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An Annotated Bibliography on Second Language Acquisition

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Automated Instructional Systems Technical Area
Training Systems Research Division

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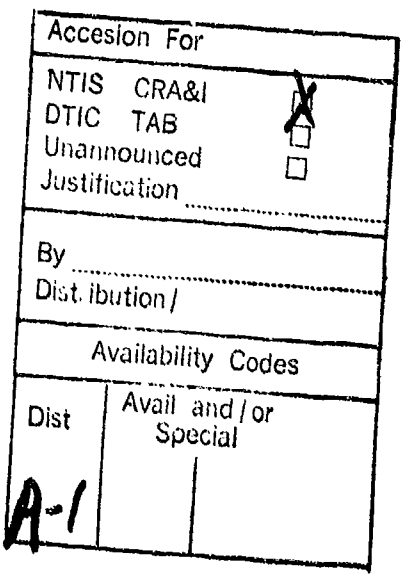

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This report summarizes representative literature in second language acquisition and learning. Writings by the major theorists and researchers were abstracted. These writings were categorized by topic: Testing/Evaluation, Feedback, Interlanguage, General Language Research Issues, Instruction vs. Natural Learning, Acquisition/Order and Acquisition, Personal Factors, Attrition, Strategies and Styles of Learning, Theory, and Computerized Learning. Summaries of the articles are provided.

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An Annotated Bibliography on Second Language Acquisition

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FOREWORD

A primary mission of the Automated Instructional Systems Technical Area of the U.S. Army Research Institute for the Behavioral and Social Sciences (ARI) is to develop an automated system to aid in the maintenance of foreign language skills of military linguists. To effectively achieve this mission, understanding of foreign language acquisition, retention, and attrition is essential. This research product, titled "An Annotated Bibliography on Second Language Acquisition," is part of a larger project focusing on the development of a computerized foreign language tutor.

This report describes selected, representative articles written by researchers active in the foreign language learning community. Its purpose is to acquaint military leaders, language coordinators, and researchers with the major theories and topic areas on second language learning. The information contained herein will be used as a reference for research and training.

EDGAR M. JOHNSON
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AN ANNOTATED BIBLIOGRAPHY OF SECOND LANGUAGE ACQUISITION

CONTENTS

AN ANNOTATED BIBLIOGRAPHY ON SECOND LANGUAGE ACQUISITION

INTRODUCTION

Second language acquisition is a large, expanding field. Many researchers have reported data of many types from many different angles. The following annotated bibliography highlights many of the various avenues of research and discussion in the second language learning field. It is by no means comprehensive, but it does give an overview of the field. An effort was made to include samples or explanations of the major theories and topic areas as well as writings by many of the major researchers in the field.

In each of the articles, the annotation attempts to give a brief synopsis of what the authors said, not what they said they would discuss, as if found in so many published article abstracts.

METHOD

A search of the scientific literature was undertaken to identify the research and papers dealing with second language acquisition and learning. Sources used for this search included scientific journals, books, proceedings of various technical meetings, and technical reports.

While the searches were primarily computerized, using the computerized databases "ERIC, Language and Linguistics, and Psych Info," bibliographies and reference lists in documents obtained during the primary search were reviewed and relevant references identified.

RESULTS

Each of the articles has been assigned to a category which is represented by the single letter located at the beginning of each reference. That does not mean that is the only category that the article could have fit into, but it is an indication of a main thrust of the paper. There is a fine line between some of the categories, and some papers could easily have fit into two or more of them. The list of categories and their abbreviations are as follows:

C = Computerized Learning
E = Testing/Evaluation
F = Feedback
I = Interlanguage
L = General Language and Research Issues
N = Instruction vs. Natural Learning
O = Acquisition/Order of Acquisition
P = Personal Factors
R = Attrition
S = Strategies and Styles of Learning
T = Theory

Located in Appendix A is a list of the references organized by category. Located in Appendix B are additional references which have not been annotated but may be of interest to the serious researcher or student of second language acquisition. Located in Appendix C is a list of common second language abbreviations and terms.

C 1981 Ahmad, K. & Rogers, M. (1981). Development of teaching packages for undergraduate students of German. In D. Wildenberg (Ed.), Computer Simulation in University Teaching (pp. 253-263). New York: North-Holland Publishing Company

Much of CAL is drill and practice. It can be useful because packages are self-administering. Some students need more practice examples than others and therefore, they can take advantage of what they need and be self pacing. Additional advantages include immediate feedback to the learner and exercises that are clearly for learning, not assessment purposes. Examples of three 'serious' rote learning programs are SPRECH, GERAD, and LEX. DEDUCT is a question/answer game where the student thinks of a name of an object in a given category and then converses with the computer, which tries to guess the name of the object. If the computer loses, the object is added to the memory of the computer. (A teacher is able to inspect and validate the game-trees.) A teacher is also able to interactively create game-trees for context-bound vocabulary drills from scratch without modifications to the program software through CREATE.

C 1985 Ahmad, K., Corbett, G., Rogers, M. & Sussex, R. (1985). Computers, Language Learning and Language Teaching (pp. 1-158). Cambridge: Cambridge University Press.

This book provides a general, introductory overview of computer assisted language learning (CALL). It is emphasized that the computer will not take the place of the teacher (a computer does only the instructions of the programmer) and it is the teacher that makes the computer assume various roles. The computer may be used as the mainstay of a course, for a backup, revision, reinforcement, extension, or a multitude of other purposes. The learner, the computer, or a multitude of other purposes. The learner, the computer, and the language as well as their relationships with each other need to be considered by teachers such that needs and requirements are met.

R 1982 Andersen, R.W. (1982). Determining the linguistic attributes of language attrition. On R.D. Lambert and B.F. Freed (Eds.), The Loss of Language Skills (pp. 83-118). Rowley, MA: Newbury House.

A researcher needs to be able to predict which features would be expected to be affected by language attrition so that the proper and relevant data can be collected. Issues that must be considered include a cross-linguistic/cross-disciplinary perspective, language use perspective including:

1) comprehension and production,
2) oral and written use of language,
3) traditional linguistic areas of phonology, morphology, syntax, and lexicon and functions, domains of use, and activities grouped under "doing things with language" and
4) a discourse perspective.

One needs baseline data including how the linguistically competent (LC) use the language and how the language attriters (LA) used the language before attriting. One must be careful to distinguish between true attrition and a failure to acquire the language, and also dysfunctional attrition from cosmetic attrition. Six assumptions of language attrition include:

"1. Language attrition is a special case of variation in the acquisition and use of a language or languages and can best be studied, described, documented, explained, and understood within a framework that includes all other phenomena of language acquisition and use.

2. In linguistic research on variation in language acquisition and use, the researcher chooses as the focus of his research those linguistic features that vary or change, usually covarying with time, linguistic environment, setting, degree of formality, attributes of the participants in the linguistic interaction, etc. In addition, only those variable features that occur frequently enough in the data to be quantified lend themselves to such research.

3. Linguistic features may occur categorically or variably. Although the focus of variation research is on variable features, categorical features are also important to the extent to which they help explain the nature of variation. Thus, by variation we mean all gradations between two categorical extremes: categorically absent (0.0) and categorically present (1.0).

4. Restriction in language use accompanied by a break with a previously established linguistic tradition (or norm) leads to reduction in linguistic form and the creation of gaps in the individual's linguistic repertoire in that language.

5. When a person's use of a language diminishes in such a way as to cause a break in that person's participation in the linguistic tradition that he previously had full participation in, he is thus removed from the type and quantity of linguistic input and linguistic interaction necessary to maintain the full lexical, phonological, morphological, and syntactic distinctions that are made by fluent competent speakers of this language.

6. When the amount and type of linguistic input and linguistic interaction become inadequate for a person to maintain all the lexical, phonological, morphological, and syntactic distinctions in that language, not all linguistically marked distinctions will be affected equally. Some distinctions will be maintained for a long time in spite of the inadequate input and linguistic interaction; others will begin to be eroded very early in the change in use of the language; and all other linguistically marked distinctions will fall somewhere in between these two extremes. In other words, there will be a continuum or hierarchy of linguistically marked distinctions ranging from early erosion of these distinctions to full maintenance in spite of the change in input and interaction."

Four perspectives on determining linguistic attributes of language attrition include:

1) language use, restriction in use and break in linguistic tradition

2) linguistic form, lexicon, phonology, morphology, syntax

3) compensatory strategies, preference for analytic syntax such as using free morphemes when there is a choice between free and bound morphemes and analogical leveling--overgeneralizing, paraphrasing and circumlocution, lexical borrowing and lexical innovations, morphosyntactic transfer and innocations, and

4) nonlinguistic consequences of linguistic erosion--reduced ability to be quick and easy and to be expressive, linguistic insecurity.

T 1981 Asher, J.J. (1981). The total physical response: Theory and Practice. In H. Winitz (Ed.), Annals of the New York Academy of Sciences Vol. 379. Native Language and Foreign Language Acquisition (pp. 324-331). New York: The New York Academy of Sciences.

One of the reasons for the high drop-out rate of foreign language students may be unbearable stress due to left-brain instructional strategies. Clues may be found from studying first-language development.

1. We cannot teach an infant to talk; children will speak when they are ready.

2. Children become ready to talk only after they have acquired a rather intricate map of how the language works. Initially, speech to children demands a physical action, not speech. When a student moves or performs an action, the utterance by the teacher becomes believable, resistance to assimilation reduces, and there is long-term retention.

Features of stress-free instruction are:

1) to delay production until students spontaneously demonstrate a readiness to speak;

2) to maximize student intake of the target language by nesting all grammatical features in the imperative; and

3) to postpone abstractions until a more advanced stage of training.

C 1991 Aspillaga, M. (1991). Screen design: Location of information and its effects on learning. Journal of Computer-Based Instruction, 18(3), 89-92.

Sixty undergraduate, non-Spanish majors, but taking entry level Spanish, served as subjects. Using a computer with a graphic of a house, the name of the room in Spanish, and the definition in English, the students were to learn the names of the rooms. Text was displayed relevant to the graphical information, at the upper middle section of the screen, or randomly. Results indicated that displaying information at a consistent location or relevant to graphical information facilitated learning.

P 1983 Bailey, K.M. (1983). Competitiveness and anxiety in adult second language learning: looking at and through the diary studies. In H.W. Seliger & M.H. Long (Eds.), Classroom Oriented Research in Second Language Acquisition (pp. 67-103). Rowley, MA: Newbury House Publishers.

In looking at the effects of competitiveness and anxiety in language learning, the author reviews ten diaries of L2 learners; eight were language teachers. Each is a case study where the author of the diary is both learner and researcher. The reports are therefore introspective and descriptive in nature and are guided by the main question: "What factors are important in my language learning experience?" The diary studies utilized five basic steps:

1) A personal language learning history is given.
2) Events, details, and feelings about the language-learning experience are recorded in a confidential and candid manner.
3) The journal entries are revised for public perusal, i.e., names changed, information damaging to others or extremely embarrassing are deleted.
4) The researcher studies the journal to find significant trends.
5) Important factors are discussed with or without illustrative data.

Competition was generally strong among the language learners--competition with others in the class, an idealized self-image, or others not directly involved in the classroom. Competitiveness was apparent when comparisons were emotive rather than objective. When the learner sees himself as less proficient than the object of comparison, Language Classroom Anxiety is caused or aggravated. As the learner perceives himself as more competent, anxiety decreases. If anxiety motivates the learner to study, it is facilitating. If it is severe enough to result in withdrawal (mentally or physically, temporarily or permanently), it is debilitating. Diary studies allow or provide the following: acknowledgment of affective factor with resulting description and definition of the variable under consideration, developmental data, insights on the diversity of students, documentation of the ability to overcome, avoid, or counteract factors that are detrimental to the learning process.

C 1982 Barr, A. & Feigenbaum, E.A. (1982). Applications-oriented AI Research: Education. In The Handbook of Artificial Intelligence, Volume II (pp. 223-294). Stanford, CA: Heuristech Press.

The goal of CAI research is to build instructional programs that incorporate well-prepared course material in lessons that are optimized for each student. Early programs were either electronic page-turners or drill-and-practice monitors. More modern research focuses on the design of programs that offer instruction with respect to the student's strengths, weaknesses, and preferred style of learning. Effort is being made to go beyond frame-oriented CAI to ICAI systems that act more like

human teachers to carry on dialogue with the student and use student's mistakes to diagnose misunderstandings. Components of ICAI include the problem solving expertise (the knowledge that the system tries to impart to the student), the student model (what the student does and does not know), and tutoring strategies (how the system presents material to the student). Several programs were briefly described.

SCHOLAR: The inferencing strategies of SCHOLAR are independent of the content of the semantic net and are applicable in different domains. The inferences produced are fairly natural; that is, they handle incomplete knowledge by employing reasoning processes similar to those that people use. The project provides opportunity for research on discourse, teaching strategies, and plausible reasoning. The topic was South America geography.

WHY: This program tutors students in the causes of rainfall which is a function of many interrelated factors. Central themes were to characterize the use of questions, statements, and examples, to determine types of misconceptions of students, and to examine the use of abstractions and viewpoints that tutors use to explain physical processes.

SOPHIE: This program was designed to explore broader student initiative during the tutorial interaction. The student acquires problem-solving skills by trying out ideas, rather than by instruction. Natural language capabilities were based on the concept of performance or semantic grammar (usual syntactic categories such as noun, verb are replaced by semantically meaningful categories).

WEST: Research focused on diagnostic strategies required to infer a student's misunderstandings from observed behavior and various explicit tutoring strategies for directing the tutor to say the right thing at the right time. It was a computer coach and was characterized as guided discovery learning. The two tasks performed were to evaluate the student's "move" and to determine the underlying skills used to select and compose the student's move.

WUMPUS: This was another computer coach system using WUSOC-II. There are four modules: the Expert, the Psychologist, the Student Model, and the Tutor. The approach was to construct a rule-based representation for the skills needed.

GUIDON: This was a program used for teaching diagnostic problem-solving. Two basic questions included: how do the problem-solving rules measure up to the needs of a tutorial interaction with a student and what knowledge about teaching might be added to MYCIN to make it into an effective tutorial program. The tutoring principles were:

1. Be perspicuous.
2. Provide orientation to new tasks by top-down refinement.
3. Strictly guide the dialogue.
4. Account for incorrect behavior in terms of missing expertise.
5. Probe the student's understanding when you are not sure what he knows.

6. Provide assistance by methodically introducing small steps that will contribute to the problem's solution.

7. Examine the student's understanding and introduce new information.

BUGGY: A program that can determine accurately a student's misconceptions (bugs) about basic arithmetic skills. Procedural networks were used to build diagnostic models.

EXCHECK: An instructional system that presents complete, university-level courses in logic, set theory, and proof theory.

P 1983 Beebe, L.M. (1983). Risk-taking and the language learner. In H.W. Seliger & M.H. Long (Eds.), Classroom Oriented Research in Second Language Acquisition (pp. 39-66). Rowley, MA: Newbury House Publishers.

The objective of the discussion of risk-taking was to help teachers identify risk in language learning settings and to assess the effects of classroom practices with respect to risk-taking. All people take risks, but they take them at different levels. The good language learner is one who is willing to take risks. Risk-taking depends on expected value, expected utility, and subjective probability. External factors influencing risk-taking fall into three categories:

1) individual--motivation to achieve, need for approval, age, sex, locus of control, self-esteem.

2) situational variables--the degree of skill versus chance affecting outcome, influence of prior experience, value of reward, and the degree of interest.

3) social setting--group or individual (groups are more risky).

Fossilization may stem from a changing risk-taking situation of moving from low risk-high gain to high risk-low gain. Language learning depends on aptitude, motivation, and opportunity. Strategies of aptitude include being a good guesser, willingness to appear foolish to communicate, and using acquired competence. A good language learner tends to emphasize fluency over accuracy. In a study of third graders (Spanish-English), students were interviewed by a monolingual English-speaker and an English-dominant Hispanic interviewer. There was greater grammatical and semantic accuracy with the English-speaking Hispanic interviewer, but greater amounts of talk and better phonological measures with the monolingual interviewer. It was interpreted that there was greater accuracy with the Hispanic interviewer, and greater risk-taking with the nonolingual interviewer. Accommodation theory was used to explain the results--we adjust speech as a means of communicating intentions, moods, and loyalties to interlocutors. If their approval is desired, speech style will change to be more similar to theirs. More risk was taken and an attempt to match complexity led to higher pronunciation but lower grammatical expertise. The audio-lingual method might have been considered boring because it was perceived as low risk (mechanical)

repetition) and language learners preferred moderate risk, by expressing themselves. Teachers also need to bear in mind that if students are working on communicative tasks, they are not focused on syntax; "they want a reaction to meaning, not an evaluation of form." Delayed oral practice approaches to teaching (listening before speaking) tend to work, possibly because of a delay of complex situations (speaking) which involve risk too high for a beginner to handle comfortably. Group learning may help as risk taking increases in groups.

R 1982 Berko-Gleason, J. (1982). Insights from child language acquisition for second language loss. In R.D. Lambert & B. F. Freed (Eds.), The Loss of Language Skills (pp. 13-23). Rowley, Massachusetts: Newbury House.

The study of language loss is little studied and may gain insights from child language acquisition. Research on attrition needs the development of new, sensitive measures of language proficiency that can accurately profile an individual student. Similar scores on tests may evidence skills at differing levels. The regression model (loss will be in an inverse order to acquisition) has not been tested for attrition. There are universals in acquisition, but there are also individual differences that may provide cues for why some people maintain their skills better. Some of these may be cognitive style (referential or expressive), spontaneous rehearsal, and input and interaction. There is some thought that what is learned best will be retained the longest.

S 1983 Bialystok, E. (1983). Inferencing: testing the "hypothesis-testing" hypothesis. In H.W. Seliger & M.H. Long (Eds.), Classroom Oriented Research in Second Language Acquisition (pp. 104-124). Rowley MA: Newbury House Publishers.

Learners use strategies to increase competence in language. Inferencing is one such strategy and is defined as "the use of available information to derive explicit linguistic hypotheses." It may also be considered "informed guessing." Three sources of knowledge for inferencing are implicit knowledge, other knowledge, and inferencing from context.

For the study, it was hypothesized that providing information that could potentially form a basis of meaningful inferences would improve the reader's ability to understand text. Tenth grade English speakers learning French served as subjects. Four humorous stories were modified for level of difficulty. Students answered general meaning and vocabulary questions. Four conditions were:

1. a picture summarizing the gist of the passage accompanied the text (no information depicted would directly help the learner in answering the questions),
2. a dictionary containing all the difficult words plus distractors were provided,
3. a short lesson on how to inference was given, and

4. no cue was given (control).

Students were to read the passage using the applicable cue and then answer the questions without referring to the materials. Each subject read all four stories, but served in only one cue group. The picture improved performance on the comprehension test only and the dictionary and how-to lesson improved performance on both the comprehension and vocabulary tests. Subjects in the no cue and picture conditions were less willing to translate items of which they were unsure. The how-to lesson not only increased the number of correct responses, but it also increased the number of incorrect responses.

In a second experiment, students served in each of the four conditions in a prescribed order in a best effort to prevent carryover: picture, dictionary, no cue, and lesson. Subjects were better with comprehension questions than vocabulary questions with lowest scores in the no cue condition and best results for the picture condition. Vocabulary translation was better only in the dictionary condition. Interpretation of the text depends not only on the text but also on information from other sources. And, learners can be trained to use the supplementary information.

S 1985 Bialystok, E. (1985). The compatibility of teaching and learning strategies. Applied Linguistics, 6, 255-262.

The article discussed the use of strategies in teaching and learning a second language. A strategy was defined as "the skillful planning and management of language learning as carried out by the learner or language teacher" (Paivio, 1983). Assumptions underlying the definition included:

1) learning strategies reflect the ordinary processes of learning that occur whether or not the learner is attending to and deliberately manipulating them,

2) the processes of learning can come under conscious and intentional control, and that change in control is highly significant, and

3) consciousness itself is not a criterion in the identification of strategies.

Two skill components underlie language development:

1) the ability to analyze knowledge into explicit structured categories (linguistic knowledge) and

2) the ability to select and apply information in the solution to specific problems (cognitive control).

The strategy taken by the teacher has consequences for the learning outcome of the student. The effects of teaching strategies depends on the learner's purpose in learning the language. Disparities between the strategies used by teachers and the abilities and strategies used by the learners can reduce the benefits of instruction. A teaching strategy needs to take into account levels of skill within the other strategy dimension. A learner may reject a teaching strategy if the learner is ideologically, pragmatically, or motivationally opposed to the

strategy. Adult learners seem clear about their perceived preferences and needs in terms of their learning.

I 1985 Bialystok, E. and Smith, M.S. (1985). Interlanguage is not a state of mind: an evaluation of the construct for second-language acquisition. Applied Linguistics, 6, 101-117.

Interlanguage (IL) is viewed as a system motivated by psychological processes, not as a product. IL may be a useful concept as a product, but only when the IL systems are specified. Three approaches from the literature are reviewed.

1. Selinker: The psychological infrastructure of L2 is different from that evidenced in L1 acquisition. Evidence is considered to be fossilization, language transfer (the process by which L1 knowledge contributes to the shape of the interim grammar) and backsliding (old IL forms reappear). IL grammar is some combination of rules developed via different processes (transfer, simplification, correct understanding).

2. Adjemian: A modular approach, some systematic product is the outcome of a combination of separate knowledge sources. A difference between L1 and L2 acquisition is that the performance of L2 shows evidence of influence from L1. The output of L2 may be mixed with the output of L1: permeability. Both L1 and IL grammars are natural language systems obeying universal linguistic constraints and evidencing the same kinds of internal consistency.

