

**LEARNER VARIABLES AND STUDENT PERFORMANCE IN  
SECOND-LANGUAGE LEARNING:  
SOME NOTES FOR DISCUSSION, WITH BIBLIOGRAPHY**

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The literature of learning and remembering a second language is replete with references to "variables"—those elusive elements which seem to make learning a second tongue either a breeze or a drag for the teacher and the student—and their effect upon learner performance. The "variables" have been classified and categorized from both cognitive and affective viewpoints, among others, by Chastain (1975, 1975a), Savignon (1972), Jakobovits (1968), Lenneberg (1966), Carroll (1966, 1963), Lambert (1963), and Pimsleur et al. (1962). The recent interest in "learning style" (Reinert, 1976; Hosenfeld, 1975) is yet another attempt to elucidate the same concept, as is the comprehensive classification outlined by Yorio (1976).

The following ten categories and bibliography are offered as a synthesis of the above and as a means to stimulate discussion in courses related to the methodology of foreign language instruction or psycholinguistics where the focus is on understanding learner characteristics. Alternatively, the list may suggest for the empiricist the need for techniques and strategies to control threats to the validity of experiments related to second language learning.

**Variable 1: Intelligence.** Intelligence has been identified by numerous investigators as an important variable with respect to second language acquisition. While it is undoubtedly true, as Birkmaier (1973) maintains, that anyone who can learn a first language can also learn a second, research supports the proposition that there is a direct and positive correlation between intelligence and second-language acquisition. Pimsleur et al. (1961) report that verbal I.Q. and interest appear to be the most important factors in college-level foreign language learning, and Carroll (1962) states that intelligence is both independent from language aptitude and an important variable with respect to the success of the student in his language learning experience.

**Variable 2: Language Aptitude.** Carroll (1962) observed at least four identifiable abilities which enhance language learning: 1) phonetic coding for both recognition and recall, 2) grammatical sensitivity, 3) rote memorization ability, and 4) inductive language learning ability—the ability to infer forms, rules and patterns from new linguistic content. In addition Carroll points out that motivation, intelligence, and general scholastic ability are all independent of aptitude although they, too, contribute to the success of the student (Birkmaier, 1973). Lambert (1968) has found, however, that although aptitude is needed for learning grammar and

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vocabulary, a student who has a positive attitude and is highly motivated can learn a foreign language even though he may have a low aptitude.

**Variable 3: Learning Environment.** Learning environment is a simplistic rubric for a complex factor. It reflects both learning characteristics and the physical setting in which learning takes place. Nida (1956) cites an instance in which a boy's early home experiences influenced his later facility to learn a foreign language. More recently Gardner, Taylor, and Feenstra (1970) have reported that the support which a child receives in the home is closely related to the child's achievement.

With respect to age and language learning, evidence is conflicting. Asher and Garcia (1969) and Ramirez and Liberty (1973) both report a relationship between the age of the learner and his facility in pronunciation, while Olson and Samuels (1973) find no such support in their research.

**Variable 4: Instructional Environment.** Probably more research has been focussed on the instructional environment than on any other factor of second-language acquisition. In all, Mackey (1967) has identified some fifteen methods by which foreign languages are taught. It is significant that although different investigations report conflicting results in terms of which strategy is most effective, there seems to be a general trend indicating that method is related to student achievement, particularly in short term studies (Jarvis and Hatfield, 1971; Savignon, 1972; Asher, 1974; Nieman, 1976). Equally important is the fact that some of the more extensive studies (Scherer and Wertheimer, 1964; P. D. Smith, 1970) hold that performance differences between experimental and control groups tend to disappear as the learners progress beyond the first year of instruction. The growing similarity of groups initially taught differently is logical, for if one expects divergent methods to lead to common objectives, the goals ultimately achieved should be similar regardless of any differences in the process. Finally, the instructional environment may have greater importance in the affective than in the cognitive domain, since the student may find one method to be more enjoyable than another.

**Variable 5: Memory.** The role of memory in second-language learning varies from method to method. An audiolingual approach calls for considerable rote and recall memory, while a grammar-translation course seeks to develop recognition capabilities. Work such as that by Henning (1973), Ott (1973), Samuels and Anderson (1973), and Bugelski (1974) has established that 1) a positive relationship exists between visual recognition memory and reading comprehension (Samuels and Anderson, 1973), 2) visual images can be an aid in remembering vocabulary (Ott, 1973; Henning, 1973), and 3) the effectiveness of vocabulary learning is increased through the use of mnemonic devices, Bugelski, 1974). Pimsleur (1967) has recommended a memory schedule to reinforce for the student

what he learns progressively, while Carton (1971) has described inferencing as a process of reducing memory load in using and learning a language.

