On the continuum along which theories of first and second language acquisition are located, the two extremes represent the classic controversy of nature (nativist) vs. nurture (environmentalist), while those in the middle view language acquisition as a result of a more or less balanced interaction between innate capacities and linguistic experience (interactionist). Interactionists can be divided into two groups according to whether they give more weight to cognitive or social factors. As a rule, cognitive interactionists give more weight to the learner and thus reflect to a greater extent the influence of nativist theories, while social interactionists focus on language in communication and so are closer to the environmentalist part of the continuum. An examination of these approaches provides a framework for evaluating some of the major research findings in second language acquisition as they relate to classroom foreign language teaching. Based on research findings, it is now recognized that certain properties of second and foreign language acquisition are immune to environmental differences. Nonetheless, the environment plays an essential role in determining how much and how quickly learners learn. Therefore, language learning must be viewed as the outcome of the interaction of experience with the cognitive, linguistic, and social systems. (42 references) (MSE)
Some Implications of Research in Second Language Acquisition for Foreign Language Teaching

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There is a continuum along which theories of first and second language acquisition are located. The positions at the two extremes represent the classic controversy of nature vs. nurture while those in the middle view language acquisition as the result of a more or less balanced interaction between innate capacities and linguistic experience. An examination of these three basic approaches will provide a framework for evaluating some of the major findings of research in the area of second language acquisition as they relate to classroom foreign language teaching.

The nativist view of language learning

The first approach has been called mentalistic, linguistic or nativist. In keeping with a Chomskyan point of view, it holds that the language properties inherent in the human mind make up a "Universal Grammar", which consists of a set of general principles that apply to all natural languages. The learner matches these pre-existing linguistic schemas against the surface features of the target language, which vary as to how difficult they are to acquire according to whether they represent universal rules (that is, found in all or many languages) or language specific rules (that is, those found in few or only one language). Indeed, this position says, the imperfect and limited samples of language to which individual learners are exposed would never be adequate to enable them to reconstruct an entire linguistic system if possible options were not constrained a priori and if learners did not possess a kind of Language Acquisition Device which allows them to go beyond mere surface forms to discover the underlying rules of the language. It has been observed that at certain stages of second language acquisition, deviant forms are produced which are not present in the input and which are not accountable for by learners' L1, apparently as part of a reorganization of their knowledge of the target language. Likewise, learners seem to possess a kind of projection capacity which enables them to compute a new rule even when the input provides no direct evidence for it (Zobl 1983), probably on the basis of the implicational relationship between categories, such that the existence of a more marked category A in a language implies the existence of a less marked category B.

SLA research on language universals has focused on similarities in the learning order of all learners of specific target languages, regardless of their first languages (see Gass 1984; Wode 1984; Rutherford 1982). This research provides some evidence for the hypothesis that linguistic properties that are unmarked or less marked (that is, more or less universal) are
learned before marked or more marked (that is, language specific) properties. It is in this respect that Wode (1980) refers to the nature of the linguistic rules of the TL as a major variable in language acquisition. The same theory is used to explain why some differences between the native language and the target language create learning difficulties while others do not, predicting that transfer from L1 to L2 is most likely to occur where the native language shows an unmarked rule or where the L2 rule is obscure (and thus marked). The inconclusiveness of research in this area, including the difficulty in assigning degrees of markedness to language features, makes its applications to classroom second or foreign language teaching uncertain. Indeed, some researchers maintain that its real value lies in its contribution to the construction of a theory of language since studies of this kind "provide a clearer window for the investigation and verification of language universals" (Gass and Ard 1980:443) than does first language acquisition, which is further complicated by non-linguistic factors like perceptual and cognitive development.

More recently, however, researchers working within a language universals framework have begun to focus on the role of negative evidence in leading learners to abandon or revise incorrect hypotheses they have formulated about how the target language works. Bley-Vroman (1986) distinguishes between learner hypotheses which can be tested on the basis of positive data alone (that is, the appearance of certain features in comprehensible input) and those which require negative evidence (for example, the resetting of overly broad parameters transferred from the L1). It is here that the language teacher can play a crucial role in making problematic features of the L2 salient for learners and in generally encouraging them to pay attention to form. Sharwood-Smith (1990; Rutherford and Sharwood-Smith 1988) recommends that teachers "enhance" the language learners are exposed to, in terms of highlighting both what is acceptable and what is not part of the new system. He calls this "putting flags in the input". It is hoped that after recognizing the teacher's flags, learners will store them and begin to use them to flag other input and their own output without the aid of the teacher. Rutherford (1987) calls the kind of focusing on language forms which attracts learners' attention, engages their curiosity and starts them thinking "conscious raising" about grammar. He suggests that where learners are using what they are learning about grammar to express content of their own choosing, the problem of lack of carryover from structured practice and drills to spontaneous speech can be avoided.