3. Tarone: The IL product is analyzable into a set of styles which are dependent on the context of use. The relationship between L1 and L2 acquisition is non-equivalence. L2 learners possess a set of related grammars corresponding to different conditions of use called the capability continuum. Tarone's approach is a modular, one highly flexible system of rules, rather than a set of grammars. The theory proposed by Bialystok in the paper is based on the assumption that explanations of learner performance are related to two separate components, the way the language system is represented in the mind of the learner (the categories and relationships in long-term memory), and the processing system for controlling that knowledge during actual performance. In other words, knowledge and control. Interlanguage therefore involves both the mental representation of systematic, organized information about the L2 and the procedures for effectively and efficiently retrieving that knowledge in appropriate situations. The disparity between IL and native speaker proficiency arises from:

a. differences in the representations of linguistic structure,

b. differences in the procedures for accessing the knowledge, or

c. both.

Four important points about the learner's knowledge include the following:

1. The extent of analysis in the grammar is not the only factor in the development of knowledge. A learner's knowledge

will differ not only in qualitative terms, but also quantitatively from that of a native speaker.

2. Increasing sophistication in the analysis of the mental representations involved is not necessarily a signal of increasing approximation to target norms.

3. The learner's reanalysis of IL grammar during the course of development does not necessarily imply an increase in complexity.

4. Increasing competence or increasing analysis does not necessarily imply an increase in conscious awareness of structure on the part of the learner.

Interlanguage, as reflected in learner behavior, is not a special form of language, nor a special ability (or inability) on the part of the learner. It is a componential system containing specific values on two dimensions where these values are relatively less advanced with respect to one or both of the components (knowledge or control) compared to a native speaker. Two kinds of variability are:

1. cognitive variability (variability reflected by a change in the learner's knowledge over time) and

2. control variability (variability at a particular point in time, a reflection of the processing constraints that operate on the learner's knowledge of the system).

Strategies are knowledge based (procedures through which the learner's knowledge of the formal structure of the language is manipulated for a particular end) or control based (procedures for executing responses).

I 1983 Bley-Vroman, R. (1983). The comparative fallacy in interlanguage studies: the case of systematicity. Language Learning. 33(1) 1-17.

Linguistic description of interlanguage can be seriously hindered by a concern with the target language (comparative fallacy). The area of study for the paper was the investigation of systematicity and variability in learners' languages. Making reference to a paper by Tarone, Frauenfelder, and Selinker (1976), a definition of systematicity of learner's language was given as (total number of variant x produced in obligatory context X) / (total number of obligatory context X) (TFS). "It is on this ratio that the TFS systematicity definition depends. If the learner produces a correct usage of 90 percent or more of variant x in obligatory context X, the learner's interlanguage is said to be systematic with respect to this feature. If the ratio falls below 10 percent, the usage is also considered systematic. Ratios between 10 percent and 90 percent are not systematic and are said to be 'variable.'" The paper illustrated cases where the theory resulted in incorrect or misleading assessments of the systematicity of the learner's language. The failure was determined to stem from the failure to take the structure of the interlanguage on its own terms and because of a reliance on comparison of the target language to study the structure of the interlanguage. It was felt that the learner's system is worthy

of study in its own right, not as a degenerate form of the target system. Four points made included:

1. The measure of systematicity does not discern subcases of obligatory context.
2. The definition depends on the accidental statistical structure of the corpus.
3. The applicability of the measure is unknowable because one cannot tell whether the learner is faced with a binary choice.
4. The TFS perspective is at odds with sociolinguistic variation theory. An example of "4" is variation of copula rules in Black English.

T 1990 Block, D. (1990). Seeking new bases for SLA research: Looking to cognitive science. System, 18(2), 167-176.

A multi-disciplinary field (linguistics, psychology, anthropology, and computer science) may provide better explanations of student behavior in a classroom setting than second language acquisition (SLA) research which is bound to morphology, syntax acquisition and the language acquisition device (LAD). Pienemann's "teachability" by a pre-determined universal order of syntax acquisition may be explained by Tulving's episodic and semantic memory. In a classroom setting episodic memory is activated and correct responses can be made in that setting with the appropriate cues. However, real life situations activate semantic memory which has little to do with the real world. Cognitive folk models provide an alternative (and more formidable and deeper) explanation for interference of the native language, that of a view of the world that is different from that offered by the scientific community and which the student is convinced of. Folk models are based on everyday experience, held to be true among members of a community, inconsistent with modern scientific theories, and amazingly resistant to change. Idealized cognitive models and metaphorical constructs also can explain understanding of expressions in a language.

F 1986 Brock, C., Crookes, G. Day, R., and Long, M. (1986). Differential effects of corrective feedback in native speaker-nonnative speaker conversation. In R.R. Day (Ed.), Talking to Learn (pp 229-236). Rowley, Massachusetts: Newbury House.

Informal native speaker (NS)-nonnative speaker (NNS) conversation was analyzed to see what types of NNS error lead to what types of NS response constituting negative input available to the NNS. Twenty-three conversations were analyzed. Morphosyntactic erors were less likely to result in a break in the main topic of conversation (side sequence). Lexis errors were more likely to result in side sequences; an attempt is made to clarify the message. Corrective feedback seems weak as an aid to acquisition, but the absense of effect in the short term does not necessarily mean that they do not exist over time.

C 1981 Brookman, W.R., Hockfield, G. and Patton, P.C. (1981). Sumerian: An experiment in CAI language learning. In P.C. Patton & R.A. Holoien (Eds.), Computing in the Humanities (pp. 235-251). Lexington, MA: Lexington Books.

Sumerian is unique because it is the oldest language known and it is a nonalphabetic language written in cuneiform logograms. The learning method was based on Tom B. Jones' inductive approach where he had students able to read texts, describe, and analyze problems in the economic and bureaucratic history of the third dynasty of Ur in a year. Major elements of the course included texts, a sign list, a dictionary, and Help lessons. For the texts, the student was presented with a graphic representation. Then the student transliterated the document (three tries before the computer corrected), then a translation. The sign list was a display of all the cuneiform signs used in the course and was tied to the dictionary through a reference number. The dictionary consisted of approximately 400 entries. Each entry gave the cuneiform sign, all possible transliterations, and all possible meanings. Access to the dictionary was possible from any location in the course and was then returned to that point in the course. Help lessons were personal names, place names, gods' names, month formulas, year formulas, a map, and a bibliography. A problem was that the answers required string matching.

P 1981 Burling, R. (1981). Social constraints on adult language learning. In H. Winitz (Ed.), Annals of the New York Academy of Sciences Vol. 379. Native Language and Foreign Language Acquisition (pp. 279-290). New York: The New York Academy of Sciences.

While observing himself learning a language in a social environment of high status and high status peers, the author was continually frustrated by his inability to gain access to the kinds of language and to the kinds of situations that he thought would help the most. Three types of difficulties were:

1) difficulties brought about by the characteristics of the language,

2) difficulties brought about by the subject's own adult attitudes and behavior, and

3) difficulties brought about by the attitudes and actions of the native speakers with whom the author dealt.

E 1967 Carroll, J.B. (1967). Foreign language proficiency levels attained by language majors near graduation from college. Foreign Language Annals. 1, 131-151.

Testing was performed on college seniors nationwide, from large, small, private, and non-private colleges and universities majoring in a foreign language in 1965. The tests were long and the sample understandably low. There were low median levels of attainment:

speaking and comprehending (audio-lingual) = 2+,
reading and writing for French, German, and Spanish = 3.

Time abroad greatly influenced ability. Many low-aptitude students were able to compensate by diligent study and practice. Males and females were equal in language-learning ability.

T 1989 Carroll, S. (1989). Second-language acquisition and the computational paradigm. Language Learning, 39(4), 535-594.

"The central claim of the cognitive science paradigm is that the mind/brain can be thought of as an information-processing device. Classical theories require explicitness about the representations in which knowledge is encoded because processes are defined as algorithms computing over them. In much current second-language acquisition (SLA) research, there is talk of "process" and "processing" without talk of representation or, conversely, proposals about representation with no clarity about how structures are exploited during parsing or production. To accept this state of affairs is not to take the paradigm seriously." An analysis of gender attribution in French L1 and French L2 acquisition blends the findings of linguistics and experimental psycholinguistics. Experimental data and observation and native speaker intuitions are the sources of data. The representations used are what native speakers acquire and what defines native competence. In French, gender is an attribute of nouns, not prepositions, adverbs, adverbial phrases, or clauses. The psycholinguistic processes that operate to assign gender to a noun during parsing and production are sensitive to the physical properties of morphosyntactic representations and are not reducible to acoustic properties of the speech stream. Gender is a derivative property of specifiers as determiners and adjectives. A known noun is a unit capable of having a given gender where the gender is inherent or derived, and the gender has specification. Learning to attribute a gender feature to a given noun involves postulating the following types of representation:

"1. lexical categories such as noun, adjective, and determiner because gender marking is a feature of lexemes and not of arbitrary strings, phonological representations, or semantic representations; moreover one must distinguish between lexical categories that can express gender and those that cannot;

2. varying phonological representations of modifiers and pronouns that are necessary because gender is not directly marked on nouns through inflectional morphology--it is these elements that provide the critical clues for gender attribution;

3. categories that bear inherent gender and categories that assign gender (gender attribution vs. gender agreement) or categories whose gender must be learned versus categories whose gender features are derivative; and

4. hierarchically organized syntactic representations involving various abstract relations such as c-command, government, and antecedence, which are required because the distribution of the gender clues is severely restricted within the sentence."

Francophones seem to be able to make correct gender assignment from the start. Child errors are no greater than the usual slips of the competent adult. For learners whose L1 had no gender system, the universal feature for learning gender atrophied and disappeared, even for children. Learners do not acquire the "rules of thumb" for classes of words and they do not make significant progress over time. They produce errors that Francophones of the same age do not make. Immersion students appear not to learn determiners as parts of nouns.

T 1990 Carroll, S. and Meisel, J.M. (1990). Universals and second language acquisition: Some comments on the state of current theory. SSLA, 12, 201-208.

A shift in emphasis in the investigation of universals in SLA is needed. Research must proceed simultaneously in elaboration of:

1. a theory of computation consistent with human biology,
2. a theory of structural universals and variation,
3. a theory of meaning, and
4. a theory of pragmatics that ties with cognitive development and sociocultural knowledge.

Universal Grammar (UG) refers to knowledge specific to an innate component of the mind and defines essentially what the learner must possess if he or she is to acquire an L2: "the minimal structural properties which define possible grammars (universal principles) as well as additional universals which permit limited influence by the environment (universally specified parameters)." A problem with UG theory is the need for a learning theory even if UG is considered an operative mechanism in SLA. It is questionable whether investigation of purely structural universals is enough for a full understanding of acquisition. Learnability theory will probably not provide all of the answers as it defines the logical problem of acquisition; it is not a substitute for a theory of grammar or a theory of real-time acquisition. Linguistics is only a part of SLA; cognitive processes must also be identified and described. A theory must make assumptions about linguistic representations, but it cannot focus only on structural universals. The role of meaning in structure acquisition must be describable in representational terms. Processing theories and acquisition theories must respond to both developmental sequences and characteristics of linguistic competence.

S 1990 Chamot, A.U. (1990). Cognitive instruction in the second language classroom: The role of learning strategies. In: Georgetown University Round Table on Languages and Linguistics 1990 (pp. 496-513). Washington, D.C.: Georgetown University Press.

Learning strategies for L2 learners are classified into three categories:

1) metacognitive: self-regulatory strategies in which learners think about their own thinking, and plan, monitor, and evaluate their own learning endeavors [advance organization, advance preparation, organizational planning, selective attention, self-monitoring, self-evaluation, self-management],

2) cognitive: task-appropriate strategies in which learners actively manipulate the information or skills to be learned [resourcing, grouping, note taking, summarizing, deduction, imagery, auditory representation, elaboration, transfer, inferencing],

3) social and affective: strategies involving interaction with others for the purpose of learning, or control over one's own affective state [questioning for clarification, cooperation, self-talk].

Issues for using strategies involve: when the learning of strategies should be introduced--in special strategy sessions or integrated with instruction; embedded or direct strategy instruction (direct leads to transfer); selection of materials; teacher preparation; and student characteristics such as motivation, aptitude, learning style, age, cultural background, and language proficiency. Strategies seem to benefit those students who are having difficulties more than students who were originally effective.

I 1983 Chaudron, C. (1983). Foreigner talk in the classroom--an aid to learning? In H.W. Seliger & M.H. Long (Eds.), Classroom Oriented Research in Second Language Acquisition (pp. 127-145). Rowley MA: Newbury House Publishers.

It has been hypothesized that native speakers accommodate their speech to second language learners (foreigner talk) in an effort to influence the learners' acquisition of structures and to improve the learners' chances of comprehending the meaning of speech addressed to him. The following were used to measure complexity: comparisons with similar speech directed to native speakers, intuitions about the difficulty of comprehending the utterances, and the apparent inability of students to react appropriately to the teacher's utterances. Five methods of simplification were discussed (but there is some question as to whether linguistic simplicity is the same as cognitive simplicity).

1. Vocabulary: employing more frequent words or simple circumlocutions.

2. Anaphoric reference: use of pronominalization; however, the comprehensibility of the material may be complicated.

3. Questioning: tend to focus on topical relationships; however, digression into practical knowledge often appears to obscure the general point. While the questions may conform to a teacher's notion of a simplified structuring of knowledge, they may not be the simplest logical steps for a learner.

4. Topic development: in simplifying the maintenance of a continuing topic, or the announcement of a new topic or subtopic, the learners do not receive the cue to the teacher's intent.

5. Explanations: elaborations in the linguistic material, unless carefully done, may cloud the point being made with too much redundant and confusing information. A teacher must be careful to be explicit while meeting the learners' need for linguistic simplicity.

E 1985 Clahsen, H. (1985). Profiling second language development: a procedure for assessing L2 proficiency. In K. Hyltenstam & M. Pienemann (Eds.), Modelling and assessing second language acquisition (pp. 283-331). San Diego: College-Hill Press.

An informal method for evaluating linguistic performance was developed. Criteria for evaluating L2 assessment tests include:

A. The evaluation of oral L2 speech production should be at the core of an assessment procedure which aims at identifying the general developmental level of the learners' interlanguage.

B. The assessment should be based on a representative sample of spontaneous speech which is gathered in a natural communicative situation.

C. The procedure should attempt to provide a comprehensive description of the learners' interlanguage.

D. The procedure should focus on the evaluation of syntax and morphology.

E. The procedure should grade the linguistic structures used by the learners in terms of the order of acquisition in natural L2 development.

The profiling approach was initially designed to provide a detailed linguistic assessment of grammatical disability and to suggest a remedial approach. Salient characteristics of profiling include that it is descriptive, developmental, and interactional.

German word order acquisition follows the following general developmental sequences. For verb placement:

1) None of the standard word-order rules is applied, and the linear order of constituents is : NP (AUX/MOD) V (NP) (PP)

2) Learners use a rule which has the effect of moving non-finite parts of verbal elements to sentence-final position (PARTICLE).

3) (Subject-Verb)-INVERSION is applied.

4) A rule is used which only applies in embedded clauses and moves the finite verb into final position (V END).

For adverbial phrases:

1) Adverbial phrases, i.e. adverbs and prepositional phrases, are moved into sentence-initial position (ADV PREP).

2) Adverbial phrases are placed between the finite verb and the object (ADV VP).

For the placement of the negator in relation to the verb for negation:

1) variable NEG placement,
2) postverbal placement,
3) separation of NEG.

The idea for using linguistic profiles is to analyse a corpus of spontaneous speech in order to reconstruct the linguistic rules of interlanguage to assess the developmental stage already reached. Utterances that cannot be understood are classified as unintelligible, incomplete, or ambiguous. Responses can be imitations, elliptical, full, or minor. Repetitions can be stereotypes or social. Analysis of syntax occurs at the phrase level and clause level. Sentence structures can be statements, questions (information, yes/no, indirect), and negation.

T 1990 Clahsen, H. (1990). The comparative study of first and second language development. SSLA, 12, 135-153.

Five theories of second language acquisition were laid out by Klein (1986):

"a) the identity hypothesis, which claims that first language (L1) acquisition and L2 acquisition are largely similar;

b) the contrastive hypothesis, which says that L2 acquisition is determined in major ways by the structure of the learner's first language;

c) the monitor theory, which compares tutored and unguided L2 acquisition and makes claims about possible ways to manipulate L2 development;

d) the theory of learner varieties, which points out that L2 learners construct linguistic systems with a particular structure (so-called interlanguages);

e) the pidginization theory, which claims that there are similarities between pidgins and L2 learner varieties."

Comparative studies typically fall under the identity theory and ask three questions:

"a. What are the fundamental differences between L1 and L2 acquisition?

b. What are the general principles of language acquisition; in other words, are there similarities between L1 and L2 learning?

c. Does the language acquisition device change after L1 acquisition has been completed?"

Three ways of comparing L1 and L2 development are:

"a. General language processing/acquisition strategies determine L1 and L2 development

b. Like children learning their mother tongue, L2 learners make use of operating principles to perceive, process, and produce second language structures,

c. The acquisition of grammatical structure in child L1 development is guided by a task-specific and innate learning mechanism, sometimes called Universal Grammar (UG); the ways in which UG is available to (adult) L2 learners are still under debate."

Three major positions in the UG approach are

"a. UG is at work in L1 and L2 acquisition; observed differences are due to the fact that:

i. L2 learners know a language already; or

ii. linguistic and nonlinguistic cognitive structures compete with one another.

b. Principles of UG are operative in L1 and L2 acquisition; observered differences are due to learnability constraints.

c. UG is operant as a learning device in L1, but not in the same way in (adult) L2 acquisition."

The idea that adult L2 learners cannot use principles of UG as a learning device in the same way as L1 learners provides an explanation, in terms of grammatical theory, for observed L1/L2 differences and is called the fundamental difference hypothesiis. Specifically, parameterized UG principles are lost in adult L2 learners, and stable UG principles are present only through the learners' first language. All that is left in adult learners is the fixed UG principles and the consequences of L1-exercised parametric choices, as well as non-UG learning strategies. Similarities between L1 and L2 acquisition concern only the supposed stages of emerging grammars and have little if anything to do with how those grammars are learned.

O 1985 Clark, E.V. (1985). The acquisition of romance, with special reference to French. In D.I. Slobin (Ed.), The Crosslinguistic Study Of Language Acquisition Vol. 1: The Data (pp. 687-782). Hillsdale, NJ: Lawrence Erlbaum Associates.

Concerning the grammar of Romance languages, primarily French, the basic word order is SVO. However, they are mixed rather than pure. For example, French becomes SOV when the direct object is pronominalized, but can become more complicated with imperative verbs and when the indirect object is a first or second person pronoun. Word order can become OSV when relative clauses in which a main clause noun phrase occurs as the object of the relative clause, but can be inverted to OVS. Left- and right-dislocation also affects word order. Nouns in French are marked for definiteness, gender, and number, by means of their accompanying articles. Adjectives agree in gender and number with the nouns they accompany. Most adjectives follow their nouns in French, but a few precede. Some have different meanings depending on their position. Verbs in French mark person, number, tense and aspect, mood, and in a few constructions, gender. Verbs can be assigned to one of three conjugations, -er, -ir, and irregular. New words (new forms with new meanings) can be constructed by derivation or composition. Derivation is through the addition of suffixes. Composition or compounding takes the form of noun+noun with the modifier following the head.

In this article, acquisition of French refers to first language acquisition by children. Differences in acquisition of French in comparison to English or German can be attributed to differences of formal complexity. Typical errors of children learning French include overregularization (especially for verbs), gender, person and number, word order, pronoun placement, complex sentences, and working out different subsystems, definite and indefinite articles, and the use of determiners.

Early construction acquisitions include the production of gender, number, and person. Late acquisitions include the subjunctive mood in verbs, certain kinds of relative clause

constructions, certain complement constructions, and subordinate clauses that require the subjunctive mood. When new words are acquired, they are used in only a few contexts (correctly for the most part). Errors are made, then meanings of related words are learned. This can be termed as "correct but limited use followed by errors in use." Late-occurring errors include those resulting from attempts to maintain one-to-one pairings of meanings and forms within the language and those resulting from overmarking of certain (possibly newly discovered) semantic distinctions. Children tend to rely heavily on what they know about the lexicon and about relations between words known to them in finding means to talk about categories for which they lack the conventional vocabulary. They tend to rely on general purpose verbs (do), iconic gestures, and on extensions of other terms, they use intransitive verbs causatively and causative verbs intransitively, confuse meanings of converse verbs, coin new verbs from nouns, and coin negative verbs for talking about the reversal of an action. They form new nouns for talking about objects and events.

Initially, universals of acquisition among languages starts out simply with one- and then two-word utterances. But, identifying universals is more complex as children begin to master inflectional systems, agreement, word order, and the particular arrays of properties that distinguish one language from another. Operating Principles (Slobin, 1973) that account for tendencies across languages must pay attention to whether the principle is for comprehension or for production, and what the state of the child's knowledge is.

The bibliography contains essentially all acquisition of Romance language references that were available at the time of publication.

R 1982 Clark, J.L.D. (1982). Measurement considerations in language attrition research. In R. D. Lambert & B. F. Freed (Eds.), The Loss of Language Skills (pp. 138-152). Rowley, Massachusetts: Newbury House.

General proficiency measurement is aimed at providing a broad picture of the examinee's ability to make effective use of the language in "real-life" language use situations. Diagnostic feedback measurement involves as a major goal the obtaining of discrete and highly detailed items of information concerning the examinee's command or lack of command of each of a variety of component elements of language performance. General proficiency testing would be used to test particular job-related tasks. Diagnostic feedback would give information concerning particular linguistic features involved in language performance at a given level of general proficiency. Self-report data is another way of obtaining information. "Can-do" statements specify a certain language-use activity and provide objective information concerning language proficiency. Second party sources such as teachers and supervisors can also provide data for language performance.