**Variable 6: Sociocultural Factors.** One of the principal variables within the affective domain which influences performance in language learning is the attitude of the learner, his parents, and his peers with respect to his own culture and people, and toward learning a second language (Nostrand, 1974). Studies by Nida (1956) and Whyte and Holmberg (1956) substantiate the importance that parental and learner attitude has on the performance of the learner. Similarly, Jacobsen and Imhoof (1974) identify "Japanophilia"—a love of Japan and the Japanese people—as an important factor in predicting success in learning the language (King, Holley, and Weber, 1975). It would appear then, that the student's attitude, as well as the attitudes of those people that he holds in the greatest esteem, has considerable influence on his receptivity to learning a foreign language.

**Variable 7: Egocentric Nature and Personality of the Learner.** There seems to be a relationship between the personality of the learner and his performance in learning a second language. Prichard (1952) compared elementary school boys and found a high correlation between measures of "sociability" and the capacity to speak French fluently. The relationship led him to hypothesize that certain personality factors might have predictive validity. Morrison (1961), as reported in Titone (1973), studied the personalities of ninth-grade language students characterized as under-achievers by their teachers, and described them as being awkward, more serious, and less sociable. Birkmaier (1973) summarizes the importance of personality and other affective variables stating that they must be considered and incorporated into the design of foreign language programs if the programs are to be successful, while Schumann (1976) maintains that there will be enough work with this variable alone to keep the profession busy for the next twenty five years. More recently Reinert (1976) has devised a simple test to discern learning styles which in turn may have a direct relationship with the personality type.

**Variable 8: Motivation and Perseverance.** One of the most elusive yet most often mentioned variables in language learning is motivation. Gardner and Lambert (1972) authored a compendium of their research in the area. The plea for affective education centers on motivation, and the teaching profession in general is being asked to "humanize" in an effort to kindle the interests of the learner.

Earlier, Gardner and Lambert (1959), in their investigation of English speaking eleventh-grade students who had completed an average of about seven years of formal training in French, found two factors related equally to teacher ratings of achievement in French: "linguistic aptitude" and "motivation." In addition, the authors report that maximum prediction of success in the learner can be made through tests which measure 1) verbal

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intelligence, 2) intensity of motivation to learn the second language, 3) student's purposes in studying the second language, for fun and profit (instrumental reasons) or to imitate cultural archetypes (integrative reasons) and 4) one index of linguistic aptitude.

Given the complexity of the construct called motivation, one would expect considerable interaction with other variables, making the collection of empirical evidence on how to motivate a student even more difficult. However, this difficulty does not diminish the necessity of further investigation of the role of motivation and perseverance in language learning.

### **Variables 9 and 10: Sensory Register and Perceptions, and Speech Templates.**

According to Valette and Disick (1972), it is common to find a close inter-relationship between the cognitive and the psychomotor domain. It is possible, and rather common at times, for the student to be operating in the psychomotor domain almost exclusively as, for example, when he repeats a string of words without attaching meaning to them. For the most part, however, a person has already developed most of his psychomotor skills prior to beginning the study of a second language.

Some research has been done to determine the effects of instructive-image elaboration (a mental picture of two objects in some kind of interactive relationship) on the acquisition of foreign language vocabulary (Ott, et al., 1973). Conrad (1964) has reported that if there is acoustic confusion when one hears a sound, he will have greater trouble in recalling that sound. And finally, Catford and Pisoni (1970) report that in the teaching of foreign language phonology, learning is helped apparently by training in articulatory phonetics, which is another way of saying that one should help the learner form the motor templates that become the basis of phonological skills (Carroll, 1974).

Learner variables exert considerable influence on performance in second language learning. The list presented above is to be considered simply as a guide to an awareness of the many factors which influence success in the foreign language classroom. The bibliography which follows provides the student of methodology and the practitioner major sources with which to seek a greater depth of understanding in any one or all of the ten categories. In the non-experimental environment, failure by the teacher to recognize and accommodate learner characteristics increases the probability of less than optimal language development in the student. In an experimental setting, inattention to the impact of aptitude, environment, motivation, and sociocultural factors increases the possibility that attempts to evaluate particular techniques or strategies will be ill-construed and misinterpreted.

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