A technique that has been used in doing research in this area is asking learners to judge the correctness of specific structures. It has been found that there exists a kind of psycholinguistic markedness in that learners have a sense of what is marked in their L1 (for example, idioms, non-core meanings of lexical items, peripheral functions of verb tenses, etc.) and will avoid transferring these structures to the L2. In the same way, learners of English as an L2 are more likely to judge correct sentences with the unmarked dative than the marked double noun phrase construction or with core as opposed to non-core meanings of verbs. White (1990) reports on a study focusing on
the differences between English and French with respect to the acceptability of placing an adverb between a verb and its direct object. In English, the adjacency principle (according to which noun phrases must be next to the verb or preposition that governs them or gives them case) is operative, and as such the permissible case in English constitutes a subset of the permissible cases in French. For this reason, French learners of English typically transfer the setting from the L1 and persist in their error despite the fact that this structure is absent from the L2 data. White found that formal teaching that consistently emphasizes this difference can dramatically improve French-speaking learners' judgments of the grammaticality of related English sentences.

The environmentalist view of language learning

The approach to language acquisition which is diametrically opposed to the nativist tendency is known as environmentalist or empiricist. While the nativist position focuses on the internal processing mechanisms, which are simply triggered off by incoming data, the environmentalist view stresses the importance of external factors and holds that the determining role is played by the language environment, mainly in the form of linguistic input. It was characteristic of the theory of language learning adopted by the audio-linguists, who were heavily influenced by behavioural psychology. Behaviourists were concerned only with the observable and measurable aspects of language behaviour. They viewed the learner as passive and believed language development was shaped by the environment through a process of imitation and reinforcement. With the advent of cognitive psychology no one regards language learning in so simplistic a way, although the role of imitation is recognized in the learning of unanalyzed chunks of language, such as those associated with formulaic expressions, patterns and routines. However, the importance of the linguistic environment is still recognized in the form of appropriate input and feedback, as well as in providing opportunities for practice so as to render some aspects of language use automatic (see Danesi and Titone 1985; McLaughlin, Rossman and McLeod 1983).

Curiously enough, Krashen's model of SLA, which has a nativist base in that it assumes the existence of a special language acquisition device, depends to a large extent on what is essentially a factor external to the learner, namely, language input from the environment. It says that in the absence of anxiety or of other emotions or states of mind which could prevent language input from reaching learners' language processing device, acquisition will occur automatically when learners engage in natural communication with a focus on meaning provided they receive the "right" input, which Krashen defines as language that learners can understand but that contains new elements and so is slightly beyond their current level of proficiency. In Krashen's own words, comprehensible input "delivered in a low (affective) filter situation is the only 'causative variable' in second language acquisition" (Krashen 1981:57). Krashen distinguishes between
"acquiring" language in a naturalistic setting where the focus is on communication and where language use is spontaneous and unconscious and "learning" in a traditional classroom setting where the focus is on language forms and learners are expected to monitor their performance in order to avoid or correct errors. He uses evidence for a fixed acquisition order of language structures to support his belief that explicit instruction does not make an important difference in learning to use the language in normal communication and that only exposure to a sufficient amount of language of the right quality will facilitate acquisition (Dulay, Burt and Krashen 1982). While he leaves language teachers with the unsatisfying feeling that their role is basically limited to the skillful selection and presentation of material in a supportive, non-threatening environment, his insistence on the so-called natural approach places a healthy emphasis on the importance of exposing learners to language as it is used for normal purposes, language which has meaning for them and yet at the same time challenges them to figure out something which they do not already know.

The concern with input as a determining factor in first and second language acquisition is also reflected in the many studies of the language addressed to children and to foreigners by native speakers and to language students by their teachers (see Hatch 1983 for a review). Certain features of the kind of language that is used are thought to facilitate acquisition by making input easier to understand. These include higher pitched output, greater intonation variation, louder volume, more frequent and longer pauses, slower speech, use of gestures, simplified syntax with greater use of unmarked forms, concrete lexicon and definitions, more repetition of words and phrases (also to make structures and patterns more obvious), greater use of questions which highlight sentence constituents or provide their own answers, more reformulation, more topic highlighting, and more confirmation checks. Some studies cast doubt on the usefulness as input of the error-ridden language often produced by peers in unguided work in small groups (Pica and Doughty 1985; Wong-Fillmore 1985). The same criticism holds for teacher-centered classrooms where normal communication patterns are distorted so that linguistic exchanges do not reflect a realistic use of language and where the relationship of one to many does not permit the teacher to fine-tune input to feedback from individual learners. Recently some researchers have pointed out that learners' own output can also serve as input for them (Sharwood Smith 1981). This would seem to imply that monitoring and negative feedback can be important tools for upgrading output-input.