R 1986 Cohen, A. (1986). Forgetting foreign-language vocabulary. In B. Weltens, K. de Bot, & T. van Els (Eds.), Language Attrition in Progress (pp. 143-158). Dordrecht, Holland: Foris Publications,

There are two types of forgetting:

1) response competition, where memory associations are intact but one dominates and suppresses the other; while available, the association is blocked and therefore inaccessible,

2) associative unlearning, where practice on interfering items extinguishes prior associations to the same stimulus. Vocabulary learning encompasses a continuum from minimal knowledge to mastery.

Mastery includes receptive and productive control, grammatical patterns, word frequencies and appropriateness, and conceptual and associative meanings. Effort to learn new vocabulary may involve rote repetition or associative techniques:

1) structural association (analyzing the word by root, affixes, inflections),

2) semantic association (synonyms, clustering by topic group, linking the word to the sentence),

3) mnemonic association (cognitive link by cognitive mediator).

Forgetting may involve only certain characteristics of a word, i.e., form, position, function, meaning. Productive vocabulary ability is lost before receptive ability. In second grade students (immersion program) following a summer break, there was a major loss in nouns, but less loss in verbs. Nouns were easier to learn, therefore they may have been easier to forget. Vocabulary added most recently may be most susceptible to be forgotten. Strategies for retrieval (Glahn, 1978) included:

1) applying formal similarity within the target language,

2) semantic fields,

3) native language as a link,

4) recalling the learning situation,

5) sensory procedures--looking at the ground to find a word for "floor."

Blockage in the retrieval process can be lessened by a warm up to the language. Use of association devices contributed to successful retention of vocabulary, whatever the students' class level or individual proficiency level. Remembering words through associations did not correlate with the degree of reported contact with the words.

S 1987 Cohen, A.D. (1987). The use of verbal and imagery mnemonics in second-language vocabulary learning. SSLA, 9, 43-62.

Mnemonic devices are those techniques used for converting material to be learned into a form that makes it easier to learn and remember. Two types of mnemonics are verbal and imagery. With these, a word, phrase, or sentence or a mental visual image serve as a mediator between the known and the to be learned. Keyword approaches have both acoustic links and imagery links.

T 1986 Cook, V. (1986). Experimental approaches applied to two areas of second language learning research: Age and listening-based teaching methods. In V. Cook (Ed.), Experimental approaches to second language learning (pp. 23-37). Oxford, England: Pergamon Press.

Older children are better than younger children at learning a second language; adults are better than children at learning a second language; immigrants who start learning a second language younger end up better speakers than those who start older. Children tend to be better learners in the long term, adults in the short. The "listening first" theories lend themselves to testing. Results are inconclusive. It is thought that all teaching methods work in proportion to the extent that they involve the students' minds in deeper levels of processing (also stated by Krashen). Rigorous justification of language teaching methodology, even if inconclusive, would be welcomed over assertions and anecdotes.

T 1977 Cook, V.J. (1977). Cognitive processes in second language learning. IRAL, 15(1), 1-20.

Speech processing memory is defined as that kind of memory process used in the production and comprehension of speech. It has a limited capacity for syntax. When a grammatical sentence is difficult to understand, it is probably because the speech processing memory is overloaded--"his mother's brother's son's daughter's hat." Comprehension errors are caused by perceptual strategies that are resorted to when the normal capacity of speech processing memory is exceeded. Native and non-native speakers of English process difficult grammar in the same ways. Primary memory processes information for only short periods of time (seconds). Information is coded in "sounds" and memory is short. Memory span is shorter in a foreign language than in the native language and memory span increases with mastery of the language. Secondary memory (information stored for longer periods of time) works in terms of semantic networks and meanings. Language memory is secondary memory that stores knowledge of the language. Beginning learners of a second language make more acoustic errors in learning vocabulary, advanced learners make more semantic errors. "Second language learning is like first language acquisition to the extent that mental processes other than those involving language are not concerned. In other words the more learning depends on general psychological processes, the less similar first and second language learning will be."

T 1981 Cook, V.J. (1981). Some uses for second-language-learning research. In H. Winitz (Ed.), Native Language and Foreign Language Acquisition. Annals of the New York Academy of Sciences, Vol 379 (pp. 251-258). New York: The New York Academy of Sciences.

Second language research can have a contribution to the study of the human mind because of the unique nature of L2 learning and to the learning and teaching of languages.

C 1991 Dalgish, G.M. (1991). Computer-assisted error analysis and courseware design: applications for ESL in the Swedish context. Calico Journal, 9(2), 39-56.

The study was designed to determine answers to various language learning problems in writing (major grammatical and vocabulary) of adult ESL students. Questions included:

"Which errors were most frequent?

Which errors for a particular language group were most frequent?

Within a particular error type, were there differences in the kinds of errors produced by speakers of different languages?"

Data were collected from the texts of writing samples. Data records compiled included "the text of the writing sample with sufficient context (sentence-length or slightly longer) to encompass an error (or errors); the name of the error(s) type exemplified by that text; and the first language of the student-writer." An example is as follows:

Lang: Greek

Error: adjective-noun confusion

Text: Some of their children become violences

Vocabulary and idiom errors were more numerous for all L1 groups. Subject-verb agreement and part of speech errors were also highly represented. Analyses of L1 groups within error groups also revealed differences among L1 groups. Computerized courseware design should implement randomization (to prevent a student from receiving the same question over and over again so as to focus on structure, not a particular sentence) and also individualization so that different instruction and practice can be focused to emphasize different aspects of the grammatical categories. Categories of instructional material can be weighted toward the needs of the appropriate L1 group.

E 1984 Deyes, T. (1984). Towards an authentic 'Discourse Cloze'. Applied Linguistics, 5(2), 128-137.

The typical pseudo-random cloze test (every nth word deleted) may test only lower-order skills and not reading comprehension. Text-cloze tests require that the testee derive the gap-filling items from clues beyond the immediate clause boundary (textual cohesion). Having to determine communicative units may lead toward discourse cloze and demonstrate understanding of communication, not just knowledge of the language system. A discourse-cloze test was devised by deleting roughly every seventh syntactic unit. The testees were instructed to use as many words as necessary to complete the sense of the text but to use only one syntactic unit. Thematic deletions caused few problems. Transitional items had little margin for error. Rhemes were replaced with a variety of degree of success. Recoverable rhemes were those whose content could be derived by

knowledge of linguistic stereo-types and/or by stereo-type knowledge about the world. The procedure to produce this type of test would be to:

1. Segment the text into communicative units representing the informational values of thematic, transitional, and rhematic items.
2. Determine which communicative units are likely to be irrecoverable due to their excessive demands on student world knowledge or their place in sentences irrelevant to, or of major importance to, the discourse as a whole.
3. Apply deletions from among the remaining communicative units, attempting to ensure a spread of theme, transition, and rheme deletions.

S 1983 Dickson, W. P. (1983). Training cognitive strategies for oral communication. In M. Pressley & J.R. Levin (Eds.), Cognitive strategy research: Educational applications (pp. 29-42). New York: Springer-Verlag.

Giving children instructions to ask questions when doing a referential task resulted in an increase in question asking. Cognitive strategies for speaking skills can be trained.

L 1981 Diller, K. (1981). "Natural methods" of foreign-language teaching: Can they Exist? What criteria must they meet? In H. Winitz (Ed.), Annals of the New York Academy of Sciences Vol. 379, Native Language and Foreign Language Acquisition (pp. 75-86). New York: The New York Academy of Sciences.

Natural learning in some cases takes a long time. It is unreasonable to think that a student studying a foreign language for a short time can learn a vocabulary the size of one that the same student took years to acquire in the native language. Pyramidal cells develop early (by age six or eight) and make long-distance connections with their long axons, and are crucial in establishing the relations between the language centers and other centers of neural control. They are also crucial to neuromuscular control and may help explain the emergence of pronunciation difficulties and foreign accents. Stellate cells, local-circuit neurons, continue maturation at least over 2-3 decades. This may help explain why cognitive aspects of new languages are better learned by relatively mature people. The chief reasons for failure to learn second languages are psychological (motivation, desire, perceived need) and social. A natural method should be intrinsically interesting, should involve sociocultural content that is appropriate to the students, and should involve high-quality human interaction, so that the means to learning the language will be as satisfying as the end. A natural method presents linguistic material for listening comprehension in an ordered way so that the meaning of both words and grammatical constructions is clear, and it gives opportunities for meaningful practice of speech. When possible, it also involves reading and writing.

S 1990 Ehrman, M. (1990). Owls and doves: Cognition, personality, and learning success. In: Georgetown University Round Table on Languages and Linguistics 1990 (pp. 413-437). Washington, D.C.: Georgetown University Press.

Internal characteristics (learning aptitude, learning styles, personality, preferred learning strategies) flavor how people act toward others and define the nature of a person's social relations and influence the effects of social interactions on the individual. Cognitive and affective factors influence language learning. Students of (primarily) Turkish at FSI were given the Myers-Briggs Type Indicator. The thinking-feeling scale was used. Data were collected through interviews. The thinking/feeling scale reflects how people make decisions as well as respond in interpersonal interactions. A thinking person decides on impersonal grounds, values objectivity, and truth is more important than tact. A feeling person used subjective, value-based criteria for decision making, puts interpersonal harmony above all else, and may put tact over truth. Thinkers tended to analyze and exhibited an analytical detachment from the social environment and impersonality in their assessment of the program and teachers. They had a strong need for self-control and control of content. Thinkers reported speech production difficulties. They commented extensively about their teachers in an objective analytical tone. Feelers were highly influenced by their relationships with others. Good relationships with teachers were helpful as was a nonthreatening, cooperative atmosphere. Feelers rejected the use of analysis and disliked boring materials. Impressions of teachers showed subjectivity and interpersonal involvement. Opposites on the Myers-Briggs can both achieve exceptional results in language learning by maximizing assets and using learning strategies associated with the appropriate personality.

T 1979 Ekstrand, L.H. (1979). Replacing the critical period and optimum age theories of second language acquisition with a theory of ontogenetic development beyond puberty. Educational and Psychological Interactions, 69, 1-83.

Researchers studied students ages 8-17. Due to cognitive development, length of residence, formal instruction, and other background variables, age indices show that second language learning ability increases with age. There may or may not be an optimal period around ages 4 and 5. Therefore, older students learn language just as well, if not better than younger students. It is felt that the puberty cut-off is non-existent.

O 1989 Ellis, R. (1989). Are classroom and naturalistic acquisition the same? A study of the classroom acquisition of German Word order rules, Studies in Second Language Acquisition, 11, 305-328.

Acquisition of German word order rules by 39 adult learners in a classroom (only) setting were studied and compared with naturalistic learners. (Five word-order rules were listed, only

three, particle, inversion, and verb-end, were studied.) No differences in acquisition were found between classroom and naturalistic learners despite the fact that the order in which the rules were introduced and the degree of emphasis given to the rules in instruction differed from the naturalistic order. Classroom learners did appear to be more successful than the naturalistic learners in that they reached higher levels of acquisition in a shorter period of time.

S 1989 Ellis, R. (1989). Classroom learning styles and their effect on second language acquisition: a study of two learners. System, 17(2), 249-262.

Two adult learners of German, one field dependent (M), one field independent with greater capacity for grammatical analysis, memorization of vocabulary (S) served as subjects. Classroom instruction (< 10 students) was form-focused instruction with little opportunity for meaningful communication, and was evenly divided between practice and consciousness-raising activities (teacher explanations)--traditional and grammar-centered. M's cognitive orientation was studial, S's orientation was more balanced in that it favored both studial (accuracy) and experiential (meaningful use). There was a mismatch for M between the preferred learning style and instruction and M probably would have done better with more naturalistic approach. She probably studied in the way she did because of her past scholastic experience and because of the method of instruction. S was well suited to type of instruction and did well. "...learners do benefit if the instruction suits their learning style, but, if it does not, they may be able to adapt, at some cost to their own ease of mind and the type of proficiency they develop." The learners achieved what they set out to learn--M learned grammar while S learned communication and grammar. Matching instructional and learning style is best achieved by the teacher catering to individual needs during the moment-by-moment process of teaching and it can be enhanced if the learners are aware of their own learning style and are encouraged to adopt flexible learning tactics.

I 1989 Ellis, R. (1989). Sources of intra-learner variability in language use and their relationship to second language acquisition. In S. Gass (Ed.), Variation in second language acquisition Vol II: Psycholinguistic issues (pp. 22-45). Clevedon, England: Multilingual Matters Ltd.

While variability in second language use is recognized by all researchers, the importance of this variability varies. One group of researchers adhere to the homogeneous competence paradigm where variability is treated as an aspect of performance or control. Another group views it as an integrative characteristic of the learner's competence. The purpose of the paper was to develop a framework for understanding the role that variability plays in the process of SLA. Sources of (horizontal) variation include free variation and systematic variation. Under free

variation, sources include internal vs target norms, variable rules in target variety, and reaction to different target varieties. Systematic variation includes linguistic context, sociolinguistic, and psycholinguistic (attention to forms) factors. Sociolinguistic factors include discourse context, social context (addressee factors of education, gender, ethnicity, etc.) and interactional context such as form/function correlates and impression management. Psycholinguistic factors include short-term memory and control mechanisms. Vertical variation refers to the changes that take place over time as the learner revises interlanguage rules in the direction of the target language norms. Two theories of development of interlanguage include development-as-sequence and development-as-growth. Development-as-sequence is the process by which rules are incrementally added to the interlanguage grammar. Development-as-growth is the process by which specific structures or sets of structures within a linguistic sub-system become more complex through the accumulation of new features. Two aspects of development-as-growth include knowledge and control. The acquisition of sociolinguistic knowledge involves three overlapping and continuous processes:

1. innovation (the introduction of new forms into the interlanguage system)
2. elaboration (the extension of the sociolinguistic base of the new form), and
3. revision (the adjustments to the entire interlanguage system resulting from innovation and elaboration).

An adequate theory of interlanguage can not be developed if it seeks to separate language form from the communicative functions. Sequence of acquisition may be a reflection of specifically linguistic or cognitive mechanism that have little to do with communication. But this development-as-sequence is only half the story. It is also necessary to determine what happens to linguistic forms once they have entered interlanguage.

S 1986 Esser, U. and Kossling, B. (1986). A general psychological approach to the diagnosis of foreign language aptitude. In V. Cook (Ed.), Experimental approaches to second language learning (pp. 95-100). Oxford, England: Pergamon Press.

Differences in language learners' abilities lie in variations in the cognitive prerequisites contributed by the learner to the process of acquisition. FL acquisition is a process of information processing. The functional quality of factors specific to FL acquisition depend to a large degree on the functional qualities of basic factors. (The ability to discriminate sounds presupposed a general ability to discriminate; grammatical sensitivity is determined by the general cognitive ability to recognize rules and to form analogies.) Four non-verbal tests (paired-associate learning, inductive rule acquisition, semantic integration, analogy formation) were administered to 188 German-speaking students

(mean age = 21.2) and related to final grades at the end of course examination in English or Russian. Examinations differentiated in terms of listening and reading comprehension, speaking, vocabulary, and grammar knowledge. The scores for inductive-rule and analogy formation correlated with grammar knowledge to a high degree. The scores for Paired-associates and semantic integration correlated with vocabulary knowledge to a high degree. Performance in comprehension and speaking correlated with all but analogy formation to the same extent. Searching for cognitive prerequisites at a "deeper" level allows prediction of learners' aptitude for FL acquisition in a valid and reliable way.

N 1981 Felix, S.W. (1981). The effect of formal instruction on second language acquisition. Language Learning. 31(1) 87-112.

The processes by which students learn an L2 by only classroom instruction was studied. Students were 10-11 years old and in one class of their first year of English in a German high school. The approach was liberal audiolingual with much repetition practice and pattern drills. There was little room for spontaneous utterance and errors were immediately corrected. Students did not use English outside of the classroom. Four structural areas were studied: negation, interrogation, sentence types, and pronouns.

Negation: In comparison of L1 and L2 learners, learners pass through basically the same sequence of developmental stages; Structures between the two are remarkably similar. There is also little variation between L2 learners of different L1 backgrounds. In general, learners demonstrate developmental trends in learning negation: They demonstrate an ordered sequence of "no before not before do+not." They demonstrate consistent positioning of the negative operator using the operator first in isolation, then with the operator external to the sentence, usually in the sentence-initial position, and finally inside the sentence.

Interrogation: L1 and L2 learners acquired basic interrogative structures in the same way. First, questions were marked by intonation alone. Next, inversion transformation was omitted (obligatory in English wh-questions).

Sentence types: Students in the study learned three distinct sentence types. First, "It's a N" for vocabulary; also, simple copular sentences were used. Second, sentences marked by "there," e.g., "There is a N in NP." Third, sentences containing the auxiliary "can" plus a main verb, e.g., "I can see Mike." Sentence types were used at random. It was supposed that this was due to the lack of choice of speaking or not speaking and students had to say something, and not knowing what to say, they randomly chose from their repertoire of responses.

Pronouns: Generally, pronouns are learned late in L1 development, but presented early in L2 development. However, they are avoided whenever possible in early L2 development and used randomly. There was no evidence of transfer from L1. Students choice was consistent with L1 development.

It appears, then, that at least some of the principles that govern naturalistic language acquisition also determine the processes by which students learn a foreign language under classroom conditions.

N 1991 Felix, S.W. and Weigl, W. (1991). Universal Grammar in the classroom: the effects of formal instruction on second language acquisition, Second Language Research, 7(2), 162-181.

The question of whether or not the process of learning an L2 is mediated or controlled by principles of Universal Grammar (UG) was asked. Previous evidence suggested that L2 learners have access to UG, but that access is only partial, imperfect, or blocked. An experiment was designed using high school students with 1.8, 3.8, or 6.8 years of instruction (considered grade I, grade II, and grade III, respectively. The task involved judging grammaticality in L2 sentences. The sentences were designed such that they related directly to UG-principles, did not involve sentence pairs which have the same grammaticality distribution in the learner's L1, and did not involve grammatical regularities and constraints typically taught in the classroom. Classroom instruction was traditional audiolingual with behavioristic aspects. Mistakes were immediately corrected. Sentences involved wh-extractions, case filter contrasts, and empty operator phenomena. Results indicated no developmental progress from the grade I to grade III. They systematically gave the wrong answer in many cases. It appeared that UG was originally active, but then was systematically shut out as a result of classroom pressure and specific response patterns expected from the student. It was concluded that the students tested did not have access to UG. The first two groups of learners seemed to determine their judgements mainly with reference to corresponding L1 structure. Advanced learners especially were reluctant to make generalizations beyond what they had been taught in the classroom.

S 1991 Friedenberg, J.E. (1991). The acquisition of Spanish as first and second language: Learner errors and strategies. In L.M. Malave & G. Duquette (Eds.), Language, Culture and Cognition: A Collection of Studies in First and Second Language Acquisition (pp. 55-80). Clevedon, England: Multilingual Matters Ltd.

Errors in second language production not only show what a person doesn't know, but also what that person does know. English and Spanish have two sets of determiners: definites and indefinites. In some cases usage is comparable, in others it is not. Neither uses a determiner with nouns in general terms when the noun represents part of a substance or class. A determiner is used in Spanish, but not English, when a noun represents all of a substance or class, with most person titles, and with certain prepositional phrases denoting location, and with the names of the days of the week. Spanish verbs exhibit inflectional morphemes isolating verb class, mood, tense, person, and number. Class I infinitives end in "-ar," Class II in "-er,"

and Class III in "-ir." To produce correct gender marking on a adjective, the learner must know which adjectives are marked for gender and which nouns are masculine and which are feminine. Most gender-marked adjectives end in "-o" for masculine and "-a" for feminine. The marking depends on the gender of the noun. Approximately half the adjectives in Spanish are not marked for gender and usually end with a consonant or an "e." Nouns are usually marked with "-o" (masc) or "-a" (fem). In Spanish copulas "ser" and "estar" correspond to "be." There are five uses for "ser," two of which are:

1. with a locative when the subject is an event (event + "ser" + locative) and
2. with an adjective when the speaker considers that the adjective describes an intrinsic unchanging property of the subject ("ser" + adjective).

Two basic used for "estar" include:

1. with a locative when the subject is a person or thing (person + "estar" + locative) and
2. with an adjective when the speaker considers the subject to be in the temporary state indicated by the adjective (event + "estar" + adj).

Comparison of errors of native and non-native learners neither supports or refutes interference. Both native and non-native learners made more errors in determiners where English and Spanish were non-congruent. Both older and younger learners of Spanish over-rely on the infinitive in verbs. Younger learners made more agreement errors than adult groups. Non-instructed learners over-relied on "estar" when the complement of the sentence was a locative. Child and adult learners made the same kinds of determiner errors, verb class and verb root errors, gender agreement and noun gender errors, and "ser" and "estar" errors. Formal instruction may affect learners' errors and strategies.

F 1983 Gaies, S.J. (1983). Learner feedback: an exploratory study of its role in the second language classroom. In H.W. Seliger & M.H. Long (Eds.), Classroom Oriented Research in Second Language Acquisition (pp. 190-213). Rowley MA: Newbury House Publishers.

After noticing through years of classroom teaching, the different ways students reacted to the language learning situation, research was designed to study learner feedback. It was hoped to provide useful insight into the language teaching/learning process. (Both speakers and listeners have responsibility in the communication process: speakers to evaluate the effect of what they say on their listeners through evaluating context, words, etc., and listeners to provide feedback.) The study consisted of 12 ESL dyads and triads with no effort to control for individual differences. The task consisted of the teacher describing verbally six graphic designs with the student numbering the designs in the order they were described. The teachers/students were to work as a team with questions and

answers back and forth. Types of feedback were classified into elicited and unelicited responses. Sub-categories were:

Elicited: Responding divided into response to direct question and informational response.

Unelicited: Responding divided into soliciting, reacting, and structuring.

Soliciting subcategories included:
partial direct question,
direct question, and
information search.

Reacting subcategories included:
comprehension signal,
confirmation by repetition,
confirmation by paraphrase,
confirmation by definition,
utterance completion,
non-comprehension signal,
utterance repetition (non-comprehension),
request for definition,
confirmation to proceed,
halt signal, and
request for repetition.

