

Chapter Four

Explicit Versus Implicit Teaching and the Biological Age: Adult and Young Learners

Recently, researchers have extended their attention to age effects on foreign language learning (Marinova-Todd, Marshall, & Snow, 2000). Several studies have been conducted in order to investigate the learning processes taken by language learners at different biological ages (e.g. Harley, Howard, & Hart, 1995; Singleton, 1997a).

A close examination of the studies that relate age to language learning (e.g. Bialystok & Hakuta, 1999; Bongaerts, Van Summeren, Planken, & Schils, 1997; Flege, 1999; Singleton, 1997b) indicates that age differences reflect differences in the situation of learning rather than in the capacity to learn. Thus, researchers' efforts need to focus on the adaptation of certain learning situations to cope with the biological age of the learners rather than to investigate the possibility of studying a foreign language in a specific age.

The history of foreign language pedagogy reveals that there are two, commonly, known types of learning: (a) explicit, rule-based, or declarative; and (b) implicit, instance-based, or procedural (Carr & Curran, 1994; Schmidt, 1995; Tomlin & Villa, 1994).

However, the issue of explicitness-implicitness has been a controversial topic. Whereas a group of researchers emphasize the role of explicitness in language learning (e.g. Fotos, 1999; Melles, 1998) another group of specialists focus on the importance of implicitness (e.g. Krashen, 1985; Robinson, 1994). Meanwhile, a reasonable number of educators stress the significance of both explicitness and implicitness in foreign language learning (e.g. Anderson, 1985; Dekeyser, 1994, 1996; James, 2000; Sharwood-Smith, 1999).

Some educators have discussed the idea of explicitness-implicitness in relation to age (e.g. Council of Europe, 1998; Kubanek, 1998) for the sake of determining sound learning environment for young and adult foreign language learners.

This idea has been emphasized because of the amount of knowledge and the type of schemata that change, alter, and develop in accordance with the biological age of the language learner (Ellis, 1994a, p. 3).

The present chapter deals with the relationships between explicitness-implicitness and biological age in relation to learning English as a foreign language. It is concerned with the two different ages: (a) children who study English as a foreign language in *Primary School*, and adults who study English as a foreign language through the Egyptian *Adult Education Program*.

Rationale for Studying Age Factor

1. The Egyptian government gives increasing attention to *Adult Education* as a national persisting requirement. Thus, adult learners study English in *Preparatory School* for the sake of attaining *Cultural Literacy Education* (Sherif, 2002). Nevertheless, structured interviews with two managers of the Egyptian *Adult Education Program* showed to the present author that there are no specific courses to be

studied, methods of teaching to be used, or techniques of testing to be applied at English classes in such a program. Rather, the syllabus of the regular preparatory school learners is offered to adult learners.

2. There is an extended international interest in studying the impacts of age factor in foreign language learning (e.g. Berndt, 2001a; Harely, 2000; Stevens, 1999).
3. Recent studies recommend that researchers need to conduct studies on verifying different pedagogical actions required by language learners with different biological ages (e.g. Halliwell, 1995; Marinova-Todd, et al, 2000; Oliver, 2000).
4. Research findings reveal that further studies need to be conducted in order to investigate the effectiveness of explicit versus implicit teaching of English on developing different language aspects and skills (e.g. Bialystok & Miller, 2000; Ellis, 1994a; Kirsner, 1994).

Age and Language Learning

Porter and O'Sullivan (1999) report that research devoted to study the relationship between language learning and age factor tended to focus on the study of the native language. They add that only a small number of studies investigated the influence of age on learning the spoken foreign language. Furthermore, they illustrate that the written performance of foreign language learners was almost neglected by researchers studying the age factor.

One of the reasons of neglecting the aforementioned area of research might have been the dominance of the notion *Critical Period Hypothesis* (CPH) (Nikolov, 2001). CPH means that there is a period of time when learning a language is relatively successful, easy, and quick with little effort. Once this period is over (after puberty) the average learner is less likely to achieve native-like performance . (Marinova-Todd, et al, 2001, p. 9)

However, Scovel (2000, p. 213) mentions that the last

twenty years have witnessed a change in the belief that younger students are absolutely better foreign language learners. According to Scovel, this change has influenced research actions, teaching methods, learning processes, and course planning in the area of foreign language instruction.

For example, Marinova-Todd and her colleagues (2000, p. 30) believe that language teachers may not be able to improve the age of older language learners, but they can do much to influence a student's learning strategies, motivation, and learning environment.

