

Crossing linguistic boundaries: Making the most of cross-linguistic influence in the language classroom

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Additional language acquisition is often impacted by learners' previous language experience. Though this interaction is often assumed, instructors and learners may not be aware of the actual extent of the effects of cross linguistic influences. This paper offers a general survey of areas in which cross-linguistic influence facilitates or inhibits additional language learning. With increased awareness of potential cross-linguistic influences, both instructors and learners can improve the learning experience by taking advantage of areas of facilitation and paying greater attention to managing inhibitive influences of previous language experience.

Keywords: cross-linguistic influence, language acquisition, language transfer, instruction

1 Introduction

All languages are different; each has its own way of expressing thoughts, desires, experiences, and needs. Cross-linguistic influence¹ is the expression of these differences in individuals who are trying to learn additional languages. Instructors must be aware of all the ways that other languages can influence the language which they are attempting to teach and how they may effectively address negative influence and take advantage of any positive transfer. In this paper, we will first discuss the negative aspects of cross-linguistic influence, followed by the positive, and lastly offer suggestions of how to most effectively manage influence of both types.

¹ Cross-linguistic influence is closely related to language transfer: the process by which speakers use forms and systems from one language in the production or interpretation of another language. This process may occur bi-directionally between languages.

2 Impacts of cross-linguistic influence

2.1 Negative impacts of cross-linguistic influence

Negative cross-linguistic influence has been researched extensively as an offshoot of the once very popular comparative linguistics field (Aslin et al., 1981; Best, McRoberts & Sithole, 1988; Boroditsky, 2000; Cutler et al., 1992; Juffs, 1998; Pytlyk, 2008; Streeter, 1975; Trehub, 1976; Tsushima et al., 1994; Werker et al., 1981; Yip & Matthews, 2000). The influence of a previously learned language on a target language is notable in every aspect of learning, from phonetics and prosody, to morpho-syntax, to semantic classification, to genre-specific styles and idea organization. Though one cannot claim that all language learning difficulties are a result of cross-linguistic influence, this section discusses the negative implications of this influence on sound perception and production, morpho-syntax, semantic interpretation, and even written organization.

2.1.1 *Sound perception*

Hearing a language being spoken is an important aspect of additional language learning but, due to previously learned languages, some may struggle to perceive what is being uttered. Much research has been carried out on the universal sound distinction abilities of babies, showing that infants can distinguish not only phonemes of their own language but those of others, which are often significantly different (Aslin et al., 1981; Best, McRoberts & Sithole, 1988; Streeter, 1975; Trehub, 1976; Tsushima et al., 1994; Werker et al., 1981; Werker & Tees, 1984). After an individual reaches about one year of age, however, he/she loses this amazing capacity (Werker & Tees, 1984) and becomes a categorical listener (Liberman, Harris, Hoffman & Griffith, 1957). As first demonstrated by Liberman et al. (1957), sounds lie on continua, but once an individual reaches the age of 11–13 months old, he/she ceases to hear along a continuum and instead hears all speech sounds as members of distinct categories. Kuhl (2000) also showed that the phonetic inventory of a speaker's first language has a lasting effect on the organization of his/her auditory discrimination system. Miyawaki et al. (1975) found that adult Japanese speakers were unable to differentiate English phonemes /l/ and /r/ above the level of chance. The ability to differentiate sound does, however, remain so long as sounds are presented in rapid succession (Van Hesson & Schouten, 1992). This suggests that categorical perception is language specific; one still has the auditory ability and need only foster it so that it can help to redefine the linguistic sound categories of the first language.

Segmentation is also vital to processing the speech that we hear. Languages that are timed differently (stress based like English, versus syllable based like French or Mandarin), are also segmented differently. Unfortunately, listeners seem to be monolingual in their segmentation patterns even if they are bilingual speakers (Cutler et al., 1992). According to Cutler et al. (1992), French speakers treat all input whether French or otherwise as input that can be segmented syllabically. When such segmentation fails, the incoming word must be reanalyzed. Assuming that this holds for language users in general, learners seem unable to learn new ways of segmenting speech on an immediate, automatic level.

2.1.2 *Sound production*

If a learner is unable to hear a sound as unique, they will likely face difficulty producing it. But, even if students can hear a sound, they may assimilate it to a sound from their own language that is similar to the target but easier for them to produce, thereby bringing about foreign accents. Flege et al. (1997) found that speakers were able to produce more intelligible English vowels if similar contrasting vowels existed in their native vowel inventory. Accents are not to be deemed problematic but students may be able to reach a more native-like quality of phoneme production by ways of phonetically based instruction.