Structuring subcategories included:
redirecting question,
reorienting feedback, and
initiating act.

The general tendency during the task was for learners to not restructure discourse; it remained teacher-centered. Learner control was accomplished through questions by soliciting from the teacher the information the student felt was necessary rather than by reorienting the manner the tasks were performed. There was also little learner-learner interaction; interaction was with the teacher. Results were:

"1. Collectively, the learners made use of feedback in all four of the major categories; not all individual learners, however, used all four types of feedback.

2. There was considerable variation from learner to learner in the amount of feedback provided.

3. In both dyads and triads, reacting moves were by far the most frequent form of feedback, structuring moves occurred the least frequently and were the least evenly distributed.

4. In each of the triads, one learner provided considerably more feedback than the other."

Post-feedback utterances of the teachers were classified into the following categories: verbatim repetition, reduced repetition, expanded repetition, restructuring, and question.

There was no relationship between the numbers of learner feedback moves and the post-feedback moves. There was also no evidence that any particular category of learner feedback was linked to any category of post-feedback teacher utterance.

S 1985 Gardner, R.C. (1985). The attitude/motivation test battery: Technical Report. (Research Bulletin) London, Ontario: University of Western Ontario, Department of Psychology.

The attitude/motivation test battery was designed to assess non-linguistic aspects of L2 learning. The test was designed for elementary and secondary school age children in a Canadian context for English-speaking Canadians learning French. Sub-scales included:

1) attitudes toward French Canadians,
2) interest in foreign languages,
3) attitudes toward European French people,
4) attitudes toward learning French,
5) integrative orientation,
6) instrumental orientation,
7) French class anxiety,
8) parental encouragement,
9) motivational intensity,
10) desire to learn French,
11) orientation index,
12) French teacher-evaluation,
13) French teacher-rapport,
14) French teacher-competence,
15) French teacher-inspiration,
16) French course-evaluation,
17) French course-difficulty,
18) French course-utility,
19) French course-interest.

Composite scores were:

1) integrativeness,
2) motivation,
3) attitudes toward the learning situation, and
4) attitude/motivation index.

T 1981 Gary, J.O. and Gary, N. (1981). Comprehension-based language instruction: theory. In H. Winitz (Ed.), Annals of the New York Academy of Sciences Vol. 379. Native Language and Foreign Language Acquisition (pp. 332-343). New York: The New York Academy of Sciences.

Foreign language learners need an extended period of receptive learning to comprehend the language they are learning before they begin producing in that language. Advantages for comprehension first include cognitive, affective, efficiency, communicative, media compatibility, and utility.

C 1991 Green, H.D. (1991). Adapting CASE tools for more effective learning. J. Educational Technology Systems, 19(4), 291-298.

Computer Aided Software Engineering (CASE) tools and techniques are not being properly utilized. It is important to separate what the computer can do that is routine and does not contribute to learning from what the computer can do but would best be done by the human for learning purposes. Students want

to reduce time spent on projects and too many failures may result in a student giving up. The system needs to monitor tasks and give feedback. A system should allow the instructor to make modifications to standards and delegate modifications to students. The system should speed communication and documentation but not short-cut the thinking process. It is desired that student's learning be directed but not done for him.

O 1985 Hammarberg, B. (1985). Learnability and learner strategies in second language syntax and phonology. In K. Hyltenstam & M. Pienemann (Eds.), Modelling and assessing second language acquisition (pp. 153-175). San Diego: College-Hill Press.

Using Pienemann's ideas of fixed acquisition sequence as a springboard, Hammarberg discusses other types of learnability conditions which affect learners' solutions in interlanguage. Primary languages used for comparison were German and Swedish. Pienemann treats acquisition of inversion as a single task with the differentiation of sentence types regarded as a matter of the distribution of the rule over different syntactic contexts. However, closer inspection of the uses of inversion showed that it serves different functions in different syntactic contexts. Learners seem to acquire inversion in questions earlier than in statements with yes/no-question inversion either earlier or simultaneous with wh-question inversions. Both were before inversion in statements. Looking at phonology, the role of transfer from L1 to L2 seems more prominent in phonology than in morphology or syntax. Deviations from the target pronunciation usually went in the direction of L1 counterparts and types of deviations occurring in learners with different L1's tended to converge. The set of vowel sounds arrived at when looking for substitute vowels:

1) tended to meet the demands of the L1 in categorizing the vowel space,

2) tended to conform to a typological hierarchy for vowel systems, and

3) tended to comply with the acoustic-perceptual requirements for a phonetically optimal simpler version of the L2 paradigm.

The structural factors shaping learner solutions in L2 phonology are:

1) a simplifying tendency (describable with concepts like phonetic motivation, naturalness, unmarkedness, and linked with properties such as productivity and insuspensibility), and

2) a tendency to rely on familiarity.

The relative learnability of a particular solution on a given point in a learner's interlanguage seems to be determined, in part, by the interplay of structural and communicative factors.

O 1991 Harley, B. (1991). The acquisition of some oral second language skills in early and late immersion. In L.M. Malave & G. Duquette (Eds.), Language, Culture and Cognition: A Collection of

Studies in First and Second Language Acquisition (pp. 232-249). Clevedon, England: Multilingual Matters Ltd.

French verb usage of five groups of students was compared. The five groups were:

1) grade 1 early immersion students (age 6.11 years)
2) grade 9/10 late immersion students (age 15.4 years),
3) a group of early immersion students in grades 9 and 10,
4) a reference group of native French speakers in grade 1,
5) a reference group of native French speakers in grade 10.

Groups 1 and 2 were of different ages but each had had approximately 1000 hours of classroom exposure to French. Groups 2 and 3 were of the same age but had had differing amounts of L2 exposure. Structured interviews lasted approximately 1/2 hour. Older late immersion students made more use of some, but not all features of the French verb system than young early immersion students. Older students were more likely to mark number agreement in the verb; they made greater use of word order rules (SOV), and they produced more lexical variety. No significant differences were found between the domains of time, aspect, and hypothetical modality. Both groups differed significantly from the native speakers. Group 3 students were ahead of the late immersion students in range of vocabulary and they made greater use of past time distinctions. They were not ahead of late immersion students in number distinctions or use of preverbal pronoun complements. As with the late immersion students, they had made minimal progress in expressing aspectual distinctions in the past (imparfait) or hypothetical modality (conditional). Factors contributing to the results may be the amount of written material the late immersion students had been exposed to and a "stable classroom dialect" of the immersion students. Order of acquisition of tenses was similar for each age group (present/passe compose/future). Errors were also similar across groups. Older students may have taken a more analytic approach to learning French. There was a significant correlation (.62) between interview rank and verbal IQ scores among the late immersion students (no correlation (-0.02) among the grade 1 early immersion group.)

N 1991 Hart, D., Lapkin, S., and Swain, M. (1991). Secondary level immersion French skills: A possible plateau effect. In L.M. Malave & G. Duquette (Eds.), Language, Culture and Cognition: A Collection of Studies in First and Second Language Acquisition (pp. 250-265). Clevedon, England. Multilingual Matters Ltd.

High school students, immersion students or Francophone, were compared as to their French language abilities. Eight students within selected classes (random sampling of students within early or late, academically strong or weak classes). Evaluations (A vous la parole) were administered and tested grammatical, discourse, sociolinguistic, and strategic competence with both written and spoken sections. Tasks included writing a composition on one of two selected topics, writing an informal

note to put on a bulletin board, and rewriting point-form information into continuous expository text. Oral tasks included a simulated job interview and a group discussion of four students. Concerning grammatical competence: diversity of vocabulary and sophistication of vocabulary of both groups were at the same level. Immersion students performed worse than Francophones on measures of syntax (preposition, grammar, and spelling). Francophones generally performed better on measures of discourse competence, significantly only in tense sequence measures. Oral tense error performance was worse for immersion students. Both groups exhibited trouble with proper usage of vous/tu. Immersion students obtained lower scores on strategic competence, but could cope with appropriate strategies. Immersion students' pronunciation did not approach native-speaker performance. In fact, it hit a plateau or decreased from the junior to senior year, possibly because of fewer classes taken in the target language.

P 1977 Heyde, A.W. (1977). The relationship between self esteem and the oral production of a second language. In H.D. Brown, C.A. Yorio, & R.H. Crymes (Eds.), On TESOL '77 Teaching and Learning English as a Second Language: Trends in Research and Practice (pp. 226-240). Washington, D.C.: Teachers of English to Speakers of Other Languages.

Self-esteem can be defined as an assessment or evaluation which people make of themselves and their abilities. Three levels of self-esteem are:

1. global (overall worth as a person),
2. specific (evaluations made in certain life situations such as social interaction, work, education, or based on particular aspects of the individual such as personality, intellegence), and
3 task (the individual's expectations/evaluations of himself in task situations).

Only a small pilot study had been completed. Global and specific esteem appeared to be somewhat related and there was a tendency for specific self-esteem to be more closely related to oral performance than global esteem. High esteem subjects received higher oral production ratings from themselves and their teachers than low esteem subjects.

S 1986 Ho, D.Y.F. (1986). Two contrasting positions on second-language acquisition: A proposed solution. IRAL, 14(1), 35-47.

Learning L2 is subject to the influence of the learners L1. Two positions are found in the literature:

1) difference in kind--structural changes result from L1 learning, therefore L2 learning in adults is filtered through the learner's acquisition system, and

2) basically similar--the differences are primarily quantitative; learning strategies used are basically the same. The proposed solution assumes a basic similarity between L1 and L2 learning processes, but retained the ideas of L1 interference and facilitation which are interpreted as negative and positive

influences on L2 processing strategies traceable to the learner's prior L1 acquisition experience. Strategy transfer is more basic an idea than language transfer.

C 1987 Hubbard, P.L. (1987). Language teaching approaches, the evaluation of CALL software, and design implications. In W.F. Smith (Ed.), Modern Media in Foreign Language Education: Theory and Implementation (pp. 227-254). Lincolnwood, IL: National Textbook Company.

Evaluation of computer-assisted language learning (CALL) software is more difficult than evaluation of conventional textbooks for the following reasons. The field is still novel. There is usually no way to skim through the software. Because of hierarchical structuring and branching routines, the placement of lesson components makes review laborious. The visual and auditory dimensions in software but not in print material require evaluation. Interaction aspects must be considered. These considerations, along with hardware requirements, are usually the basis for most evaluations. The approach is missing. Three main approaches include behavioristic, explicit learning (cognitive approaches), and acquisition (Krashen's Monitor). CALL software would be representative of the behaviorist approach if it:

"1. presents vocabulary and structure appropriate to the learner's level,

2. maintains the learner's attention to task,

3. does not accept errors as correct answer,

4. requires the learner to input the correct answer before proceeding,

5. provides the learner with positive feedback for correct answers,

6. provides sufficient material for mastery and overlearning to occur,

7. reinforces patterns and vocabulary presented in a lesson,

8. presents grammar rules or patterns inductively with no attempt at teaching explicit formulations of them."

CALL software would be representative of the explicit learning approach if it

"1. introduces or reviews grammar rules and word meanings in an understandable, learnable, and reasonably accurate form,

2. provides effective practice so that (a) novel target-language input can be readily understood, and (b) the learner's understanding of rules leads to the production of grammatically acceptable spoken or written target-language discourse in novel situations

3. gives meaningful rather than mechanical practice,

4. gives practice contextualized in a coherent discourse larger than a single sentence,

5. provides hints of various types to help lead students to acceptable answers,

6. accepts alternative correct answers within the given context,

7. provides the student with explanation of correct answers,
8. anticipates incorrect or inappropriate answers and explains why such answers are incorrect or inappropriate,
9. maintains the student's interest throughout the exercise,
10. allows an appropriate degree of student control."

CALL software would be representative of the acquisition approach if it

"1. provides meaningful communicative interaction between the learner and the computer,
2. provides comprehensible input at a level just beyond that currently acquired by the learner,
3. promotes a positive self-image in the learner,
4. motivates the learner to use the software,
5. motivates the learner to learn the language,
6. provides a challenge but does not produce frustration or anxiety,
7. does not include overt error correction,
8. allows the learner the opportunity to produce comprehensible output,
9. acts effectively as a catalyst to promote learner-learner interaction in the target language."

Types of strategies are direct or cognitive learner strategies (those involving deliberate manipulation of material to enhance learning or retention), indirect or metacognitive strategies (those involving self-monitoring, self-assessment, and goal setting), communication strategies (those used to facilitate information exchange) and global practice strategies (those that lead the learner to utilize the environment effectively for target language practice). A learner-strategy orientation involves focusing on those strategies that the learner may come to employ consciously and control independently. A particular strategy will be effective to the degree that it fits both the learner's needs and his or her preferred learning style. CALL software promotes the learning and use of learner strategies if it

"1. introduces the learner to strategies that are useful and immediately usable,
2. introduces the learner to strategies appropriate to the learner's level,
3. explains the value of the strategies,
4. provides meaningful practice in the use of the strategies,
5. presents practice material in such a way that the task is more easily or successfully accomplished if the appropriate strategy or strategies are used,
6. provides, when possible, a variety of strategies (or of techniques for utilizing a given strategy) for a given type of task suited to a range of learning styles,
7. provides feedback on which strategies might have worked best for given tasks after the learner has attempted them."

Criteria for evaluating software with respect to a course or syllabus are

"1. the approach manifested by the software is compatible with that of the syllabus type,
2. the level and sequencing of the linguistic content is appropriate for the course as determined by the syllabus,
3. the subject-matter content is appropriate for the goals of the course of program as determined by the syllabus and the presumed knowledge base of the learners."

T 1985 Hulstijn, J.H. (1985). Second language proficiency: An interactive approach. In K. Hyltenstam & M. Pienemann (Eds.), Modelling and assessing second language acquisition. (pp. 373-380). San Diego: College-Hill Press.

For an adequate understanding of second language proficiency, two types of theories need to be combined into an interactive approach. The two types of theories are cognitive and linguistic. Three cognitive approaches (complementary) are:
a) bottom-up approach (focusses on information-free, mechanistic processes of letter perception and word recognition)
b) top-down approach (focusses on expectation driven, inferring processes) and
c) knowledge-based approach (studying the structuring influences of old, restored knowledge or expertise in the acquisition of new knowledge).

As cognitive theories focus on elementary processes and their integration into routines and strategies, many skills and subskills tend to be identified. Different processes and strategies may lead to the same behavioral result. Linguistic theories have dealt with the problem of language testing, how many, what kind. Several methodological problems exist:
1. lack of theoretical hypotheses,
2. complexity of the task,
3. homogeneity of the sample.
Not only do information-processing and linguistic approaches need to be included in theory, but social, psychological, and educational variables need also to be included to determine differences as well as similarities in language proficiency.

E 1985 Hulstijn, J.H. (1985). Testing second language proficiency with direct procedures. A comment on Ingram. In K. Hyltenstam & M. Pienemann (Eds.), Modelling and assessing second language acquisition (pp. 277-281). San Diego: College-Hill Press.

Those who test can't wait for full fledged theories before testing. A task-oriented approach to testing proficiency seems to be a realistic choice. The type of test should be determined by the test objectives. Objective tests, as well as direct tests (FSI), should be given to minimize biasing the results. Tests will measure both traits and method effects caused by the artificiality of the test procedure. Method effects that should be determined include:

"1. the comprehensibility of the testing materials and the instructions that are used to approximate a genuine communicative situation;

2. the effect of the affective components of the formal testing situation, especially when a particular task requires the testee to perform in a relaxed and informal way;

3. the adequacy with which the native participants in the interaction play their roles, or the effect of the interviewer's dual function as both interlocutor and evaluator."

Profile assessment (describing) and level assessment (rating) should be conducted in separate steps.

L 1985 Hyltenstam, K. (1985). L2 learners' variable output and language teaching. In K. Hyltenstam & M. Pienemann (Eds.), Modelling and assessing second language acquisition (pp. 113-136). San Diego: College-Hill Press.

Two reasons for disappointed teachers as far as the application of L2 research are:

1) the assumption that research for L2 acquisition is the same as research into L2 teaching, and

2) lack of consideration of how the results of a particular study are applicable to teaching.

"The central aim of L2 acquisition research is to gain as many insights into the phenomenon of SLA as possible." Application of SLA research takes place on two levels:

1) specific, "Given fact x about the phenomenon of acquisition, do y in teaching." and

2) general, SLA results may be applied but with indirectness. The teacher acts on the basis of his own accumulated knowledge. While research results are too fragmentary for detailed application in syllabus construction, etc., results must be used. A teacher may adjust his instruction to the learner's needs if there is that greater knowledge about the learner and the learner's obstacles in SLA. The following are types of variable output:

1) development of a less complex to a more complex language system,

2) the development follows specific acquisitional sequences, (Some structural patternings seem to be parallel to language universal patternings),

3) SLA involves both rule generalization and holophrase incorporation,

4) SLA may fossilize before nativelike command is reached, (Some changes in some learners' systems occur very slowly and may be hard to determine whether fossilization has taken place or not),

5) The learner's underlying linguistic system is reflected differently in different situations.

If a new rule can be applied even to a low degree, the structure is processable by the learner and instruction may help the most in those areas. Perceived variation may not be true variation if it is generated from holophrases. The results are

not in with reference to fossilization. The central idea of the paper is "the most useful application of L2 research at present is its implementation by individual language teachers who, on the basis of what they hold to be true within as broad an area of knowledge as possible, can act creatively and freely, not hampered by particular textbooks or other regulations. Within the total amount of relevant knowledge, knowledge about second language research is but one part. The individual teachers' internalized knowledge should make it possible for them not only to better understand and diagnose learner problems, and to find ways to help the learners overcome such problems, but also to evaluate new information regarding the content of their profession."

E 1985 Ingram, D.E. (1985). Assessing proficiency: an overview on some aspects of testing. In K. Hyltenstam & M. Pienemann (Eds.), Modelling and assessing second language acquisition (pp. 215-276). San Diego: College-Hill Press.

A "test" is an activity used in evaluating or measuring some part or all of a learner's language proficiency. Integrative tests focus on total language behavior and productive capacity; the emphasis is on total language behavior, not on the component parts. Proficiency can be considered in many different ways:

1) as a construct--an artificial construct measured and defined by language proficiency tests;

2) as knowledge--knowledge and proficiency are not the same with proficiency including the ability to mobilize knowledge to carry out tasks in particular situations;

3) as defined through tasks--what types of tasks a learner can carry out and how they are carried out;

4) as defined behaviorally--different stages from zero to native-like proficiency (must allow for different rates of development within different components of behavior--must provide a global picture of behavior rather than a checklist; underlying general proficiency may be obscured by particular tasks and situations);

5) as communicative competence--ability to communicate. Proficiency includes the ability to operate in different registers (aware of denotative and connotative meanings) and varieties. Analytic approaches to proficiency measure identified components of language. Synthetic approaches bring components of language together.

There are several types of tests.

A) Discrete point tests analyze language into its smallest units (grammatical rule, etc.).

B) Integrative tests integrate language components into a total language event.

C) Semi-direct tests (cloze and dictation) rank-order learners and grade proficiency according to cut-off points but demand more natural, contextualized language behavior than discrete point tests.

D) Direct tests focus on proficiency as demonstrated by how actual communication tasks are carried out; proficiency statements are made in terms of actual language behavior. Examples are ASLPR and the FSI Scale (ILR Scale). The tests are structured to elicit behavior as natural as possible and contain three parts:

1. exploratory--learner settles down and approximate proficiency level is determined.
2. analytical--interviewer explores all the features of the learner's behavior with emphasis on those described in the scale and gets the learner to use language abilities, moves to the "linguistic breaking-point," and
3. concluding--interview rounded off and interviewer reverts to activities well within the learner's ability.

Criticism included failure to discriminate amongst learners, descriptions are only partial descriptions of complex language behavior, and they are time-consuming.

In determining the suitability of tests, two questions must be asked:

"1. What is the purpose of the testing?
2. What is the appropriate instrument to achieve this purpose?"

Reasons for testing may be:

1. to measure proficiency,
2. to give a quick group measure of proficiency,
3. to conduct large-scale proficiency measurement,
4. to measure "special purpose" proficiency,
5. to measure achievement in "graded objectives" courses,
6. to measure attainment at the end of a course (summative assessment),
7. to measure how well the learners are mastering what is being taught (formative assessment)
8. to stream learners into courses,
9. to diagnose learners' strengths and weaknesses (Bilingual Syntax Measure or dictation)--cloze to look at discourse;
10. to evaluate a second language program,
11. to validate tests.

L 1983 James, C.J. (1983). Research: Teachers do it best. In C.J. James (Ed.), Practical Applications of Research in Foreign Language Teaching (pp. 1-8). Lincolnwood, IL: National Textbook Company.

Teachers, who ask questions in the classroom and get responses, are doing research. Generally, researchers are considered to be more precise in asking their questions. Both groups need each other. In asking questions, we must consider what the foreign language teacher can use. Three areas of needed research include:

1) linguistic and psycholinguistic considerations in L2 teaching,

2) the teaching/learning process--what works, what fails, textbooks, teaching techniques, classroom behaviors, acceptance and/or resistance to learning, and

3) the total educational process--what are the benefits to those who master a second language.

E 1975 Jones, R.L. (1975). Testing Language Proficiency in the United States Government. In R.L. Jones & B. Spolsky (Eds.), Testing Language Proficiency (pp. 1-9). Arlington, Virginia: Center for Applied Linguistics.

Proficiency is defined as an individual's demonstrable competence to use a language skill of one type or another, regardless of how it may have been acquired. Speaking proficiency is tested in a direct way by means of an Oral Interview test. While valid, it is expensive and limited in that trained testers must administer it. In most cases a judgment about an examinee's listening comprehension ability is made on the basis of his performance on the oral interview. Oral translation is used to approximate reading proficiency. Multiple-choice reading proficiency tests are also used.

R 1989 Kaufman, D. and Aronoff, M. (1989). Morphological interaction between L1 and L2 in language attrition. In S. Gass (Ed.), Variation in second language acquisition Vol II: Psycholinguistic issues (pp. 202-215). Clevedon, England: Multilingual Matters Ltd.