In addition, Berndt (2001a) explains that the aging process includes variation in learning factors like intelligence and memory. These factors, as Berndt says, play a considerable role in processing information and, consequently, in learning foreign languages. Hence, learning and teaching behaviors need to be adapted to cope up with the learner's capabilities of processing information that are affected by the age factor (Berndt, 2001b).

Moreover, the study of Harley and Hart (1997) reveals that factors such as memory ability, language aptitude, and the amount of exposure to a foreign language need to be considered when studying the relationships between foreign language proficiency and different starting ages of studying the targeted language.

Young and Adult Language Learners

Foreign language research findings show that teaching, as well as learning, processes and actions need to be different to match the characteristics of the learners that vary according to their biological age (e.g. Dekeyser, 2000; Palmen, Bongaerts, & Schils, 1997; Oliver, 2000; Stevens, 1999).

Halliwell (1995) reports that young learners, unlike the adult ones, come to the classroom of primary school with the following characteristics:

1. They frequently rely on imagination and fantasy during processing information;
2. They have an enormous capacity for finding and making fun;

3. They instinctively prefer to learn by playing;
4. They highly depend on noticing while learning, i.e. they have the capacity for indirect learning;
5. They are significantly creative in using the limited amount of language they know;
6. They naturally tend to guess the meaning of the vague messages directed to them; and
7. They need to spend much time talking and interacting verbally in the classroom. (Halliwell, 1995, pp. 3-8)

Kubaneck (1998, p. 196) believes that today's approaches to foreign language instruction are child-oriented. In the sense that teacher-learner interactions are prepared, manipulated, and evaluated on the basis that the starting age of the foreign language learners is around 8 years old. Thus, professional educators have recently directed their attention toward

studying the characteristics of adult learners in order to design appropriate language courses and then teach them to such adult learners (e.g. Berndt, 2001b; Council of Europe, 1998; Pennington, 1999; White, 1998).

Berndt (2001a) differentiates between young and adult foreign language learners as follows:

1. While young learners' only job is to go to school and take classes, adults' schedule is busy with work appointments as well as social life responsibilities;
2. Whereas young learners are obliged to go to school by familial and societal requirements, adults tend to take foreign language classes on their choice in order to fulfill different individual needs; and
3. Young learners go to regular foreign language classes to build bases for their futuristic careers. Meanwhile, adult foreign language learners are involved in *Adult Education Programs* to modify their potentialities on one hand, and to keep their brain stimulated on the other, as a step for

attaining personality continuous improvement.

Assar (2003) reports that adult learners need to be treated differently, unlike the young ones, for the following reasons:

1. They have more background knowledge that they acquired from their various experiences. Thus, the topics that they study need to be different from those offered to young learners;
2. Their relationships with the others are wider. Consequently, they may be able to find different opportunities for practice and feedback resources;
3. Adult learners are supposed to be more independent than young ones. Hence, they may prefer to share the responsibility of their own learning with the others;
4. Their cognitive processes are different from the young language learners. Thus, presentation procedures need to be different from those provided to the young; and

5. The emotional aspects of the adults are deeper and more complicated. In that sense, teaching practices need to be modified in order to satisfy the adults' needs, aspiration, and social as well as economic requirements.

Anees (2003) demonstrates certain characteristics of adult learners that significantly affect their learning processes. As he recommends, these characteristics need to be considered by curriculum designers and teachers of adult learners. Some of these characteristics are:

1. Their various experiences that differ according to their biological age, previous educational knowledge, social status, and cultural and economic level;
2. Their readiness to learn, since their voluntary desire to be involved in adult education programs is considered a sound indicator of an expected reasonable level of success;
3. Their anxiety about failure or being unable to act as the young learners do; and

4. Their physiological changes (because of aging) which may affect their reception as well as perception of information.

Studies Related to Age and Language Learning

The history of foreign and second language learning reveals that educators have directed their attention toward the study of the effects of biological age on language learning. The following description is devoted for explaining, briefly, some of these studies.

Hendriks (1999) conducted a study in order to investigate the impact of maturity on language learning. The results of the study showed that the adult subjects of the study tended to link new linguistic functions to their background knowledge. Meanwhile, children (young subjects of the study) tended to grasp the functions on a phrasal referential level.

In her study, Oliver (1998) tried to explore, among other things, whether there were differences between the ways adults and primary school children negotiate for meaning. Oliver

analyzed the utterances of a sample of 8-13 years old students (n= 192) in one-way and two-way communication tasks. Results of the analysis showed that, like adults, children also negotiated for meaning. Although the children's pattern of use seemed to differ from that of the adults, the differences were not categorical. The study recommended that the findings of adult studies could not be generalized to child studies without adequate and appropriate research effort.