Speech melodies are also important to fluent production and are heavily influenced by one's native tongue. Newborn babies produce cry melodies that mimic the speech melodies of their parents (Mampe et al., 2009). From birth, humans seem to be predisposed to a certain pattern of intonation. Pytlyk (2008) discovered a similar phenomenon with English speaking learners of Mandarin. The Mandarin particle *ma*, when added to the end of a statement, turns it into a yes/no question and should be produced in a neutral (flat and relatively low) tone. Pytlyk (2008) found that English speakers studying Mandarin, however, consistently give *ma* a rising tone to mimic the rising intonation pattern of an English question.

Also of interest are the issues of stress versus syllable timing. Varieties such as Singlish, which is syllable timed (Low, Grabe & Nolan, 2000; Deterding, 2001), are often characterised by their non-standard timing or "staccato effect" (Brown, 1988). This rhythmic similarity to languages such as Mandarin, which are also spoken commonly in Singapore, may suggest a certain level of linguistic interference. The natural stress timing of English has shifted to more syllable timing, perhaps in response to the linguistic backgrounds of the speakers in Singapore.

2.1.3 *Morpho-syntax*

The way that languages encode grammatical and lexical information also differs greatly. A language may be isolating: one word corresponds to one morpheme; inflectional: one word corresponds to one lexeme and various grammatical affixes; agglutinating: one word corresponds to several lexemes (up to one phrase) and various grammatical affixes; or polysynthetic: one word corresponds to multiple lexemes (up to a sentence) and all necessary grammatical morphemes. (Halvor Eifring & Rolf Theil, 2005)

In his work with Japanese, Chinese, and Romance speaking learners of English, Juffs (1998) found that speakers of languages that must encode causation in verbal events overtly (Japanese and Chinese) have significantly more trouble with ambiguous English sentences involving causative verbs than do speakers of Romance languages, which use a similar causative verb encoding system to English. This sort of interference can also occur in native bilinguals as shown by Sanchez (2006). Bilingual Kechwa–Spanish children were found to use a non-traditional Spanish structure, not used by speakers of Spanish alone, which reflects their use of desiderative affixes to convey volition in Kechwa. In this instance, there is an important interaction between a speaker of two native languages leading to atypical uses. Hence, teachers of students working from a language with different morphological patterns than the target language are likely to encounter unusual forms of language production, as learners attempt to assimilate the new language to the structure of the old.

Even in languages with similar uses of inflection such as Spanish and Italian, word order and other purely syntactic processes can complicate the acquisition process. Argument and predicate ordering, the manner in which phrases are placed in a sentence, i.e., how the subject, verb, object, and indirect object are organized, is a particularly important aspect of syntactic variation as languages may organize sentences as SVO, SOV, or OSV. Another important aspect to consider (and to remind students of) is the positioning of adjectival phrases. Languages like French tend towards placing adjectival structures after the noun that they modify, whilst languages like Mandarin place all modifiers before the noun. Languages like English, however, tend to place adjectives before nouns but adjectival phrases (i.e., ‘that’ or ‘which’ phrases) after the noun (Huang, 2010).

As seen in Yip & Matthews’s (2000) study of a bilingual Cantonese–English speaking child, transfer of word ordering is present in language use. The child showed interference with structures such as Wh-questions but only from Cantonese to English. The child was believed to be equally proficient in both languages and so the prominence of Cantonese structures such as the Wh-in-situ-questions, which retain the question word where the answer would be in a declarative sentence, suggests markedness, as detailed by Eckman (1977, 1981,

2004)'s Marked Differential Hypothesis,² as a determinate in cross-linguistic influence.

2.1.4 Semantic variation

Morpho-syntactic interference may require overcoming deep habits, but semantic variation may demand an entirely new conception of the material at hand. The Sapir-Whorf hypothesis proposes that this difference in linguistic conceptualization actually constrains the way that we perceive the world (Whorf, 1956). The strong version of the hypothesis has (for the most part) been discarded, but the weak version (suggesting that the way our language partitions the world influences the way we perceive the world) remains of interest (Gentner & Goldin-Meadow, 2003).

Boroditsky (2000), examined Mandarin time words and showed that Mandarin speakers can be primed differently than English speakers in the domain of time, suggesting some influence of language on thought as is entailed by the weak Whorfian hypothesis. For example, Mandarin uses vertical metaphors (e.g. the past (*earlier*) is *up* or *shang* and the future (*later* is *down* or *xia*) for time as well as horizontal metaphors (e.g. *before* can be expressed by *in front of* or *yi qian*) analogous to English. This sort of variation in semantic content of expressions can be very troubling for students of additional languages.

Number systems also differ from language to language both in terms of base and encoding style used. English is a good example of a marked base ten number system that has non-transparent terms for numbers like *thirty-four*. Mandarin on the other hand encodes numbers in an extremely transparent manner: *thirty four* is *san-shi-si* or *three-ten-four*. Mandarin speaking children develop numeracy skills faster than English children (Anuio et al., 2009) which may suggest that the way our language encodes numbers may influence our general conception of number systems. Thus, for learners of languages that use less transparent encoding systems, the language specific preferences in encoding must be kept in mind and explicitly taught.