Using a very young child, aged 2-1/2 years at the start of the study, a native Hebrew moving to an English environment, attrition patterns of Hebrew nouns and verbs were studied. Attrition patterns were directly attributable to the morphological differences between the languages. Verb morphologies between the two languages were quite different; noun morphologies were more similar. Noun attrition was evidenced first by regression to earlier developmental forms and then by the increasing dominance of L2 plural formation rules. Verbal structure accommodated an obligatory template system (Semitic) and accommodated L2 rules. L2 inflections were code-blended to indicate person and tense. Code-blending refers to the case where morphemes from one language are combined with morphemes of another language within a single word while the phonological features of the respective source languages are retained. Attrition took place in the context of acquisition of L2. It is suggested that the structural differences between the two languages will affect the attrition patterns.

P 1981 Krashen, S.D. (1981). Aptitude and attitude in relation to second language acquisition and learning. In K.C. Diller (Ed.), Individual differences and universals in language learning aptitude (pp. 155-175). Rowley, Massachusetts: Newbury House.

The role of aptitude and attitude in adult L2 proficiency is best understood in terms of the Monitor Model. Two means for adult internalization of linguistic rules are acquisition

(implicit and subconscious) and learning (conscious and explicit). Conscious learning may not initiate performance, learning may be used only as a Monitor. The monitor may be used with two conditions:

1) time is needed and

2) performers need to be concerned with grammatical correctness.

Attitude factors that relate to L2 acquisition will:

1) encourage intake and/or

2) enable the performer to utilize the language heard for acquisition.

Components of aptitude include phonetic coding ability, grammatical sensitivity, and inductive ability. Important attitudinal factors are integrative motivation (the desire to be like valued members of the community that speak the language), instrumental motivation (the desire to achieve proficiency in a language for practical reasons), and personality factors such as self-confidence, empathy, and attitude toward the classroom and teacher. Good language learners are acquirers and have low affective filters so they can utilize input for language acquisition. Grammar was not enough for good language learners. There are three types of bad language learners:

1) Those in whom neither acquisition nor learning is going on due to attitudinal factors and low aptitude or interest.

2) Under-users of the Monitor: they progress as far as attitudes take them.

3) Over-users of the Monitor: limited by conscious knowledge and suffer from lack of spontaneity. Attitude may be the single most important factor in L2 learning.

T 1983 Krashen, S.D. (1983). Applications fo Psycholinguistic Research to the classroom. In C.J. James (Ed.), Practical Applications of Research in Foreign Language Teaching (pp. 51-66). Lincolnwood, IL: National Textbook Company.

Five hypotheses about second language acquisition are:

1) the acquisition/learning hypothesis,

2) the natural order hypothesis,

3) the monitor hypothesis,

4) the input hypothesis, and

5) the affective filter hypothesis.

Acquisition/learning: There are two ways to develop a language:

1) acquiring, which is subconscious in that we are engaged in something else and we do not consciously know the rules and

2) learning, which is conscious or explicit knowledge about the language. Formal instruction and error correction are important.

Natural Order: We acquire (not learn) grammatical structures in a predictable order; certain structures tend to be acquired early, others late. It cannot be altered by effects of instruction but can be altered by first language influence.

Monitor: Acquisition, not learning accounts for fluency in L2 performance. Conscious learning has the function of editor. Conscious learning is used to make corrections. Necessary conditions to use the monitor include time, focus on form, and knowing the rule.

Input: There are three interrelated parts. We acquire by understanding input containing structures that are a bit beyond our current competence. Speaking "emerges." The best input is not grammatically sequenced.

Affective Filter: Affective variables play a role. Some variables include anxiety, motivation, self-confidence.

Comprehensible input is important for all of these hypotheses.

E 1985 Lapkin, S. (1985). Pedagogical implications of direct second language testing: A Canadian example. In K. Hyltenstam & M. Pienemann (Eds.), Modelling and assessing second language acquisition. (pp. 333-347). San Diego: College-Hill Press.

Using a Francophone student population living in an English dominated environment and an Anglophone immersion student population as experimental groups and unilingual Francophone students in Quebec as control group, students (grades 3, 6, and 9) were tested on communicative competence: grammatical, sociolinguistic, discourse, and strategic competence. Goal activities included the ability to talk to peers in an informal setting, conduct oneself in a semi-formal interview with an adult, write in both formal and informal styles depending on the audience and purpose.

Evaluation units were designed based on four principles of communicative test development.

1) Start from somewhere--building on existing theoretical knowledge and practical experience to determine which aspects should be assessed.

2) Concentrate on content--the materials had to be motivating, substantive, integrated, and interactive.

3) Bias for best--attempt to elicit the students' best performance.

4) Work for washback--involve teachers in the testing and influence them to provide greater opportunities for productive language use in their classrooms, obtain feedback on the materials.

While there were no data to test the consistency with which the teachers scored the data, instructions on scoring were clear, illustrated, and samples from Quebecqois students were given. Results included that discourse skills of bilingual students are comparable to unilingual students but lag behind on some grammatical competency areas. Bilingual students have some communicative strategy difficulties whereas Quebec students do not.

L 1977 Larsen-Freeman, D. (1977). A rationale for discourse analysis in second language acquisition research. In H.D. Brown, C.A. Yorio, & R.H. Crymes (Eds.), On TESOL '77 Teaching and

Learning English as a Second Language: Trends in Research and Practice (pp. 172-177). Washington, D.C.: Teachers of English to Speakers of Other Languages.

Discourse analysis is a methodology which looks at the semantic and communicative functions of a structure, the structural unity at a suprasentential level, the input to the learner, and may provide input/product interaction insights.

E 1983 Larsen-Freeman, D. (1983). Assessing global second language proficiency. In H.W. Seliger & M.H. Long (Eds.), Classroom Oriented Research in Second Language Acquisition (pp. 287-305). Rowley MA: Newbury House Publishers.

An attempt to establish a second language index of development for global proficiency was made. Three questions were posed.

1. "Would the measures ... found earlier to be successful for discriminating among writing abilities of ESL learners be equally applicable to oral data?

2. Do written data elicited through a controlled task give . . . a more accurate portrayal of ESL proficiency than data elicited through "free" compositions? and

3. Do the performance variables or measures . . . identified increase over time when the subjects are receiving ESL instruction?"

There was an inability to discriminate between adjacent levels using the measures of:

1. average number of words per T-unit and

2. the total number of error-free T-units per composition.

Oral tasks included interview, picture composition task, conversation, and story retelling.

T 1991 Larsen-Freeman, D. (1991). Second language acquisition research: staking out the territory, TESOL Quarterly, 25(2), 315-350.

A brief history of second language learning is given. Initially, learning was by conditioning. Errors led to awareness of SLA field and became the main focus of study. But, not only were errors important, so was the success of production of language. Both errors and well-formed utterances were the next focus. This led to morpheme and longitudinal studies. It was determined that learners passed through common developmental stages in their acquisition of structures. Discourse analysis came next. Specific areas of research emerged: language transfer of L1 to L2, characteristics of input coupled with learners' output (practice in producing comprehensible output may force learners to move from semantic to syntactic processing), variation in output.

There is a threefold classification schema for theoretical perspectives:

1) nativist (innate capacity for language acquisition),

2) behaviorist/environmentalist (experience more important), and

3) interactionist (both internal and external processes involved).

Nativist includes Chomsky's government-binding theory--linguistic input to children underdetermines or is insufficient to account for language acquisition. Some researchers believe that UG is still available to L2 learners and that sequence of development suggest that UG continues to operate. However the issue is unresolved. The objective is to explain competence or grammatical knowledge.

Environmentalist includes parallel distributed processing (PDP) and involves complex computer neural networks determined by the frequency of patterns in the input. Results look like rule-governed behavior.

Ellis is forefront in the interactionist viewpoint with variability at the heart of the model and it serves as the impetus for development. The goal is to "explain how knowledge gets realized as use." Theoretical perspectives need to be assessed in terms of their purpose. Characteristics of the learner make a difference in L2 acquisition. Variables include age, aptitude, social-psychological factors (attitude and motivation), personality, cognitive style (field independence/dependence), learning strategies (the techniques or devices a learner uses to acquire knowledge). More emphasis needs to be placed on tutored acquisition (most research has dealt with natural or untutored SLA. It also appears that tutored and untutored SLA are more similar than different (common developmental sequences, error types).

Ten general characteristics of the learning process are:

1) The learning/acquisition process is complex.
2) The process is gradual.
3) The process is nonlinear.
4) The process is dynamic.
5) Learners learn when they are ready to do so.
6) Learners rely on the knowledge and experience they have.
7) It is not clear from research findings what the role of negative evidence is in helping learners to reject erroneous hypotheses they are currently entertaining.
8) For most adult learners, complete mastery of the L2 may be impossible.
9) There is tremendous individual variation among language learners.
10) Learning a language is a social phenomenon.

T 1986 Larsen-Freeman, D. (1986). Techniques and Principles in Language Teaching. Oxford, England: Oxford University Press.

Eight well-known language-teaching methods are described.

1. The purpose of the grammar-translation method (or classical method) is to be able to read the literature of the target language. Translation is important while communication is not. Reading and writing (grammatical rules) are important while little attention is given to speaking and listening.

2. The direct method involves learning how to use the L2 to communicate; no translation into L1 is allowed. Grammar is taught inductively. Lessons are based on situations or topics, not linguistic structures. Vocabulary is emphasized over grammar. More emphasis is placed on speaking than on reading, writing, or listening.

3. The audio-lingual method has as a primary goal to have students use the L2 communicatively. Language is taught from within a context (dialogue). Learning occurs through repetition and overlearning. The natural order of skills is adhered to: listening, speaking, reading, and writing with the majority of the attention going to oral/aural skills.

4. The silent way was built upon the cognitive code approaches. The teacher is silent, makes use of what the students already know and does not do for them what they can do for themselves, and gives help only when absolutely necessary. Silence on the part of the teacher is to foster autonomy. Pronunciation is important; form is important but rules may never be given.

5. Suggestopedia places learning in a relaxed environment and attempts to "desuggest" barriers to learning that the students may have. The goal is for everyday communication. Dialogues are used; vocabulary is emphasized. Grammar is dealt with explicitly but minimally. Speaking is emphasized. Native language translation is used to make meaning clear. Conscious attention is focused on using the language, not language form. Repetition is avoided as much as possible. New identities are given to the students.

6. With community language learning, language is for communication. Interaction among students is fostered; the teacher is sensitive to limitations of students, native language is used to ensure understanding, and care is taken to ensure that the student feels secure in the learning situation. The main goal is to use the L2 communicatively. Six elements for nondefensive learning are security, aggression (assertion), attention, reflection, retention, discrimination.

7. The total physical response method (in the comprehension approach) places great emphasis on listening comprehension. Meaning is conveyed through actions. Understanding should be developed before speaking. Spoken language is emphasized over written language. Memorized routines are not used. Grammatical structures and vocabulary are emphasized. Only major errors are corrected.

8. The main goal of the communicative approach is to have the students become communicatively competent. Authentic language materials are used as much as possible. Almost everything is done with a communicative intent. Activities have three features: information gap, choice, and feedback. Activities are carried out in small groups. Knowledge of form, meaning, and function is important, but functions are emphasized over form.

S 1989 Lennon, P. (1989). Introspection and intentionality in advanced second-language acquisition. Language Learning, 39(3), 375-396.

Reported is a study of four students from Germany studying English in England. All were advanced in L2 (10 years of classroom instruction) but had not lived in L2 country. The study occurred during 6 months in the L2 country while the students were attending the university. In all cases, their levels of proficiency improved. Introspective data were collected at 2 points in time: 1) six weeks after arrival in country, and 2) shortly before returning to Germany. After the first data collection, common reports included being enthusiastic about positive linguistic effects of residing in England, but these were limited to listening, speaking, and automatization. Shortly before returning to Germany, interviews revealed common points:

1. Subjects were highly motivated.
2. A strategy of integration into the L2 community was adopted.
3. All subjects adopted an initial strategy of listening (similar to beginners).
4. Subjects would work out the meaning of new expressions from context.
5. Subjects consciously tried to use expressions they had heard or vocabulary they had read.
6. Subjects were more concerned with communication than with correctness.
7. Subjects obtained positive and negative feedback and correction, but the amount was limited by normal conversational restraints.
8. Subjects had a fear of making mistakes and they overcame that fear.
9. Automatization improved. They felt that they improved in fluency rather than grammar.
10. Different production strategies were applied under different conditions.
11. If nervous, subjects were more likely to focus on correctness for fear of making mistakes, but also believed that performance was depressed. Subjects were found to demonstrate considerable awareness of their progress, performance and competence.

L 1983 Lett, J.A., Jr. (1983). Research: What, Why, and for whom? In C.J. James (Ed.), Practical Applications of Research in Foreign Language Teaching (pp. 9-49). Lincolnwood, IL: National Textbook Company.

Types of research include historical, descriptive, developmental, case and field, correlational, causal-comparative, true experimental, quasiexperimental, action, and ethnographic. The professional is one who is free to make use of new knowledge on his or her own terms, but is obligated to seek it out and test it fairly and thoroughly, and also to contribute to it as well as one can.

O 1983 Lightbown, P.M. (1983). Exploring relationships between developmental and instructional sequences in L2 acquisition. In H.W. Seliger & M.H. Long (Eds.), Classroom Oriented Research in Second Language Acquisition (pp. 217-245). Rowley MA: Newbury House Publishers.

In a study investigating natural sequences in ESL, 6-7th grade French speaking learners of English (English exposure almost exclusively being the classroom) described pictures in a picture-game task. Morphemes observed included "-s" and progressive marker "-ing." Data collected included classroom data, analysis of learners' language, and analysis of textbooks and of classroom speech. Results indicated that there was no direct relationship between the frequency that forms appeared in the classroom and the frequency or accuracy of use of the forms in the learners' language at the same point in time. Accuracy using "-ing" and "-s" morphemes on clause-initial noun phrases appeared to be based on overlearning in an environment where the form occurred in isolation from other forms. There are predictable sequences in the acquisition of English as L2. However, the strict "natural sequence hypothesis" (learners of different ages, from different first language backgrounds, with different kinds and amounts of ESL instruction and exposure to English, will acquire grammatical morphemes in essentially the same order) may not hold--evidence being early acquisition of the plural, lack of "-s." Most previous studies involved Spanish speaking learners with pronunciation of "-s," their native language does the same; French native language does not, and French learners had delayed acquisition of the morpheme. The difference may also be due to instruction method with lack of real communicative interaction. There was relatively little improvement over time in the accuracy of learners' use of the observed six grammatical morphemes even though grammatical accuracy was the focus of the classes. Communicative interaction was virtually nonexistent.

N 1985 Lightbown, P.M. (1985). Can language acquisition be altered by instruction? In K. Hyltenstam & M. Pienemann (Eds.), Modelling and assessing second language acquisition (pp. 101-112). San Diego: College-Hill Press.

This paper provided a review of recommendations by Pienemann, Long, and Krashen. Pienemann believes that some aspects of language are variable in their patterns of emergence and mastery while others follow apparently "universal" developmental patterns in a given L2. Therefore, those aspects of language which exhibit variable patterns may be taught at any time and aspects of language with universal patterns of development can be taught most successfully if they are presented according to natural sequences. However, a learner's input need not be restricted only to forms his is "ready" for. Lightbown worried that if Pienemann's ideas are adopted, a rigidity in teaching would develop by following the letter, rather than the spirit, of the recommendations. Lightbown doubts that it is to the learner's

advantage to have material presented in the natural sequence order--learners in natural environments are exposed to many levels on input. Lightbown also questions if enough is known about natural sequences to permit proper syllabus construction, especially when order may differ depending upon L1. Teaching does, however, make a difference--Long demonstrated that where learners' out-of-class exposure was comparable, those who received instruction were more proficient in the language. While instruction positively affects learning, it is not known how. Hypotheses include Pienemann's ideas that instructional materials sometimes match the natural order, Krashen's ideas of comprehensible input (linguistic forms are at a level one step beyond the learner's current developmental stage), and learner motivation (if the student is not receptive to the language learning opportunity, he will not be able to use the input), formal instruction may provide points of access for the learner, instructional materials will be at a proper level for the student, and instruction may alert learners to regularities of patterns. All in all, Lightbown didn't really disagree with Pienemann, but felt more research was needed before going after the teachers.

N 1990 Litwinski, V.N. (1990). Paving the way for proficiency. In: Georgetown University Round Table on Languages and Linguistics 1990 (pp. 360-363). Washington, D.C.: Georgetown University Press.

At FSI, ultimate proficiency depends on the input and intake during the first 2-3 weeks of language training. Four primary activities during this phase include:

1. sorting out (front-page news excerpts to allow students to acquire initial impressions of printed Polish)
2. sounding out (to provide a structured, confidence-building introduction to Polish phonetics),
3. overview of structure (initial insights on Slavic structure fundamentals), and
4. roadmapping the verb (complete inventory of verb forms used as clause predicates).

The effect is:

1) smoother progress through the training period,
2) a sense of manageability of Polish grammar,
3) enhanced perception of word and phrase structure,
4) ability to anticipate structure,
5) use of self-reliant comprehension strategies, and
6) increased clarity in communicating with instructors on structural and lexical problems.

N 1983 Long, M.H. (1983). Inside the "black box": methodological issues in classroom research of language learning. In H.W. Seliger & M.H. Long (Eds.), Classroom Oriented Research in Second Language Acquisition (pp. 3-36). Rowley MA: Newbury House Publishers.

Many studies have suffered because researchers have been unable to describe or control what has gone on in the classroom. In an attempt to acknowledge that lack of control, the natural processes of classroom instruction have been described. A definition has arisen: classroom language learning is defined as research on second language learning and teaching, all or part of whose data are derived from the observation or measurement of the classroom performance of teachers and students. Methodology falls into two categories: some kind of interaction analysis and those describable as forms of anthropological observation. Strengths of interaction analysis include that some available second language instruments are relatively easy to learn and simple to use and, as a result of using mainly low-inference categories, some systems go some way to providing a common terminology for describing classroom life that can be understood by both the observer and the teacher. However, events recorded may be trivial. Little has been done to test whether recorded behaviors affect L2 learning success. Interaction analysis systems code surface behavior and may miss communicative value of remarks. It also assumes sufficient knowledge of the issues it claims to investigate.

The anthropological approach takes two basic forms, participant and non-participant. Procedurally it is highly systematic. "What" is observed. Structuring is done by the researcher and not by the data-gathering device chosen prior to the beginning of the observation. The researcher also does not set out with preconceived notions as to the variables to be studied (at least in theory). In a participant study, the observer takes a regular part in the activities he or she is studying and does not reveal his true identity. They describe their experiences in the greatest possible detail. Diary studies are an example of these. In non-participant observation studies, the researcher takes notes openly and does not become a participant. Constitutive ethnography uses retrievable data (film or videotape); data are treated exhaustively, interactional analysis is performed (seeks to discover participants' used of words or gestures to structure the organization of social events), and effort is made to ensure a convergence between the structure observers see in events and that which orients the participants. Ethnographic work is hypothesis-generating, not hypothesis testing. Limitations include that it is only as good as the person doing it, and that generalizability is controversial.

L 1983 Long, M.H. & Sato, C.J. (1983). Classroom foreigner talk discourse: forms and functions of teachers' questions. In H.W. Seliger & M.H. Long (Eds.), Classroom Oriented Research in Second Language Acquisition (pp. 268-286). Rowley MA: Newbury House Publishers.

The purpose of the study was to investigate the forms and functions of teachers' questions in ESL classrooms, and then to

compare the findings with previously established patterns of questioning behavior in native speaker-non native speaker (NS-NNS) conversation outside the classroom. Subjects for the classroom data included 6 classes of elementary level adult ESL classes with a variety of first-language background. Data collection was a tape-recording of a complete, regular class. Conversational data were collected from 36 dyads of NS-NNS subjects. A five-minute conversation was recorded and analyzed. Categories of questions analyzed were:

1. Echoic (comprehension checks, clarification requests, and confirmation checks) and
2. Epistemic (referential, display, expressive, and rhetorical).

Results included the following.

1. ESL teachers asked more display questions than information questions.
2. ESL teachers asked more display questions than NSs in informal conversation with NNSs outside the classroom.
3. ESL teachers asked fewer information questions than NSs in informal conversation with NNSs outside the classroom.
4. ESL teachers used different relative frequencies of questions, statements, and imperatives from NSs in conversation with NNSs outside the classroom.
5. ESL teachers used more verbs marked temporally for present than non-present.
6. ESL teachers used more verbs marked for present than NSs in conversation with NNSs outside the classroom.
7. The relative frequency order of grammatical morphemes in ESL teachers' speech correlated positively with their frequency in the speech of NSs in conversation with NNSs outside the classroom.

The relative frequency order of grammatical morphemes in ESL teachers' speech did not correlate significantly with Krashen's average order for accurate appearance. Communicative use of the target language made up only a minor part of typical classroom activities. NS-NNS conversation in an instructional setting is a greatly distorted version of its equivalent in the real world.

R 1982 Lowe, P. Jr., (1982). The U.S. government's foreign language attrition and maintenance experience. In R.D. Lambert & B. F. Freed (Eds.), <u>The Loss of Language Skills</u> (pp. 176-190). Rowley, Massachusetts: Newbury House.

Using preliminary, pilot data because of problems using existing records not designed for attrition studies, evidence reveals that speaking skills are lost most rapidly, understanding skills are lost next rapidly (with language speech rate and radically different phonetic and phonemic systems from English causing more rapid loss than other systems more similar to English), and reading skills are most stable. Because of small n, there is no confirmation of the hypothesis that loss rates are language-specific. Data problems included that method of instruction were not held constant, time between testing varied,

testing instruments varied, and the history of the subject was not held constant. Lowe felt that significance of loss rates lies in their possible use in the scheduling of maintenance and refresher courses. Courses could be tailored to manner in which language is lost.

