becomes more important and much more common as the possibilities for influence increase. Having a more sophisticated view of transfer is essential to understanding this.

Third, following how transfer has been researched and how different theories have been proposed tells us something about how the field of second language acquisition has developed. Older theories such as the CAH tended to be large, universal theories which would try to account as much of the data as possible. We saw in this unit how the CAH was replaced by many theories, none of which seek to explain all of cross-linguistic influence - or all of second language acquisition - but all of which work together to account for the phenomena of cross-linguistic influence. In short, theories we should be skeptical of theories based on habit formation and mechanical transfer; language acquisition is more complicated than this. Also it is important to note here that in general even if theories change, if data has been appropriately collected it stands and still be used. This data still needs to be explained, and new theories can do this. We saw this in the last exercise that we did.

6.6 SUMMARY OF THIS UNIT

In this unit we’ve had a look at the very important issue of cross-linguistic influence. We explored different examples of this, and we’ve seen how, over the decades, many different - new and improved - theories to explain cross-linguistic influence have been developed.

Click on the following link for a PowerPoint presentation to hear a summary and concluding remarks concerning unit 6.

[Unit 6 summary and conclusions](#)

6.7 KEY CONCEPTS DEVELOPED IN THIS UNIT

The Contrastive Analysis Hypothesis

American structuralism

Positive transfer

Negative transfer

Cross-linguistic influence

Avoidance

Transfer to somewhere

The markedness differential hypothesis

Perceive linguistic distance

Learner psychotypology

6.8 REFERENCES MENTIONED IN THIS UNIT.

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