Languages differ, not only in conceptualization but also in categorization. One of the most studied domains is that of colour. Heider (1972) claims that there is no deep effect of language on colour perception or memory in English and Dani speakers, but these findings have been questioned as Dani colours overlap,

² In this hypothesis, Eckman suggests that all features of language are more or less marked in accordance with their frequency of use across languages, ease of acquisition and complexity. For example: a syllable beginning with a consonant cluster is more marked than a syllable beginning with a single consonant. Eckman also argues that language structures are learned in order of markedness and are more or less difficult to learn in accordance with their markedness (Eckman, 1977, 1981, 2004).

but do not crosscut, English colour boundaries. Roberson et al. (2000), working with Berinmo, a language which regularly crosscuts English colour classes, did find a difference in recognition and memory using similar methodologies to Heider (1972). Lastly, Winawer et al. (2007) found significant differences in colour recognition in Russian and English speakers with blues (in Russian there are two separate terms, one for light blues one for dark). Winawer et al. (2007) also found that, when a linguistic interference task (e.g. reading a string of nonsense syllables aloud whilst doing the recognition task) was used, both groups performed equally poorly. This may suggest that perception remains unchanged but is filtered through linguistic categories: a difference in conception, not perception.

2.1.5 Organizational habits

A final area of cross-linguistic interference lies in how learners and speakers of a language organize ideas and present thoughts. As Huang (2010) states, languages differ in their preference of topic or subject prominence, extent of use of connecting forms, and choice of ordering information. An instructor must be aware of the presence of these habits and their potential to create miscommunications, stylistic problems, and ambiguities in the written work of students.

2.2 Positive impacts of cross-linguistic influence

There has been little research done, within the field of second language acquisition, on the positive or potentially positive effects of knowing a previous language on learning a new language. Thus, we discuss some potential positive influences which deserve consideration.

Language learning can be aided when the target language is in the same language family and/or shares linguistic roots with a language already known to the learner. Cognates, words that are similar or the same between two languages, such as *night* (English), *nuit* (French), *nacht* (German), *natt* (Swedish, Norwegian), *nótt* (Icelandic) as well as *apple* (English) and *appel* (Dutch), will in many cases require little to no effort for the learner to acquire. These cases can also make it easier for the learner to puzzle out the meaning of an unfamiliar word in the target language, due to common linguistic roots of words in the target language and previously known language. Coming to the meaning of the word in this way can not only aid the learner in recollection of the word, but also give them greater confidence in learning and speaking the language, leading to better overall language learning. It can also be easier for a learner when they are already

familiar with the sentence structure of a target language, such as a subject-verb-object (SVO) language speaker learning another SVO language, as a new sentence order need not be learned.

Also to consider is the effect that previous language learning can have on further attempts to learn additional languages. Many methods of language learning give the learner increased knowledge of linguistic structures and principles, and having this knowledge already available can potentially make the language learning process easier. For example, an English speaker who has already learned French should have some knowledge of the inflected imperfect tense³ (which normal monolingual speakers of English do not). This makes using the tense in another language that uses it (such as Latin) far easier. Some learners will benefit from being able to sort their new knowledge into formal terms and categories, such as subject-verb-object sentence order, inflection, affixation, and other formal grammatical terms as it provides a skeleton onto which the flesh of the target language can be associated and connected.

Although these examples of positive cross-linguistic influence are not necessarily substantiated by research, at the very least they indicate the potential for study in this particular area of language learning.

3 Teaching implications

Without turning the classroom into a comparative linguistics lecture, language instructors may find it useful to know as many contrasts and common aspects between the language that they are teaching and the languages used by students as possible. Instructors cannot help learners to be aware of potential biases (and how to avoid them) if they are not aware of the biases themselves. This section then will outline some helpful ideas for using knowledge of cross-linguistic influences to help learners within a language learning environment.

3.1 Phonetically-based instruction

We believe that language learning and intelligibility of speech can be greatly improved by a phonetic approach to sound production. Though some learners may be able to produce sounds by listening alone, many also need a little extra help. In teaching non-English phonemes/phoneme contrasts verbal descriptions of mouth/tongue/lip alignment and even small diagrams may help simplify a challenging task. If taught how to position their tongue and lips, students are

³ Usually considered analogous to the English construction *was VERBing*, it indicates a past continuous or incomplete action.

more likely to be able to produce the sound than if merely listening to an instructor and guessing. For example, the first author encountered an English speaking learner of Mandarin who had, for the entire two and a half years he had been studying the language, believed himself unable to produce the difference between /tʂʰ/ and /tɕʰ/ (having pronounced both as the English /tʃ/). He was able to acquire a noticeable improvement in pronunciation in less than five minutes of phonetically guided practice with the guidance of a rough picture of tongue positions sketched out by the instructor.