L 1986 Madrid, D. and Torres, I. (1986). An experimental approach to language training in second language acquisition: Focus on negation. Journal of Applied Behavior Analysis, 19, 203-208.

"The effect of negation training in a second language on the expression of negation in the native language was investigated. Four-year-old children from bilingual (Spanish/English) homes who showed no expressive or receptive ability in Spanish negation and were either proficient or nonproficient in English negation received Spanish negation training. Children who were proficient in English negation maintained correct responses in English and showed increased correct responses in Spanish following simultaneous training in both languages or in Spanish alone. Children who were nonproficient in English negation demonstrated a decrease in correct English responses following training in Spanish alone; however, children who received training in English and Spanish simultaneously showed increases in correct responses in both languages. These findings suggest that language training programs with children learning a second language should consider the relationship of the two language training conditions (simultaneous vs. independent) with the child's level of native language proficiency."

C 1983 McCoy, I.H. and Weible, D.M. (1983). Foreign languages and the new media: the videodisc and the microcomputer. In C.J. James (Ed.), Practical Applications of Research in Foreign Language Teaching (pp. 105-152). Lincolnwood, IL: National Textbook Company.

Microcomputers are becoming more commonplace. People today have a visual orientation--television. The teacher remains the most important component in language teaching developments, including technological developments.

C 1991 Milheim, W.D. and Martin, B.L. (1991). Theoretical bases for the use of learner control: three different perspectives. Journal of Computer-Based Instruction, 18(3), 99-105.

Learner control allows the learner to choose the amount of content, the sequence, and the pace of learning. Total program control puts those variables under the control of the instructional medium. Three theoretical bases for learner control include motivation, attribution, and information processing. Learner control of pacing allows students to control the speed of presentation of the instructional materials to a degree that most suits their learning needs. Learner control of sequence allows students to choose the order of the content presented to them, although all information within the lesson

must eventually be studied. Learner control of content allows a student to choose only those materials that he wishes to study within a partiacular lesson.

Under motivation, the link to learner control is relevance expectancy. Variables include pacing: allows a rate of presentation that personally suits student needs; sequence: allows control of sequence that is personally relevant; and content: allows the learner to choose information that is relevant to past experience or future needs. Factors that may lead to increased motivation, and thus increase achievement, include interest, relevance, expectancy, and satisfaction.

Links to attribution theory include perceptions concerning the source of control and success. Variables include pacing: increases feelings of personal control over the learning environment; sequence: success is based on perceived personal control and is believed to be controllable; and content: success is based on perceived personal control and is believed to be controllable.

Information processing, internal structures in the mind of the learner and the types of processing that occur within those structures, links with learner control through encoding schema usage. Variables include pacing: influences the rate of encoding, sequence and content: influences the order of encoding and development and use of schemas.

O 1989 Mitchell, C.A. (1989). Linguistic and cultural aspects of second language acquisition: Investigating literature/literacy as an environmental factor. The Canadian Modern Language Review, 46(1), 73-82.

Two issues have been stated by other researchers: 1. "Acquisition may be slow, but it is in the long run much more useful when language is used for the prupose of communication. After all that's what language is for." (Krashen, 1981) and 2. "Cultural isolation is the cause of the failure to acquire the second language." (d'Anglejan, 1987). These may be stated as the role of informal environment in supporting the actual use of a language and the role of culture in language acquisition. In order to understand a culture, you must read its literature. Literacy and language acquisition go hand-in-hand. Literacy is a vehicle for developing and extending language. There is a power of acculturation through the text. Culture is revealed through its authors, characters, settings, and literary traditions.

P 1984 Nelson, F.H., Lomax, R.G., and Perlman, R. (1984). A structural equation model of second language acquisition for adult learners. Journal of Experimental Education, 53, 29-39.

Using the linear structural relationship (LISREL) with data from radically different ESL teaching methods, teacher training programs, a structural equation model was developed that described the relationships between variables representing sociocultural background, cognitive ability, functional language prodiciency, cognitive language proficiency, attitudes,

motivation, and instructional approach. An integrative approach to second language instruction was more effective than a strictly behaviorist approach and functional language ability was an important component of language acquisition.

F 1983 Nystrom, N.J. 1983 Teacher-student interaction in bilingual classrooms: four approaches to error feedback. In H.W. Seliger & M.H. Long (Eds.), Classroom Oriented Research in Second Language Acquisition (pp. 169-189). Rowley MA: Newbury House Publishers.

First grade, bilingual students being instructed in oral language development served as subjects. The classes were videotaped and the videotape then analyzed. The question asked was "how do teachers influence the language environment by responding to speech errors made by their students." The covertly correcting teachers promoted a classroom climate in which the communication most closely resembled an adult foreign language classroom (both the subject and medium of instruction was language). The overtly correcting teacher allowed a range of topics in classroom discussions, but the communication could not be considered conversational for its emphasis on correct form. The non-correcting teacher promoted conversational communication about non-language topics.

L 1981 Obler, L.K. (1981). Right hemisphere participation in second language acquisition In K.C. Diller (Ed.), Individual differences and universals in language learning aptitude (pp. 53-64). Rowley, Massachusetts: Newbury House.

Differential hemispheric dominance means either:

1) a right effect in one language, and a left effect or, more frequently, no significant effect, in another language, or

2) a right effect in one language which is greater for that language than for the other.

Students taught by the traditional analytic method used left hemisphere strategies to learn language; students in a conversational class used right hemisphere strategies. As proficiency for L2 increases, laterality becomes more left dominant. There appears to be right hemispheric participation in L2 learning and it is particularly active during the early stages of L2 learning.

P 1989 Obler, L.K. (1989). Exceptional second language learners. In S. Gass (Ed.), Variation in second language acquisition Vol II: Psycholinguistic issues (pp. 141-159). Clevedon, England: Multilingual Matters Ltd.

As shown in language aptitude batteries, four dimensions seem to contribute to successful L2 learning:

1) phonetic coding ability,
2) grammatical sensitivity,
3) rote memory, and
4) inductive language ability.

Phonetic coding and grammatical sensitivity may be more dependent upon individual aptitude than upon instruction. Deductive learners who learn best through teach-and-drill use left hemisphere based processes. Inductive learners emphasize conversational skills are less likely to use left hemisphere based processes. An exceptional L2 learner was studied. Traditional intellectual functioning was ordinary. Exceptional performances were in learning a new code system, English words to nonsense words in paired asssociates, a new phonetic transcription system, and spelling cues (retrieving a word based only on consonants of the word. Conscious appreciation of grammatical structure was average. Strengths were in acquisition of new codes, not higher conceptual manipulation of verbal material. Visual-spatial functions were in the average range, but in some cases were low average (mental rotation, Hooper Test of Visual Organisation). Music ability was average. Verbal memory was outstanding, especially on retention of prose passages. Digit memory and visual recall of complex figures were average. He complained of lack of ability to read maps and learn new routes; visual-spatial skills were inferior to verbal abilities, but did not show visual-spatial deficits on neurophychological testing. The hypothesis was raised that the slowest L2 learners (with normal IQ scores) may be mildly deficient in first language abilities. The truly exceptional L2 learners may have a bilateral organisation for cereb:ral dominance.

S 1990 Oxford, R.L. (1990). Missing link: Evidence from research on language learning styles and strategies. In: Georgetown University Round Table on Languages and Linguistics 1990 (pp. 438-458). Washington, D.C.: Georgetown University Press.

Language learning style encompasses four aspects of the learner:

1) cognitive style, i.e. preferred or habitual patterns of mental functioning;

2) patterns of attitudes and interests that affect what an individual will pay most attention to in a learning situation;

3) a tendency to seek situations compatible with one's own learning patterns; and

4) a tendency to use certain learning strategies and avoid others.

Language learning strategies are often-conscious steps or behaviors used to enhance the acquisition, storage, retention, recall, and use of new information, and are teachable. Three dimensions of style include:

1) analytic vs global processing,

2) tolerance vs intolerance of ambiguity, and

3) sensory preference.

Different styles may be suited for different settings and purposes. For example, nonclosure seekers and intuitives may be more adapted to immersion programs and learning the new language "in country." While unsuccessful learners used a similar number

of strategies as better learners, unsuccessful learners used strategies in a less targeted, less appropriate way than successful learners.

E 1982 Oxford, R.L. (1982). Technical issues in designing and conducting research on language skill attrition. In R.D. Lambert & B. F. Freed (Eds.), The Loss of Language Skills (pp. 119-137). Rowley, Massachusetts: Newbury House.

Dimensions of language testing include direct vs. indirect and direct-point vs. integrative.

"A direct test samples directly from the behavior to be evaluated in the natural setting.

An indirect test is more contrived and non-naturalistic.

A discrete-point test analyzes proficiency or achievement into its atomic components and then tests each component separately.

An integrative test involves a task which is assumed to call upon a larger range of skills and which assesses the respondent's general language proficiency rather than separate components."

Types of studies include those where continuing students are compared to terminating students at various times and retention over summer vacations. Attitudes and motivation need to be considered as they play a role. Possible research designs include historical, descriptive, developmental, case and field study, correlational, causal-comparative, true experimental, quasi-experimental, pre-experimental research.

S 1983 Paivio, A. (1983). Strategies in Language Learning. In M. Pressley & J.R. Levin (Eds.), Cognitive strategy research: Educational applications (pp. 189-210). New York: Springer-Verlag.

A language learning strategy may be defined as the skillful planning and management of language learning as carried out by the learner or language teacher. Strategies may be informal or formal, mnemonic or nonmnemonic, and comprehension or production. Language learning strategies may be verbal or nonverbal with aims to emphasize semantic, syntactic, or pragmatic features. Various formal strategies include systematic reinforcement, verbal contextual learning, pictures as contexts (pictures are superior to words as referents for vocabulary items), imagery-based (especially the keyword imagery technique and the hook technique), total physical response, and the silent method. It is important to provide relevant nonverbal situational, cognitive, and behavioral contexts for language learning.

S 1981 Peters, A.M. (1981). Language learning strategies: does the whole equal the some of the parts? In K.C. Diller (Ed.), Individual differences and universals in language learning aptitude (pp. 37-52). Rowley, Massachusetts: Newbury House.

Most children learn language by the analytical method: one-word, two-word, three-word. This article reports a case of a child who learned by the Gestalt method--approximating complete

sentences. Much of what was at first unintelligible was later understandable when looked at from a different framework.

O 1985 Pica, T. (1985). Linguistic simplicity and learnability: implications for language syllabus design. In K. Hyltenstam & M. Pienemann (Eds.), Modelling and assessing second language acquisition (pp. 137-151). San Diego: College-Hill Press.

Syllabus design has been a controversial area in second language pedagogy, but each centers around the theoretical perspectives on structure and organization of the author with little evidence as to whether that is the manner in which L2 is actually learned. Eighteen adults, divided evenly among three groups (instruction only, naturalistic, or mixed) provided information regarding the learnability of plural "-s," articles, and progressive "-ing." Results included "All three groups bore striking resemblance to each other in their acquisition of article "a." They followed a developmental sequence in which initial accuracy was achieved in chunk-like expressions (e.g. a little, a lot), then analyzed into noun object constructions (such as have a friend, went to a movie). This pattern appeared to be unaffected by the way in which article "a" had been presented in classroom instruction. Subjects who had experienced exclusive exposure to classroom input achieved a higher rank order accuracy for plural "-s" than subjects from the other two conditions, but a lower rank order accuracy for progressive "-ing." In addition, similar processes of oversuppliance and omission of target morphology (e.g. one books, many friend) were used by all subjects. However, these proportions differed according to target language exposure condition. Classroom instruction can accelerate natural sequences and processes of second language acquisition for linguistically simple morphology such as plural "-s," but can also retard these sequences and processes for the more linguistically complex progressive "-ing." For highly complex grammatical items such as article "a," instruction appears to have little impact, as learners follow naturalistic processes and sequences which appear to be unrelated to the ways in which articles are taught in their classrooms or presented in their textbooks.... When English grammatical morphology is presented in the classroom through isolation of forms and practice of functions, factors of linguistic complexity of individual morphemes can affect learners' natural psycholinguistic processing tendencies. These factors should have a bearing on not only which English grammatical morphemes should be selected for incorporation into the teaching syllabus but which can or should be excluded as well."

N 1985 Pica, T. (1985). The selective impact of classroom instruction on second-language acquisition. Applied Linguistics, 6(3), 214-222.

Eighteen adult Spanish-speakers were divided into 3 groups:
1) formal classroom instruction,
2) everyday social interaction, and

3) an combination of 1 and 2

to study English to determine whether second-language learners who lack access to input from natural sources (exposed to the target language solely through the classroom and textbook) would acquire grammatical morphology in ways dependent upon the linguistic complexity of the items. Analyses were conducted on the subjects' productions of article "a," plural "-s," and progressive "-ing." Results indicate that classroom instruction had a distinct impact on the acquisition and production of a second language, but the impact was not uniform and varied according to the linguistic complexity of the material presented. Classroom instruction assisted production accuracy for the linguistically simple plural "-s," but inhibited production accuracy for the less simple progressive "-ing." Instruction for article "a" (a grammatical morpheme whose rules for form-function relationships are not readily transparent) had no impact. It is suggested that complex areas be excluded from direct instruction and increased attention be given to item more responsive to classroom instruction.

N 1984 Pienemann, M. (1984). Psychological Constraints on the Teachability of Languages, Studies in Second Language Acquisition, 6(2), 186-214.

Using children, aged 7-9, the question of whether constraints imposed on natural acquisition could be eliminated through formal instruction was asked. Interlanguage was recorded before and after a period of formal instruction so that changes could be investigated. The structural domain was German word order: canonical word order, adverb preposing, particle shift, and inversion. The learning objective for the study was inversion. Inversion could be learned under instruction only if the learrer's interlanguage had already reached a stage one step prior to the acquisition of that structure. "Teachability of L2 structures is constrained by the same processing restrictions that determine the developmental sequences of natural L2 acquisition: since the processing procedures of each stage build upon the procedures of the preceding stage, there is no way to leave out a stage of the developmental sequence by the means of formal teaching." The assumption that constraints on teachability could be explained on the basis of linguistic input was rejected.

O 1985 Pienemann, M. (1985). Learnability and syllabus construction. In K. Hyltenstam & M. Pienemann (Eds.). Modelling and assessing second language acquisition (pp. 23-75). San Diego: College-Hill Press.

The syllabus is defined as the selection and grading of linguistic teaching objectives with basic principles of syllabus construction being:

1. new structures have to be built up on known structures and
2. simple structures be taught before the complex structures.

The aim of the paper was to provide precise principles for

grading teaching materials that are related to simplicity. Two approaches to syllabus construction are the

A. synthetic approach (grammar-translation-method--items from the target language are graded according to aspects of their grammatical structure--

1. new structures be built on old,
2. simple structures be taught before complex,
3. linguistic interaction between certain structures are respected so that corresponding structures may be introduced successively) and the

B. analytic approach (communicative approach, content is more important than linguistic form).

The teachability hypothesis predicts that instruction can only promote language acquisition if the interlanguage is close to the point when the structure to be taught is acquired in the natural setting, but also that instruction can improve acquisition with respect to the speed of acquisition, the frequency of rule application, and the different linguistic context in which the rule is applied. Classroom L2 learners produce the same type of interlanguage structures as observed in natural acquisition. Terrell's natural approach focuses on communicative competence, function rather than form, and allows for grammatical incorrectness. Krashen's monitor hypothesis states that learned structures are stored in a monitor; actual speech production can be monitored according to stored knowledge if certain conditions are met. Instruction supports acquisition by providing optimal input (input hypothesis). Krashen's hypothesis is highly speculative and not supported by direct empirical evidence. "The acquisition-by-comprehension claim . . .makes sense if it is implicitly assumed that comprehension and production develop as mirror-images of each other." Guidelines for natural grading include:

"1. Do not demand a learning process which is impossible at a given stage.

2. But do not introduce deviant forms.

3. The general input may contain structures which were not introduced for production."

Replacing intuitively derived syllabuses by learnable syllabuses is considered to be a necessary, but not sufficient, step for improving language teaching.

O 1987 Pienemann M. and Johnston, M. (1987). Factors Influencing the development of language proficiency. In D. Nunan (Ed.), Applying Second Language Acquisition Research (pp. 45-142). Adelaide, South Australia: National Curriculum Resource Centre.

External factors in language learning include the L1, social environment, and biological factors. There are developmental stages for learning:

1) production of undifferentiated elements (single words or formulae);

2) production of strings of elements;

3) ability to identify the beginning and end of the string and to perform operations on the elements in these positions;
4) ability to characterize some element within a string as being of a particular kind;
5) ability to characterize various elements within a string as being of different kinds;
6) ability to break down elements within a string into sub-strings.

The sequence is fixed and a learner cannot skip stages. Tension exists in learner language: that of communicative effectiveness and correctness or standardness. Variational features are determined by the degree of simplification that a given learner is willing to resort to in the interests of efficient, or easy, communication. There is no "all purpose" measure of language development. There is the integrative measure of evaluation (proficiency test). Research had not satisfactorily explicated the contribution of external variables to language development.

L 1978 Politzer, R.L. (1978). Errors of English Speakers of German as perceived and Evaluated by German Natives, Modern Language Journal, 62, 253-261.

The relative importance of different error types according to evaluations made by native speakers was determined. Sixty pairs of German sentences which contained deviations from standard German as associated with an American accent or American grammar and vocabulary interference were recorded. Native German teenagers then indicated which sentence of the pair contained the more serious violation of German. Errors covered included phonology, confusion of case endings, verb morphology, gender confusion, word order, and vocabulary. Vocabulary errors were considered to be the most serious. Then verb morphology, word order, and gender confusion were approximately equal in seriousness. Then phonological errors, and finally case confusion as least serious.

$ 1987 Reid, J.M. (1987). The learning style preferences of ESL students. TESOL Quarterly, 21(1) 87-111.

Students have four perceptual learning channels:
1. Visual learning (reading, studying charts),
2. Auditory learning (listening to lectures, audiotapes),
3. Kinesthetic learning (total physical involvement with a learning situation),
4. Tactile learning (hands-on learning, doing laboratory experiments).

Most students can correctly identify their learning strengths and preferred learning styles parallel students' actual learning strengths. Students taught in preferred learning styles score better on tests, knowledge, attitude, and efficiency. A self-reporting survey was administered to high intermediate or advanced ESL classes in 43 universities; 98 countries and 52 language backgrounds were represented. Overall, ESL students

preferred kinesthetic and tactile learning styles. Most demonstrated a negative preference for group learning. Graduate students showed greater preference for visual and tactile learning than undergrads. Undergrads were more auditory than grads. Kinesthetic and tactile were styles of choice for both grads and undergrads. Auditory was a style of choice for students in computer science, hard science, business, and medicine. Kinesthetic learning was a major style for all but computer science students. Visual learning was a major style for only hard science students. Preferences of students with higher TOEFL scores more closely paralleled native English speaker styles. The longer students had lived in the US, the more auditory was their preference.

In summary, ESL students differ from native speakers of English in their learning styles. ESL students from different language backgrounds may differ from each other in learning style. As ESL students adapt to the US academic environment, modifications and extensions of learning styles may result.

S 1978 Rodgers, T. (1978). Strategies for individualized language learning and teaching. In J.C. Richards (Ed.), Understanding Second & Foreign Language Learning: Issues & Approaches (pp. 251-273). Rowley, MA: Newbury House Publishers.

To individualize instruction, various methods, activities, and systems are used to meet the individual needs and differences of students. Requirements include materials, measurement/matching, and management. Management includes not only the physical administrative management, but also monitoring and responding to learner responses. Nine strategies for individualizing instruction include:

1. programmed learning,
2. sequential learning kits,
3. factlets (small, self-contained, self-directing, topical study packets),
4. contracts,
5. flow-charting,
6. group work,
7. each one-teach one,
8. games, and
9. simulations.

L 1987 Rogers, M. (1987). Learners' difficulties with grammatical gender in German as a foreign language. Applied Linguistics, 8(1), 48-74.

One of the main areas of weakness in the learning of German is "gender, number, case: of nouns, pronouns, adjectives, articles." Grammatical gender is a persistent problem even for advanced learners of German. Gender cannot be isolated in German from other features of the noun phrase such as case or number. It is not predictable from the phonological or morphological form or from its meaning. Appropriate endings are so complex that

getting it right is not merely a matter of remembering which gender a particular noun is. Several conclusions are:

"a. Gender is not just a feature of the (head) noun itself, but of the whole NP.

b. Gender is not expressed as a discrete morphological item, separate from case and number.

c. There is no one-to-one relationship between particular feature clusters (of gender, case, and number) and particular pre-nominal suffixes.

d. Many nouns lack overt markers of gender.

e. Some overt markers of gender do exist as formal or semantic features of the noun itself, although it appears that an adequate description of these features is still lacking for German.

f. Explicit knowledge of rules for gender assignment does not ensure correct usage."

The following points on the acquisition of gender were made:

"a. Gender acquisition is a developmental process--at least while the learner is setting up a system or framework to which new lexical acquisitions can be referred.

b. Development of the gender system is linked to the development of the case system.

c. Development of the gender system is also linked to other systems, such as deixis.

d. Gender acquisition, or more accurately, full development of the gender system, occurs relatively late in the language-acquisition process in a naturalistic setting (L1 and L2).

e. The considerable agreement demonstrated by bilingual research on the assignment of gender to loan words indicates that the process of gender assignment in this situation is rule-bound.

The value of such rules as the basis of a pedagogical algorithm must, however, remain doubtful for two reasons:

i. the interaction and interdependence of these rules still lacks an adequate description, and

ii. the resulting algorithm, assuming such a description were made available, might again pose too heavy a load on memory for the learners concerned."