Interactionist views of language learning

Most of the current approaches to second language acquisition can be considered interactionist because they focus in a more or less balanced way on the interaction between the learner and the environment. Interactionists can be divided into two groups, according to whether they give more weight to cognitive or social factors. As a rule, cognitive interactionists focus on
the learner and thus reflect to a greater extent the influence of nativist theories, while social interactionists' focus on language in communication and so are closer to the environmentalist part of the continuum. Both groups view learners as active agents who decide not only how much of the input they are exposed to becomes intake but even determine to a considerable extent how much and what kind of input they receive through a variety of learning and communication strategies (Seliger 1977; Brown 1985).

Cognitive approaches

A cognitive explanation of language learning goes something like this. Learners make inferences on the basis of linguistic input and their prior linguistic knowledge and use these inferences to formulate hypotheses about how the new language is organized. These hypotheses are then tested out in a variety of ways—by comparing them with other linguistic data encountered, by producing utterances based on the hypotheses and assessing them in terms of the feedback received, by comparing them with or asking for a related rule. Consolidated hypotheses must eventually be automatized through practice. Given this scenario, a number of teaching implications come to mind. First of all, new language forms which are presented in such a way that their meaning is immediately inferable from the linguistic or extralinguistic context can be more readily used for hypothesis formation. Where important differences from the native language can be highlighted, they are less likely to result in erroneous hypotheses. Negative feedback is more likely to have the desired effect if it is addressed to a language feature the learner is working on at that particular moment, or if it is related to something the learner can be expected to be able to correct when his or her attention is called to it. Learners will need to use the new forms in a variety of utterances of their own making before these forms can become a more or less stable part of their linguistic repertoire. This is because the more associations they are able to establish between the new forms and what they already know, the easier it will be to retain them and to recall them when needed.

A significant amount of research has been done on learner differences and on learning styles and preferences. It suggests that the more individualized instruction and feedback are, the more effective they will be. However, it is also true that given learners may vary their strategies according to the task, their mood or the degree of success they feel they are having. Danesi (1985) reports on recent research on the brain which suggests that the left and the right hemispheres play important and complementary roles in language processing. It is now believed that the right side of the brain is involved in the handling of patterns and, for this reason, it is associated with the early stages of language learning and with informal language acquisition in general, while the left side continues to be considered the site of the analytic processing so essential for creative construction. An example of the way in which they both participate in language learning is the learning of routines and patterns as unanalyzed chunks, immediately available for use in communica-
tion, which can then be unpackaged slowly for use in creative speech in rule-governed ways. On the basis of these findings, Danesi recommends a teaching approach which draws on both left and right-mode functions. This means activating the intuitive, holistic, image-making capacities of learners as well as their analytical, sequential, verbal powers.

Researchers who have looked at cognitive functioning by studying learning strategies do not agree with Krashen's acquisition-learning dichotomy. They maintain that what is consciously learned can pass into the spontaneous vernacular style as a result of practice (see Bialystok and Frohlich 1977; Bialystock and Sharwood Smith 1985). They advocate providing opportunities for spontaneous and planned speech and exposure to analyzed and unanalyzed language to engage deductive, inductive and intuitive abilities. They see an important role, not only for focusing on language forms as they express meaning in contexts, but also for reflecting on language and on learning, particularly in the case of adult learners. In this sense the classroom is an appropriate environment for learning as it can be manipulated to allow learners to engage, on the one hand, in communicative use of language and, on the other, in metalinguistic and metacognitive reflection.

From the field of computational linguistics and research on artificial intelligence comes a new model of language functioning referred to as neo-connectionist or distributed parallel processing, which promises to shed light on the crucial links between knowledge and action. Rivers (1990:20) concludes that this theory "encourages us to design our courses so that students are continually involved in using whatever they know (not just whatever they are learning at a certain point) and in reflecting on what they are learning as they are using it."

Obviously, in any consideration of what the learner brings to the learning task, recognition must be paid to learner characteristics which influence interaction with language input and with speakers of the language, such as aptitude, attitude and motivation, including aspects of personality. Since aptitude is generally regarded as invariable and research on personality factors is not easily interpreted given the difficulties in measurement, they will not be discussed here. There is a significant body of research on social psychological factors affecting language learning. Schumann's (1978) acculturation model, Giles and St Clair's (1979) speech accommodation theory, and Lambert's (1977) work on intergroup relations all point up the importance of language learners' subjective feelings, values and motives with regard to the target language culture and toward native speakers of the language. Gardner's (1985) studies have stressed the role played by motivation, whether integrative or instrumental. While those aspects of the learning situation related to how learners perceive the social reality outside the classroom should not be neglected, there seems to be some agreement that what matters most inside the classroom may be the motivation engendered by the learning process itself (Burstall 1975). Indeed, in working with their students on a day-to-day basis teachers need to rely on their ability to provide the immediate stimulus for mastering some part of the new language and to allow
the resulting gratification act as an impetus for further engagement.