For example, if one wants to produce the /θ/ found in English, it seems to be more helpful to offer a detailed description of how the sound is produced than to just produce it in an attempt to elicit a response. It is also often helpful to employ analogies to known sounds. For a speaker of Japanese attempting to produce the /θ/, an instructor may wish to have them first produce an [s] sound. Then either description or drawing can show the student how their tongue is placed in the mouth near the alveolar ridge (the hard part of the roof of the mouth just behind the teeth) for the [s]. Now the student is asked to try to make a [s] sound while gradually extending the tongue towards and between their teeth, they will likely have far greater success. Many of the authors' undergraduate peers of various departmental affiliations have been recently subjected to crash courses in non-English phonemes. Even for those who were unable to hear the contrasts when the sounds were made, a careful description of what their tongue needed to do yielded (without fail – though with a multitude of complaints about unnaturalness of the sound) the phoneme in question. Instructors may also find it useful to consult the forthcoming Truong (2010), which explores phonetic pronunciation instruction among learners of L2 Japanese.

3.2 Cognates: (False) friends

There are many words across languages that, though similar in spelling and pronunciation, do not have the same meaning. For example, *bekommen*, in German, does not mean *to become* but, instead, *to get/acquire*. There are also many words which can provide useful handholds for learners of an additional language. Even something as simple as *appel* and *apple* (see section 2.2) can, if nothing else, allow the learner to feel more at ease with a language.

Instructors, however, must make their students aware of those cognates which are not in fact synonymous in meaning as learners may be tempted to over-extend analogies to their previously learned languages. As discussed in Prator (1967), though acquiring nearly identical tokens across languages is the lowest of difficulty, acquiring a token which, on the surface, is very similar but is actually connected to a different function of meaning is amongst the most difficult to learn. Thus, false friends deserve exposition in the language classroom.

3.3 Imagery

When facing semantic differences in language's conceptualizations or categorizations of the world, instructors face a unique challenge. Asking students to imagine the conceptual domain at hand in a clear visual image that aligns with the target language can offer a much more salient understanding of the system. Drawing pictures of the idea can also be helpful. Learners of Mandarin, for example, may wish to imagine that one is lying on their back in a field with time rising around them so that they see the past immediately after it happens but cannot see the future which is below them, hence the past is *up* or *shang* and the future is *down* or *xia* – as discussed in section 2.1.4. The first author has found this particular practice immensely helpful in her ongoing attempt to learn Mandarin.

Visuals can also be used in domains such as colour. For example, in languages that have differing colour systems to English, such as Russian with its two blues mentioned previously, students may be assisted by actual colour chips showing the prototypical shade for a particular colour name, or even a whole hue chart with each colour name marked off in its own unique section. Though not all students are visual learners, visualization can be a good place to start in giving learners access to varied conceptual systems from which they may be able to expand the mnemonics to suit their specific learning styles (e.g. Auditory learners may be receptive to rhyming or acrostic based oral mnemonics).

3.4 Finding patterns and remaining aware

Instructors continually try to find ways to help students learn; knowing their previous language background can be immensely helpful in this area. As we have discussed previously, languages do differ, and so instructors may be able to improve students' learning by finding ways to tap into their existing knowledge of linguistic forms and the commonalities between those forms and the forms used by the target language.

Instructors must also remain aware of the differences that can lead to difficulty. It cannot be denied that linguistic transfer occurs as students grapple with a new language, often using an existing language as a medium. It is important to be knowledgeable about cross-linguistic similarities and differences and to offer students side by side comparison and exposition of salient features of the languages at hand. For example, if studying past tense systems in English, it may be useful to discuss how past tense systems work in learners' previously learned languages for comparison. Students can improve their learning by seeing the differences and similarities and finding patterns that allow them to avoid inter-language errors. Students aware of the patterns in their existing languages

and encouraged to recognize the patterns of the target language are more likely to find ease in the process of reanalysis of words and structures that may be difficult to segment meaningfully.

4 Conclusion

In order to take full advantage of working with and around cross-linguistic influence in the classroom, more research is necessary on positive cross-linguistic influence to add to the considerable amount of research done concerning negative cross-linguistic influence. Instructors should be fully aware of the deeper linguistic characteristics of both the target language and the languages that the students have previously learned in order to maximize teaching potential. Teaching a language is not always about breaking the habits of the previous language or languages, it is also about becoming proficient in an additional communication medium. As such, instructors require many skills and insights above and beyond knowledge of cross-linguistic influence. That said, making the most of the impacts of contrasts and commonalities between previously learned and target languages constitutes an important part of language learning and teaching as a whole.

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