Advanced English-speaking students of German served as subjects. Their task was to write an essay. Results indicated that incorrect assignment of gender was most likely to occur with feminine nouns. Grammatical context influenced the error rate--feminine gender errors occurred more often when the noun appeared in the dative case than for the accusative or nominative cases. Masculine nouns in the nominative had more errors than nominative or accusative feminine nouns. Dative-case errors occurred primarily in a Prepositional Phrase environment. The greatest chance of error was with feminine nouns in dative prepositional phrases. However, most of these errors were with loan words. The second highest error category was masculine nominative; the third-highest was nominative feminine nouns.

L 1990 Schachter, J. (1990). On the issue of completeness in second language acquisition. Second Language Research, 6(2), 93-124.

"The issue of completeness in adult second language acquisition is critical in the development of a theory of second language acquisition. Assuming the Chomskyan definition of core grammar as being those aspects of the language determined by the interaction of the innately specified Universal Grammar and the input to which the learner is exposed, we need to ask if it is possible for an adult learner of a second language to attain native-speaker competence in the core aspects of the grammar of the second language. This paper examines evidence for presence or absence of one principle of UG, Subjacency, in the grammars of groups of proficient nonnative speakers of English. There are three groups whose native languages - Korean, Chinese, Indonesian - differ from English with regard to Subjacency, Korean showing no evidence of it, Chinese and Indonesian showing partial evidence of it. There is one group whose native language, Dutch, shows the full range of Subjacency effects that English does. If all groups show the same Subjacency effects in English that native speakers do, then it must be the case UG is still available for adult second language learning and completeness in second language grammars is possible; if not, then completeness cannot be included as a possible characteristic of adult second language acquisition. Proficient nonnative university students with the above native languages were given grammaticality judgement tests on a set of sentences containing a variety of structures (islands) and Subjacency violations involving those structures. Analysis showed that though all groups were able to correctly judge grammatical sentences (containing islands) as grammatical, only the Dutch group was able to correctly judge ungrammatical sentences (containing Subjacency violations) as ungrammatical; the Korean subjects performed randomly on this task. This native language effect was shown not to be due to attribute variables, such as age of first exposure to English, number of months in an English-speaking country, number of years of English study, etc. The results support the conclusion that completeness is not a possible property of adult-acquired grammars since adults no longer have access to UG for the second language learning process." Subjacency is a principle whose function is dependent on other properties, either innate or noninnate, and it constrains extraction rules at the level of S-structure. The principle is that no application of a movement rule can cross more than a single bounding category. English bounding categories are NP and S. Two ways language can vary with respect to Subjacency are:

1. type of extraction: wh-word, relative pronoun, topic.,
2. domain of extraction: sentential subject, relative clause, noun phrase complement, embedded question.

L 1983 Schinke-Llano, L.A. (1983). Foreigner talk in content classrooms. In H.W. Seliger & M.H. Long (Eds.), Classroom

Oriented Research in Second Language Acquisition (pp. 146-165). Rowley MA: Newbury House Publishers.

A study on foreigner talk in 5th and 6th grade students was conducted. Lessons were audio-taped. Data were coded with respect to direction and function. LEP (limited English proficient) students were interacted with slightly over half as much as non-LEP students. There is a positive relationship between quantity and quality of interactions with LEP students. In most cases, LEP students are interacted with differently than non-LEP students. The more crucial the functional type of interaction, the more differential the treatment of the two groups with respect to interaction length.

O 1986 Schmidt, R.W. and Frota, S.N. (1986). Developing basic conversational ability in a second language: A case study of an adult learner of Portuguese. Talking to Learn (pp. 237-326). Rowley, Massachusetts: Newbury House.

An English-speaking adult learning an L2, Portuguese, served as the subject. Eight years previously the subject (R) had spoken Arabic fluently. In addition, he had smatterings of various other languages. The study endured 5 months, beginning when R arrived in Brazil with no prior Portuguese and ending when R left Brazil. Data included journal entries and 4 taped conversations recorded at 1-month intervals. The study consisted of three stages:

1) first 3 weeks in Brazil with no instruction and essentially no interaction in Portuguese,

2) formal instruction with interaction with native speakers, and

3) interaction alone.

R's acquisition of noun phrase features was similar to that experienced by learners of Spanish, i.e., there was little difficulty with initially choosing the gender of the noun to be modified, gender agreement was more difficult than number agreement, and the masculine form was perceived to be the basic form for adjectives. As with Spanish, there was little difficulty with noun-adjective order (adjectives follow the noun). Prepositions, which are usually difficult in any language, evidenced errors of omission and incorrect choice of preposition. Omission of articles was a problem. For verb-phrase features, the choice of the appropriate tense was most difficult, followed by the use of correct person, and choice of the correct conjugation class caused few problems (as with Spanish).

Beginning L2 seems to occur in a telegraphic style, big things first (content words) and details later. At the end of the study, communication was smoother and more effective. Choppiness and less grammaticality occurred when R was excited. Repetition was a common characteristic of early conversational behavior and misunderstandings were common. Did classroom instruction make a difference? It was perceived to make a great deal of difference. It provided quick answers to problems that R could not figure out

from context. It seems that R learned and used what he was taught if he subsequently heard it and if he noticed it. Much of what R said was either common expressions, chunks that he had heard others say, or chunks that he himself had constructed (not idiomatic Portuguese, but frozen interlanguage forms). Self-correction seemed to be a reflection of already established good performance and did not lead to improved performance over time. Correction by others was sometimes not perceived as correction, but as confirmation. When others overdid correction, it resulted in discomfort and ill feelings. Correction needs to be perceived as correction for it to work. Production in L2 results in L2 structures being more automatic and easily produced. It was felt that there was only one basic cause for language acquisition: understanding what was presented through input. What is presented through input and what is learned is not determined by native speaker models but by the language learners themselves.

P 1977 Schumann F.M. & Schumann, J.H. (1977). Diary of a language learner: An introspective study of second language learning. In H.D. Brown, C.A. Yorio, & R.H. Crymes (Eds.), On TESOL '77 Teaching and Learning English as a Second Language: Trends in Research and Practice (pp. 241-249). Washington, D.C.: Teachers of English to Speakers of Other Languages.

Personal variables effecting second language learning were identified by individuals, the authors being both subjects and researchers. Languages were Arabic in North Africa, Persian at UCLA and Persian in Iran. The journals recorded feelings and reactions toward the foreign cultures, target language speakers, and methods of instruction. Personal variables for the authors that impacted language learning were

1) nesting patterns,
2) reactions to dissatisfaction with teaching methods,
3) motivation for choice of materials,
4) transition anxiety,
5) desire to maintain one's own language learning agenda, and
6) eavesdropping vs. speaking as a language learning strategy.

Personal variables interact with psychological variables (attitude, motivation, language and culture shock), social variables (dominance patterns and integration strategies), cognitive variables (cognitive development), cognitive style, personality variables (tolerance for ambiguity, sensitivity to rejection), and introversion/extroversion.

P 1978 Schumann, J.H. (1978). Social and psychological factors in second language acquisition. In J.C. Richards (Ed.), Understanding Second & Foreign Language Learning: Issues & Approaches (pp. 163-178). Rowley, MA: Newbury House Publishers.

A taxonomy of factors influencing SLA include: social, affective, personality, cognitive, biological, aptitude, personal, input, and instructional factors. The following were dealt with in the article: social, affective, personality, cognitive style (subset of cognitive), and personal. Issues in

social factors include: dominance, nondominance, subordination, assimilation, acculturation, preservation, enclosure, cohesiveness, size, congruence, attitude, intended length of residence in TL area. Issues in affective factors include language shock, culture shock, and motivation, and ego permeability. Personality factors include tolerance for ambiguity, sensitivity to rejection, introversion/extroversion, and self-esteem. Cognitive style factors include field dependence/independence, category width, cognitive interference, and monitoring. Personal factors include nesting patterns, transition anxiety, reaction to teaching methods, and choice of learning strategies.

S 1991 Seliger, H. (1991). Strategy and tactics in second language acquisition. In L.M. Malave & G. Duquette (Eds.), Language, Culture and Cognition: A Collection of Studies in First and Second Language Acquisition (pp. 36-54). Clevedon, England: Multilingual Matters Ltd.

"... learners' acquisitional behaviour exists at two levels:

1. the level of strategy, consisting of a set of abstract universal cognitive functions which are used to acquire knowledge. These functions are biologically determined, age-independent and constant. Acquisition cannot take place without employing these strategies. They represent a set of capacities or potentials which may or may not be realized by the individual learner. Strategies distil general principles from the data supplied by tactics and assimilate them into the underlying competence grammar.

2. The second level of acquisition behaviour consists of activities carried out by the learner in response to the local conditions of language acquisition. . . . These local, immediate and temporary responses are referred to as tactics. Ideally, tactics are locally translated realizations of strategies, but not necessarily. Tactics are determined by the interaction of learner variables (the Filter) and the contextual features of the Language Learning Environment. Tactics are data-collecting processes and act as mechanisms which provide input upon which strategies operate. The relationship between strategies and tactics is decided by the individual learner's filter, consisting of factors which contribute to making up the learner's idiosyncratic style of learning or acquisition, that is, the way he translates strategies into tactics. . . . The facilitative role of instruction will be strengthened by understanding what tactics are appropriate for what learner styles and how tactics are related to underlying strategies."

The filter may include such entities as cognitive style, language background of the learner, the way an individual will approach language learning, etc.

S 1983 Seliger, H.W. (1983). Learner interaction in the classroom and its effect on language acquisition. In H.W. Seliger & M.H. Long (Eds.), Classroom Oriented Research in Second

Language Acquisition (pp. 246-267). Rowley MA: Newbury House Publishers.

For language acquisition to be successful, two factors must be present.

1. The learner must have access to a social environment in which language is used as a tool for communication.

2. The need to use the language as a tool for communicating with others must be present.

Learners may be considered to be High Input Generators (HIG) or Low Input Generators (LIG). HIG practice language by initiating interactions with the teacher and fellow learners and therefore generate more personalized input. LIG play a passive role in the classroom and do little to get input directed at them. HIG were hypothesized to be field independent and LIG as field dependent. In an embedded figures test, the "relative ability to perceive figures within a context is called field independence, while the relative inability to perform this task is termed field dependence." Classroom language interaction was observed or taped and then analyzed. "The studies. . . tested the hypotheses that using the target language as a tool for social interaction affects the rate of second language acquisition and the quality of second language acquisition. These studies found that learners who maintained high levels of interaction in the second language, both in the classroom and outside, progressed at a faster rate than learners who interacted little in the classroom. The language output of HIGs was found to differ significantly both qualitatively and quantitatively from the language produced by LIGs. An analysis of the L2 production of HIGs showed a lower percentage of errors that could be traced to transfer from the learner's first language. An analysis of the language output of LIGs showed a higher percentage of errors traceable to L1 transfer. There results were explained on the basis of higher levels of language interaction carried on by HIGs. The more the HIG interacts, in the second language, the more opportunities he or she has to form and test hypotheses about L2 by comparing his or her output with the feedback generated by his or her language interaction. On the basis of this increased amount of feedback, HIGs have more opportunities to reject false hypotheses about the second language being derived from the first and begin to develop a set of L2 hypotheses independent of L1 influence."

N 1983 Seliger, H.W. & Long, M.H. (1983). Introduction: What is classroom oriented research? In H.W. Seliger & M.H. Long (Eds.), Classroom Oriented Research in Second Language Acquisition (pp. v - ix). Rowley MA: Newbury House Publishers.

Language teachers and researchers share the same goal, that of understanding what is involved in the process of second language acquisition. A classroom is less artificial than experiments in a psycholinguistic lab, but is also less chaotic than a naturalistic context.

I 1991 Selinker, L. (1991). Along the way: Interlanguage systems in second language acquisition. In L.M. Malave & G. Duquette (Eds.), Language, Culture and Cognition: A Collection of Studies in First and Second Language Acquisition (pp. 23-35). Clevedon, England: Multilingual Matters Ltd.

Non-native speakers do not learn to produce L2s, they learn to produce interlanguage. However, they do learn to understand L2s. There is no cut-off point for interlanguage. Even very young children have interlanguage. A learner does not transfer an entire native language subsystem to the IL; it selectively transfers bits and pieces. The influence of L1 is variable. Fossilization refers to the cessation of IL learning when it is often far from target language norms. Fossilization is more assumed than studied. Short-term studies are irrelevant when talking about permanent cessation of language learning. IL varies by context depending on task. When a language form enters IL, it does not enter the entire IL; the learner cannot use that particular form precisely and correctly in all contexts.

S 1986 Skehan, P. (1986). Cluster analysis and the identification of learner types. In V. Cook (Ed.), Experimental approaches to second language learning (pp. 81-94). Oxford, England: Pergamon Press.

Multivariate statistics were felt to provide potential advantages over linear statistics for aptitude for language learning for the following three reasons.

1. Some types of achievement might be facilitated by any one of a number of aptitudinal/cognitive abilities.
2. Patterns of different abilities may be important for language learning.
3. Regression analysis assumes linearity of relationship; thresholds might be important.

Cluster analysis was used as it groups people who are similar. Subjects were Arabic students at the Army School of Languages. Aptitude tests were given early in the 10-week course; conversation, interpreting, and translation tests were given at the end of the course. Tests used were

1. MLAT Part 4: Words in Sentences (function of word in sentences)
2. AH4 (group intelligence test)
3. Rumanian--English (auditory paired associates test)
4. Digit Span
5. Finnish (recall words)
6. Rules of Indonesian,
7. Rules of a board game,
8. age,
9. Criterion Test Score.

The results show three clusters of learners:

1. those who achieve through intelligence;
2. those who achieve through memory; and
3. those who achieve commensurate with a fairly even pattern of abilities.

But there were many clusters that did not make sense. Wesche (1981) was quoted in the discussion as having stated that he matched aptitude patterns with methodological leads and demonstrated more efficient language learning. A mis-match would retard performance.

P 1986 Skehan, P. (1986). The role of foreign language aptitude in a model of school learning. Language Testing, 3(2), 188-221.

Current approaches to language learning pay insufficient attention to individual differences between learners in terms of their language aptitude, motivation, cognitive style, or learning strategies and emphasize the common features of instructional conditions. Language aptitude has four components:

1) grammatical sensitivity, the ability to see the functions that words fulfil in sentences;

2) inductive language learning ability, the capacity to reason analytically about language materials and to take a given corpus of foreign language and use it as the basis for inferring how other sentences in the foreign language would be produced;

3) phonemic coding ability, the ability to analyse sound in such a way that it can be retained for more than a few seconds; and

4) associative memory, the ability to form links or bonds between first language and target language words.

Universal grammar emphasizes the similarities among people. Children learn differently and at different rates; so do second language learners--due to individual differences. Foreign language aptitude is relevant to both formal and informal manners of language learning, it may be dealing with a fundamental capacity for language processing. When looking at individual categories of strengths on aptitude tests, learners that were matched with appropriate learning methods did disproportionately well, but when they were mismatched, they did disproportionately badly.

C 1987 Smith, W.F. (1987). Modern media in foreign language education: a synopsis. In W.F. Smith (Ed.), Modern Media in Foreign Language Education: Theory and Implementation (pp. 1-4). Lincolnwood, IL: National Textbook Company.

In a broad introduction, Smith outlines evidence that computer-assisted language learning (CALL) has progressed beyond the curiosity stage. These include:

1. at least one monograph or book published each year since 1982,

2. Computer-Assisted Language Learning and Instruction (CALICO) was formed,

3. a bibliography on CALL was published by Stevens et al. which identifies more than 1700 articles, monographs, or other writings,

4. all the major foreign language education journals devote space to CALL issues,

5. Professional organizations devoted to SLA have special interest groups,
6. conferences are increasingly commonplace, and
7. publishers' catalogs list CALL materials and software.

CALL has not flourished more due to substandard exemplars, insufficient teacher training, conflicting ideologies, and an insufficient drive among experiences language teachers toward computer literacy and pedagogical literacy using CALL (Stevens et al.) Teachers' judgement of what CALL can and cannot do for them must be based on knowledge of

1. the student and the variables that influence him or her from within,
2. the principles that organize a course of instruction for a curriculum,
3. the medium and its characteristics,
4. the importance of the instructional milieu, and
5. desirable qualities of CALL for a given approach to teaching.

N 1989 Spada, N. and Lightbown, P.M. (1989). Intensive ESL programmes in Quebec primary schools. TESL Canada Journal, 7(1), 11-32.

A five-month intensive ESL course, grade 5 or 6 was compared with age equivalents or hours-of-instruction equivalents (grade 9 or 10). Francophone students in the intensive ESL course outperformed both age equivalent and hours-of-instruction equivalent students on tests of listening and reading comprehension and in oral fluency. Students in the intensive classes also had more positive attitudes towards English than students in non-intensive classes. Long-term effects are as yet unknown.

P 1977 Strevens, P. (1977). Causes of failure and conditions for success in the learning and teaching of foreign languages. In H.D. Brown, C.A. Yorio, & R.H. Crymes (Eds.), On TESOL '77 Teaching and Learning English as a Second Language: Trends in Research and Practice (pp. 266-277). Washington, D.C.: Teachers of English to Speakers of Other Languages.

Success in L2 learning depends on achieving a maximum fit between many interlocking variables. The strongest reasons for failure include:

1. unwillingness to learn;
2. physical and administrative impediments;
3. insufficient time for learning and teaching;
4. unrealistic aims;
5. a false relationship between the nature of teaching materials and the professional standards of the teachers who will use them;
6. gross incompetence in the management of learning.

Less serious reasons for failure include

1. low learner expectations and
2. inadquate preparation of teachers.

Success is most likely achieved
1. with willing learners;
2. when physical and organisational impediments are removed; and
3. when teachers are appropriately trained.

Single blanket solutions for language learning cannot be achieved. "Maximum rates of achievement in the learning and teaching of a foreign language are typically produced when skilled and devoted teachers are encouraged by society and their profession to cherish willing learners."

S 1977 Tarone, E.E. (1977). Conscious communication strategies in interlanguage: A progress report. In H.D. Brown, C.A. Yorio, & R.H. Crymes (Eds.), On TESOL '77 Teaching and Learning English as a Second Language: Trends in Research and Practice (pp. 194-203). Washington, D.C.: Teachers of English to Speakers of Other Languages.

The nature of communication strategies of production used by the learner in situations where he or she was unfamiliar with, or uncertain of, the appropriate target language form or rule was the subject of the paper. The task was a picture description task (both in the native language and in the target language) and subjects were asked to explain why they thought they used the strategies they used. Five strategies used were
1. avoidance (topic avoidance and message abandonment),
2. paraphrase (approximation, word coinage, circumlocution),
3. conscious transfer (literal translation or language switch),
4. appeal for assistance, and
5. mime.

Personality characteristics may be correlated with strategy preference.

I 1978 Tarone, E.E. (1978). The phonology of interlanguage. In J.C. Richards (Ed.), Understanding Second & Foreign Language Learning: Issues & Approaches (pp. 15-33). Rowley, MA: Newbury House Publishers.

There has been little data collected from L2 learners in the phonology of interlanguage in reasonable natural speech situations. Two reasons may be a belief that negative transfer from the L1 was the primary problem and that pronunciation of L2 is not very important. Two issues in interlanguage phonology are
1. the nature of the processes which shape interlanguage phonology, and
2. the phenomenon of fossilization of interlanguage phonology.

Concerning negative transfer, there is a tendency for articulation with the tongue in the rest position (a middle height rather than extreme higher or lower positions). Some errors can be predicted by contrastive analysis, but not all. There is also no way of determining where differences will or will not lead to difficulty. Overgeneralization and approximation also play a role. Nonlinguistic constraints

(nature of the task--free speaking, dialogue reading, word lists reading) result in shifting of style in interlingual phonology. The processes operative in shaping IL phonology are:

1. negative transfer from L1,
2. first language acquisition processes,
3. overgeneralization,
4. approximation,
5. avoidance.

Constraints are:

1. the inherent difficulty of certain target language sounds and phonological contexts,
2. the tendency of the articulators to rest position,
3. the tendency of the articulators to a consonant-vowel (CV) pattern,
4. the tendency to avoid extremes of pitch variation,
5. emotional and social constraints.

The inevitability of fossilization is undecided with some researchers saying yes and others saying no. Fossilization may be the result of social and cultural factors.

What causes phonological fossilization to occur?

1. Physiological explanations--"their tongues get stiff." This may be due to practice of same pronunciation habits (no research indicates this), lateralization of the brain.

2. Psychological causes. One idea is that after puberty people learn L2s by applying abstract rules of grammar and pronunciation rather than acquire L2s by activating unconscious processes.

Psychological habit formations may also take place by exposure to inaccurate acoustic images of L2 language sound patterns. The learner may also lack empathy with native speakers and the culture of the L2. Socio-emotional factors may also play a role 'kids are teased when they display an accent, adults are not).

I 1989 Tarone, E.E. (1989). Accounting for style-shifting in interlanguage. In S. Gass (Ed.), Variation in second language acquisition Vol II: Psycholinguistic issues (pp. 13-21). Clevedon, England: Multilingual Matters Ltd.

Linguistic forms produced by L2 learners vary markedly as the learners move from one situation to another and from one task to another. Before comparing different models to account for the variation, criteria must be established.

1. The causes of systematic variation must be empirically verifiable.
2. The theory must be able to explain and ultimately predict all the known facts of IL variation.
3. The theory must meet aesthetic standards: have internal consistency, parsimony, and elegance.

(The following factors can cause variation:

1. the linguistic context of the varying forms--phonetic, phonological, morphological, and syntactic context,
2. the function performed by the linguistic form in different sorts of discourse,

3. the psychological processing factors--attention to form, automaticity, monitoring,

4. social factors--speaker's relationship to the interlocutor, topic of conversation, social norms,

5. miscellaneous task-related factors--instructions given the speaker.)