**Social interaction approaches**

Social interactionists consider the interaction between learners and their interlocutors of primary importance since they view language as basically a collaborative construction. There is some evidence that second language acquisition is most facilitated where meaning is negotiated in a two-way flow of information between equals (Pica 1985). This seems to suggest an important role for peers, who are believed to be learners' preferred TL models (Beebe 1985). Long and Porter (1985) point out that in small group work learners get more language practice using a greater variety of rhetorical functions with more negotiation of meaning. He maintains that this not only ensures that language input will be comprehensible but also provides learners with an opportunity to manipulate their own production. He does warn, however, that in order to be successful group work needs to be carefully structured, preferably with a built-in two-way task, and he suggests that the quality of the language produced could be improved if learners are trained to self-correct and to assist one another in solving language problems.

The recent tendency to view pair and small group work as the answer to making classroom language use more naturalistic comes from a number of critical studies on the patterns of interaction in traditional, teacher-centered classrooms (Flanders 1970; Long 1975; Fanslow 1977). They show clearly that: 1) teachers tend to dominate talking time so that the average talking time per student in large groups is minimal; 2) the teacher talk characteristic of one-to-many interactions exhibits few if any adjustments to individual students; 3) the use of unnatural and unmotivated language to elicit highly predictable responses deprives interaction of that element of tension and curiosity which triggers learning; 4) languages exchanges are restricted to a single basic pattern - teacher initiates, student responds, teacher approves or corrects - which dramatically limits opportunities for negotiating meaning; 5) in FL teaching classroom management, usually through the giving of instructions, is conducted where possible in the L1, as is most of the socializing that goes on between teacher and students. This last point is probably only a matter of convenience, yet both the following of instructions, where there is concrete, immediate feedback as to the accuracy of comprehension, and the practising of social routines can be excellent vehicles for engaging learners with the TL. It is suggested here that a way to draw on learners' preference for peers as language role models without sacrificing the quality of input (or quantity where learners share the same L1) is to set up a communicative exchange within the class as a whole with the teacher playing the role of the language expert and encouraging learners to determine the content, to initiate, to manage turn-taking, to ask each other questions for clarification, etc. In this way, the negotiated repair that comes about as a result of a communication breakdown can, with the language expert's assistance, not only restore communication but also
enable learners to produce a unit which is syntactically more complex or phonologically more appropriate. In Ellis' (1985:81) words, the teacher is "supplying crucial chunks of language at the right moment." At other times, these interventions may involve the teacher's modeling or reformulation of what it is the learner seems to want to say. Furthermore, if the teacher succeeds in engaging the group in following not only the content but also the form of utterances by their peers (for example, by making them responsible for correcting or improving them), then the improved language output which results can be available to all, and learning need not be limited to actual speaking time.

Support for the role of the teacher in upgrading learners' output comes from the results of immersion programs in Canada. Swain (1985) has concluded that while comprehensible input may be sufficient for the development of discourse and sociolinguistic competence, producing the TL may be essential for grammatical acquisition since it is production that forces learners to deal explicitly with form. She found that in spite of the fact that there was little opportunity for learners to engage in two-way, negotiated meaning exchanges in the immersion classroom, they nonetheless achieved a high level of discourse and sociolinguistic competence. On the other hand, comprehensible input was not sufficient to allow learners to develop grammatical competence. Swain hypothesizes that it is output and not input that makes the difference in acquiring grammar. She suggests that "negotiating meaning" should be extended to the idea of negative feedback which gets learners to look also at the form of what they have produced. She sees an important role for the teacher in "pushing" learners to make their output reflect more precisely and appropriately their intended meaning, which often means analyzing the grammar of the L2 further than they would need to simply to get their message across to their classmates and teacher.

Conclusion

On the basis of research findings, it is now recognized that certain properties of second and foreign language acquisition are immune to environmental differences. For example, there seems to be an established overall sequence of development regardless of the target language in question, learners' L1s or the nature of the linguistic input to which they are exposed. Nonetheless, the environment plays an essential role in determining how much and how quickly learners learn. For it is the learner's innate language abilities operating on the specific linguistic rules to be developed through interaction with language input and interlocutors and with their own output which constitutes the complex process of second language acquisition. Hatch (1986:5) emphasizes the fact that language structures our experience and at the same time is developed through experience: "Language is a way, perhaps the best way, of making our experience understandable to ourselves and to other people". In this optic, language learning can only be viewed as the outcome of the interaction of experience with the cognitive, linguistic and social systems.
References


Sharwood Smith, M. 1990. Speaking to the many minds: on the relevance or irrelevance of different types of language information for the L2 learner. Paper presented at the 9th World Congress of Applied Linguistics, Thessaloniki, Greece.


Recommended Readings