Theories proposed to account for interlanguage variation are of two types:

1. Inner Processing Theories:

a. Chomskyan models (Adjemian, Liceras): permeable intuitions about IL result from the "fact that there may be rules of parameters of core grammar that will be fixed in a variety of ways or not fixed at all."

b. Monitor Model (Krashen): differences in accuracy of performance on different tasks traced to the learner's use or non-use of the Monitor: learned as opposed to acquired language.

c. Cognitive models (Bialystok, Ellis): task-related variation explained as a result of the learner's use of controlled vs. automatic psychological processes.

d. Labovian models (Dickerson, Tarone): IL variation results from the differing degrees of attention paid to language form by the learner on different tasks.

2. Sociolinguistic and Discourse Theories:

a. Social psychological models:

i. Multidimensional model (Meisel): variation related to the influence of linguistic environment is tied to the socio-psychological characteristics of certain types of learners.

ii. Littlewood's model: three causes of IL variation are influence of linguistic environment, functions of linguistic forms, and social-situational factors.

iii. Speech Accommodation Theory (Beebe and Giles): IL variation tied to the learner's convergence or divergence from the speech patterns of the interlocutor, and appeal to constructs like identity assertion and group membership as end causes of variation.

iv. Discourse Domains Model (Selinker and Douglas): IL develops differentially in different contexts which are defined by the learner; shifts in accuracy occur as the learner moves from one discourse domain to another.

b. Function-Form Model (Hakuta, Huebner, Tarone, Schachter): accuracy of a given linguistic form varies as that form performs different pragmatic functions in discourse.

Inner processing theories trace the causes of IL variation to psychological processes such as setting parameters of the core grammar, the focus of attention on language form as opposed to language content, the degree to which one's knowledge of the language has been analyzed. Sociolinguistic and discourse theories have as causes external, social constraints such as the identity of the interlocutor, topic of discussion, etc. No single theory fits the bill. A clear, consistent theory that ties all causal factors together by showing their interrelationships is needed.

I 1990 Tarone, E.E. (1990). On variation in interlanguage: a response to Gregg. Applied Linguistics, 11(4), 392-400.

The goal of a rationalist approach in SLA research is to explain the acquisition of IL knowledge; linguistic knowledge (competence) is acquired. One either knows it or doesn't know it. Acquisition is explained by

1. a great deal of competence is not acquired, its basic outlines are innate, and

2. a language acquisition device combines relevant pieces of input with innate knowledge about human languages.

The variationist view concerns the how to produce or comprehend language, a form is acquired. Forms may be assimilated through a learner's increasing ability to carry on conversations. Accommodation is a cause of the incorporation of new forms into IL through spontaneous innovation and borrowing. Variation can occur when new forms are assimilated but not yet integrated or when few forms have been accommodated by a restructuring of the existing form-function system to give new forms their own meanings. Quoted from the summary: "I hope I have made the case that it is inappropriate for proponents of a rationalist approach to claim that a variationist model is inherently incapable of explaining second language acquisition. Both approaches, the rationalist and the variationist, have their strengths and their own insights to offer into the process of SLA. The rationalist approach has been strongest in its ability to point to areas of the grammar which may be innate and may not have to be acquired; this approach has not, on the other hand, been very specific in detailing the inner workings of the language acquisition device, or in showing how forms change over time in their discourse function or their assignment to particular linguistic contexts. The variationist approach is able to incorporate the view that some aspects of language are innate and may not have to be acquired, but it has been stronger than the rationalist approach in its ability to provide very specific proposals as to how forms are initially assimilated into the IL system and how these forms 'spread' over time to new and more complex linguistic contexts and acquire new or more specific functions. In fact, while neither approach can be said as of today to have explained, in detail, the psycholinguistic workings of the process involved in assimilating new language forms into an interlanguage, it seems clear first, that any adequate model of SLA must take IL variation into account, and second, that a variationist model has at least as much ability to provide an explanation of acquisition as does a rationalist model."

N 1991 Terrell, T.D. (1991). The role of grammar instruction in a communicative approach. The Modern Language Journal, 75, 52-63.

The favored methodologies for language learning have been

1. grammar-translation (concentrating on grammar skills with emphasis on the ability to use grammatical terminology to

describe morphological and syntactic principles of the target language),

2. audio-lingual (talking about grammar rules with oral input available in the form of dialogues and pattern drills),

3. cognitive (insuring that students understand the rules for using target language forms and structures before they attempt to use them for communication), and

4. communicative (giving direct and explicit grammar instruction a peripheral position in the course design).

Language instruction can positively effect acquisition even in naturalistic settings. There is not enough evidence to determine if grammar instruction increases fluency or accuracy in ordinary speech. Instruction can be more efficient and thus increase the rate of acquisition better than purely naturalistic learning, but it is not known if other forms of instruction are just as good. Grammar instruction is not a major factor in the order of acquisition of grammatical forms or structures. Grammar instruction may work by speeding up the acquisition process and help students avoid certain learning production strategies. Grammar instruction may serve as an "advance organizer" to aid in comprehending and segmenting input; may serve as a meaning-form focuser that aids the learner in establishing a meaning-form relationship for morphologically complex forms; and serve by providing forms for monitoring.

L 1990 Tirkkonen-Condit, S. (1990). Professional vs. non professional translation: A think-aloud protocol study. In M.A.K Halliday, J. Gibbons, & H. Nicholas (Eds.), Learning Keeping and Using Language, Vol. 2. Selected papers from the 8th world congress of applied linguistics, Sydney, 16-21 August 1987 (pp. 381-394). Amsterdam: John Benjamins Publishing Company.

Differences in decision making in translation were studied. All three subjects were students; one was a 5th-year student, the other 2 were 1st year students. The "professional" was the 5th year student. The pro made the highest number of decisions, took less overall time to carry out the task, and took less time to make a decision. The pro spent about 1/2 of the time on the writing stage. The non-pro took less than 1/3 the time on the writing stage but more than half of the time on the editing stage. The pro tended to rely on encyclopedic knowledge in solving problems of interpretation, the non-pro approached interpretation as a linguistic task.

R 1982 Valdman, A. (1982). Language attrition and the administration of secondary school and college foreign language instruction. In R. D. Lambert & B. F. Freed (Eds.), The Loss of Language Skills (pp. 155-175). Rowley, Massachusetts: Newbury House.

General attrition studies have been performed throughout the years. Most concern attrition during the summer vacation. While there is some loss, it is generally quickly regained. In some cases, there is some improvement. It is suggested that brief

interruptions do not have a marked effect on language attrition if one limits one's scope to the understanding of grammatical principles and the possible recognition of specific structural features and vocabulary items. Courses stress different teaching objectives depending on factors such as age of student, length of study, teaching objectives, etc. In many cases a student's ignorance or lack of functional control of a feature can be attributed to forgetting; but, that feature may never have been acquired. A conventional structural syllabus presents grammar sequentially. Review occurs usually as a back-up for all the features presented. A recycling of only those more likely to be forgotten may be preferred. Recycling via computer-assisted instruction is feasible, and individualized. Three methodological approaches that might prevent attrition are

1. implicit learning (approaches that stress receptive skills and enables learners to be less subject to anxiety and tension because of a de-emphasis on productive skills),
2. reduction (the adoption of acquisition strategies as opposed to conscious learning, will lead to a better integration of linguistic material and perhaps longer retention), and
3. intensive courses.

Refresher and maintenance courses may be helpful for a person to regain previously acquired language skills. The design of refresher courses requires precise information on criterion variables of language attrition. This is not available. Procedures for skill measurement (not knowledge) attrition viewed from a functional (not structural) perspective are needed. Information on long-term language attrition is also needed.

L 1990 vanLier, L. (1990). Classroom research in second language acquisition. Annual Review of Applied Linguistics, 10, 173-186.

Second language classroom research (SLCR) investigates what happens in the L2 classrooms, is educational and linguistic in orientation, and can best be achieved with teachers and learners working together. Methods used include coding-based and process-product research. Process-product research involves a combination of interactional analyses with factorial designs. It is important for the teacher to be involved in the research. Even if teachers may not immediately apply the results, their knowing about the issues and research allows them to shape their own research and provide a sense of direction. Opportunities will present themselves where findings can be utilized. Much "action research" (a cyclical probing, via planned interventions, close observation, and reflection, of some perceived problem) is being done, but not necessarily called that. The name may help further research as names tend to legitimize. Legitimacy and momentum are prerequisites for successful demands for the space, time, and resources required.

R 1986 Weltens B. & van Els, T. (1986). The attrition of French as a foreign language: interim results. In B. Weltens, K. de Bot,

& T. van Els (Eds.), Language Attrition in Progress (pp. 205-221). Dordrecht, Holland: Foris Publications.

Attrition of French during two and four years following formal instruction was studied in Dutch high school students who had studied French for either 4 or 6 years. Proficiency was measured on three levels:

1. overall proficiency--cloze and dictation tests;
2. general proficiency in reading and listening; and
3. the mastery of certain phonological, lexical, and morpho-syntactic elements.

As the results reported were interim results, not all groups were completed. Subjects were negative in their self-assessment of their abilities in French. In actuality, however, neither the cloze test nor the grammar test showed significant decreases over two years of non-use. Grammatical knowledge did suffer following four years of non-use. It must be noted that the tests were all multiple-choice, not recall.

P 1981 Wesche, M.B. (1981). Language aptitude measures in streaming, matching students with methods, and diagnosis of learning problems. In K.C. Diller (Ed.), Individual differences and universals in language learning aptitude (pp. 119-154). Rowley, Massachusetts: Newbury House.

Four dimensions of aptitude include

1. auditory ability,
2. phonetic coding ability,
3. grammatical sensitivity, and
4. rote memory.

Individuals have different ways of taking in and committing to memory new information. Learning conditions which are optimal for one individual may be inappropriate for another. An experience of placing students according to their scores on aptitude tests illustrated "possible uses of existing language aptitude tests and the factors which they measure, together with other kinds of data, to improve the effectiveness of a language training program. The tests are a valid source of prognostic information in programs where student selection and ability streaming appear justified. More importantly, they provide a starting point for identifying the special capabilities as well as potential problems of students with respect to particular aspects of instruction. Resulting information may be used as a basis for matching students with methodological approaches, and for individualization within each classroom. Such utilization of aptitude tests is not straightforward or simple. It requires skilled counselors and teachers who have had long experience with a specific population and given training options. Together with the candidate or student, they compare his or her scores on the various subtests, discuss the particular approach used on each subtest task, probe any difficulties experienced, and consider the test results in the light of the individual's background and experience. Attitudes and other personal characteristics are also taken into account. Only in this way can such tests aid in

the formulation of sound methodological recommendations, and in the individualization of instruction to meet special needs. However, it has been the experience of those involved in the Canadian government language training program that the above conditions can be created even in a very large and complex language training program, and that the most valuable potential contribution of presently existing aptitude tests to language teaching lies in this type of utilization."

E 1975 Wilds, C.P. (1975). The oral interview test. In R.L. Jones & B. Spolsky (Eds.), Testing Language Proficiency (pp. 29-44). Arlington, Virginia: Center for Applied Linguistics.

The oral interview test used by the government is well-known, well-used, and reliable. The testing team consists of a native speaker and a certified language examiner (experienced native-speaking language instructor or a linguist thoroughly familiar with the language). The test is conducted by the junior member and is a native speaker. The interview appears as a relaxed, normal conversation as much as possible. The interview begins with simple social openings. That determines the course of the rest of the test. An attempt is made to probe the examinee's functional competence in the language and to make him aware of both his capacities and limitations. A weighted scoring system includes accent 0, Grammar 3, Vocabulary 2, Fluency 1, Comprehension 2. Definitions of absolute ratings are listed.

N 1986 Winitz, H. and Garcia, P.A. (1986). Teaching German to college students through the comprehension approach: a four-semester program of study. In V. Cook (Ed.), Experimental approaches to second language learning (pp. 127-149). Oxford, England: Pergamon Press.

The comprehension approach has been interpreted as a procedure that emphasizes only listening or reading, that prohibits students from talking, and is designed to replicate native child language acquisition. In the study cited, intermediate and advances stages, as well as the beginning stages of German instruction were described. The comprehension approach involves using the implicit teaching model because it is recognized from the study of theoretical linguistics that the rules of grammar are so numerous and so complex, that learning a foreign language seems to be an impossible responsibility by explicit teaching. Additionally, students' grammatical forms are acquired and error types are made with high consistency. In the study, college students took the course to fulfill the university's language requirement (some students had other goals--to visit Germany, etc.). No student had previous German. In class, no English was used, no grammar taught, speaking was not required, and errors were not corrected. Many activities were used--command units, games, identification of pictures, creative activities, observation of dialogues, walks, physical exercises, cooking, cleaning, etc. After the equivalent of 2 semesters, scores on a nationally standardized test were lower than a control group.

The class continued for a third and fourth semester (with attrition). After the third semester, scores were less than 3rd year high school students, but greater than the control 2 semesters of German. After the fourth semester, scores were about the same as 3rd year high school students. Students' speech involved short sentences and was marked by errors of case, number, verb tense, and the use of inappropriate lexical items. There was little inhibition in speaking and no evidence of editing speech output.

T 1981 Wode, H. (1981). Language-acquisitional universals: A unified view of language acquisition. In H. Winitz (Ed.), Native Language and Foreign Language Acquisition. Annals of the New York Academy of Sciences, Vol 379 (pp. 218-234). New York: The New York Academy of Sciences.

An integrated theory of language acquisition that characterizes the overall ability of humans to learn languages is needed. Commonalities as well as differences must be stated. Humans have one language-learning system that is flexible enough to cope with differences in external situations (natural, classroom, L1, L2, relearning, age, etc.) Input must be processed by the brain and the structure of learner languages reflects the processing abilities of the brain. Languages can be structured only such that they are learnable. Languages can change only in such a way that they remain learnable. Typological peculiarities of natural languages must be constrained by the processing abilities of the brain. Integrated into human's overall cognitive functioning is a subsystem or set of subsystems geared to handle the formal properties of the linguistic devices of natural languages (linguocognitive system). Three notions that characterize the process of learning a language are

1. developmental sequence, the relative chronology in which elements of a target language are learned;
2. decomposition, target structures are not necessarily acquired all at once;
3. individual variation, linguistic structure of learner utterances within a given developmental sequence may vary to some extent among different learners of the same acquisitional types.

Using acquisition of negation as a target structure, data were shown that indicated that certain developmental learner structures and errors occur in all nonpathological types of language acquisition or learning. Error types resulted from underlying processing abilities that are universally available to any human throughout his lifetime.

L 1987 Wright, T. (1987). Roles of Teachers & Learners. Oxford: Oxford University Press.

In a book designed to promote thinking about roles of teachers and learners, many situations are given with questions asked to aid the reader in determining values and attitudes. No hard answers are given as there is no one right answer. Teacher style

and learner style and needs help in determining what is needed in a particular situation. Roles of teachers and learners involve doing task-related activities, talking or communication, more than one role is held by the participants, beliefs and attitudes influence the teaching/learning process, special abilities and aptitudes, uniforms or codes of behavior. Factors influencing teacher and learner roles are

1. interpersonal factors such as social role and status-rights, duties, and obligations;
2. power (coercive, reward-based, referent or motivation)
3. social distance;
4. attitudes and beliefs;
5. personality;
6. motivation (personality, beliefs and attitudes, personal needs, goals).

Teachers have two main roles in the classroom:

1. to create conditions for learning to take place and
2. to impart knowledge to the learners by a variety of means.

A teacher's style is the collection of the many attitudes and behaviors he uses to create the conditions under which learning can take place--to motivate by positive attitude, meaningful, relevant tasks, to maintain discipline so a working atmosphere is established, to be motivated and interested, to involve the learners actively, to introduce learners to self-appraisal and self-evaluation, positive feedback, and to encourage pride in achievement. Two types of teachers are

1. transmission teachers (content, standards of performance, teacher's role is to evaluate and correct performance) and
2. interpretation teachers (knowledge is the ability to organize thought, interpret facts, and act on them, teacher's task is to set up dialogues in which learners reorganize their existing state of knowledge and learners already know a great deal).

Instruction may be goal-oriented, task-dependent, or knowledge-based. Modes of instruction depend on personality, materials, expectations, subject matter, prescriptions of administrators, preferences.

Instructional materials fall into two broad categories:

1. factors related to general beliefs and attitudes about education (what is language teaching for) and
2. attitudes and beliefs about the role of knowledge itself and the type of knowledge that forms the basis of classroom language learning activities (what is language and how is it best learned).

Language materials may include

1. language study = study of structures,
2. study of language in situations,
3. study of language as a system of communicative functions,
4. study of the communicative potential of language,
5. exploration of personal feelings and attitudes and their expression in the target language,
6. study and acquisition of skills in the target language,

7. problem posing,
8. use of language for specific purposes.

A teacher may teach through materials (learning objectives are the text's, little room for improvisation, roles predetermined and may be contrary to expectations) or with materials (can generate new content, concentrate on interpersonal relationships in the class, as well as the opposite of through the materials points). Much in teaching depends on the focus of the material--content or meaning, the types of activity, the role of both teachers and learners when working with the materials. The climate of the classroom is determined by the activities in the classroom. They may be closed or open-ended. Cohesiveness and friendship in the group are influenced by communication patterns being formal or informal. Three types of learner include the

1. the enthusiast (teacher is point of reference and also concerned with the goals of the learning group),
2. the oracular (centers on the teacher but more oriented towards satisfaction of personal goals), and
3. the participator (attention focused on group goals and solidarity).

Learner's style and strategy are key elements for the learner. Through "investigation" (done alone or with assistance and support of colleagues and friends) teachers can become better teachers by being more sensitive to the demands of the learners and better equipped to manage the learning process; learners can become better learners by being more efficient at their task and better able to participate in learning activities, and the classroom process can be better suited to learning.

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The study explored the relation between linguistic ability and cognitive ability and attempted to determine how the two interact to affect the writing task. High school students (Hong Kong grade 9 for beginning ESL writers, Hong Kong grade 13 for advanced ESL writers, and Canadian grade 9 for age and maturation control) produced a 200 word essay in a 40-minute session. The topic of the essay was given. Data were analyzed for complexity of idea and syntactics (T-unit and clause length). On both complexity measures, the ESL grade 13 students scored the highest and grade 9 ESL students scored the lowest. In syntactics, ESL grade 9 scored lower that the other two groups. Differences between L1 grade 9 and ESL grade 13 students were not great. In a follow-up, two groups of Chinese ESL, grade 9 students wrote an opinion essay, one group in English, the other in Chinese. Chinese essays had a higher level of conceptual complexity. Results indicate that language ability affects cognitive processing. Conceptual performance was impeded due to a lack of achievement to a certain level of linguistic ability.

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Variation may be referred to as different ways of saying the same thing in different contexts. Many contextual factors (phonological environment, speech style, task, and interlocutor) may exert an influence on variation. Two weaknesses of many interlanguage studies are:

1. an unjustified assumption that variation is caused by only an independent variable, and

2. an inadequate analysis of the role of situational context in causing variation in interlanguage.

The experiment was to identify possible effects of situational context on linguistic variation in interlanguage. Data were collected from 12 native Chinese speaking adults in a home setting. Each was interviewed (and taped) twice, once by a native speaker of English and once by a fellow native speaker of Chinese. All interviews were in English. Each subject was assigned to a high or low proficiency group as a result of the score on TOEFL. The structure under question was the "-s" of plural marking. Similarity with the interviewer (sex, age, occupation, education, ethnicity, place of origin) favored "s" plural marking regardless of whether or not the interviewer was a native or non-native speaker. Significant effects on variation were found for the situational context, the informant's overall proficiency in English, and linguistic features of the noun stem and its phonological environment. Different factors exert different influences on variation as learners acquire greater competence in the target language. The phonological environment of "-s" --final segment of the noun stem and the immediately following segment--was a factor for low proficiency subjects. Phonological environment was not a significant factor for high proficiency subjects. Social convergence with a native English speaker was a significant factor in accounting for variation for high proficiency subjects.

APPENDIX A

LIST OF REFERENCES BY TOPIC

Appendix A contains a list of the references organized by the following categories:

C = Computerized Learning
E = Testing/Evaluation
F = Feedback
I = Interlanguage
L = General Language and Research Issues
N = Instruction vs. Natural Learning
O = Acquisition/Order of Acquisition
P = Personal Factors
R = Attrition
S = Strategies and Styles of Learning
T = Theory

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APPENDIX B

ADDITIONAL REFERENCES

Located in Appendix B are additional references which may be of interest to the serious researcher or student of second language acquisition. Again, this list is not meant to be exhaustive; it extends the original annotated bibliography.

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APPENDIX C

A SHORT GLOSSARY OF COMMON ABBREVIATIONS AND TERMS USED IN SECOND LANGUAGE ACQUISITION RESEARCH

Bilingual A person who can use two different languages.

Cloze test A test used to assess reading comprehension. A passage is given with every xth word deleted. The student then tries to fill in the deleted words.

Communicative Approach A method of teaching which emphasizes communication with little emphasis on grammar.

Copula A verb that links a subject to a complement. In English, the copula is "to be."

Diglossia A situation where two languages (or versions of the language) are used for different purposes within the same community. For example, Modern Standard Arabic is used for news, official communication, and scholastic work, but a dialect is used for personal communication.

EFL English as a foreign language. In this case the person is not in the foreign language environment.

ESL English as a second language. In this case, the person lives where the language is being used.

Form Focused Instruction Grammar focused instruction.

Fossilized An incorrect language structure becomes a permanent part of the manner in which a person speaks or used the language.

Interlanguage The language used by learners of a foreign language while they are in the process of learning the new language.

Interlocutor A person engaged in conversation.

MLU Mean length of utterance.

L1 First or native language.

L2 Second language (the language that the person is learning or learned).

Morpheme The smallest meaningful unit in a language.

NP Abbreviation for Noun Phrase

Phoneme The smallest unit of sound that can distinguish two words.

Semantic Meaning.

Speech Act A functional unit in communication.

Syllabus The order in which language constructs are taught.

Target Language The language that the person is learning or L2.

VP Verb Phrase.

WH-Question A question that begins with "who, what, when, where, which, why, or how."