The study of Moyer (2000) was a challenge to the Critical Period Hypothesis. The subjects of the study were a group of 24 highly motivated adult foreign language learners. The subjects studied and used German daily for years. The final results of the study indicated that the subjects had native-like performances, even in pronunciation, because these learners had a high level of motivation to study the targeted language. In addition, they received the suitable instruction and adequate training opportunities.

Wang (1999) analyzed the reflections of 30 immigrant women on their learning opportunities. The analysis showed

that these adult learners had difficulties in studying English as a second language because of personal factors. In addition, the subjects' reflections implied that they were affected negatively by the social context in which they studied English.

A further comprehensive survey of researches that studied the relationships between age factor and foreign language learning reveals the following major findings.

Grammar

1. Adults, as well as young language learners, can achieve proficiency in grammar (Ioup, Boustagui, Tigi, & Moselle, 1994).
2. Access to universal grammar does not decline with age (White & Genesee, 1996).
3. Age affects learners' performances in some classroom grammar-tasks (Birdsong, 1992).

Vocabulary

There are no significant differences between young and adult language learners in vocabulary acquisition tasks (Singleton, 1995).

Social-Psychological Factors

Adults, as well as young foreign language learners, are affected by several factors such as anxiety, self-confidence, willingness to communicate, and attitudes toward the target culture (Ehrman & Oxford, 1995; Gardner, Tremblay, & Masgoret, 1997; MacIntyre & Charos, 1996).

Brain

1. Native speakers and young foreign language learners have different brain patterns for processing function and content words. This pattern is reported to be absent in older learners (Weber-Fox & Neville, 1992).
2. The left-hemisphere affects more the learners' processing of words in languages learned before the age of 9; meanwhile, the right hemisphere affects more the learners' processing

after puberty (Wuillemin & Richardson, 1994).

Definition and Description of Explicit and Implicit Foreign Language Teaching

Whereas the term *explicit* means to give every detail openly, the term *implicit* means to understand but not directly written or stated messages (The Newbury House Dictionary of American English, 1999, pp. 288,436). Bialystok (1987), as Ellis (1994a, p. 167) mentions, was one of the first to apply explicit knowledge to the field of second/foreign language learning. Then, the 1980s witnessed a noticeable increase in studying the effects of the implicit memory in language learning (Schacter, 1995).

Dekeyser (1994, p. 188) says that explicit language learning means that rules are formulated, and then presented to the learners, either by the teacher or the students themselves. Dekeyser adds that implicit language learning means that no rules are formulated or presented to language learners.

Mclaughlin (1990, p. 617) distinguishes explicit

knowledge from the implicit with reference to *conscious* and *sub-conscious* learning processes, respectively. In that sense, explicit learning refers to learners' awareness of the rules and their ability to verbalize them. Meanwhile, implicit learning involves no awareness.

Furthermore, Ellis (1994a, p. 3) describes explicit learning as a more conscious operation where the individual makes and tests hypotheses in search for structures. On the contrary, Ellis refers to implicit learning as the natural acquisition of knowledge by being exposed to the input.

On the basis of Anderson's Theory (1983, 1985), Muthaup (1998, p. 94) differentiates between explicit and implicit learning as follows: (a) Explicitness is related to direct teaching of the intended rules since it is concerned with building up declarative rules, and (b) Implicitness is concerned with procedural knowledge which is the practical application of the rules.

Moreover, Rod Ellis (1994, pp. 105-106) distinguishes

between explicit and implicit knowledge as follows:

Explicit knowledge:

1. It consists of foreign language features which the learner is conscious of.
2. It is developed as a result of memorizing descriptions of foreign language features.
3. It assists the learner to notice the features of the input.

Implicit knowledge

1. It is acquired unconsciously just by being exposed to input.
2. The learners make use of both world knowledge and L1 knowledge in acquiring implicit knowledge.
3. Foreign language learning mainly depends on learners' natural noticing of input.

Explicit and Implicit Memory

Mclaughlin (1993) believes that successful language learning requires activation of both short- and long-term memory. This activation leads to recall of knowledge either explicitly or implicitly.

Nick Ellis (1994b,c) mentions that implicit memory refers to the previous learning experiences that affect current behavior, when the learners do not consciously recall the relevant prior knowledge. On the contrary, according to Nick Ellis, explicit memory involves conscious recall of prior knowledge. Furthermore, Abdallah (2003, p. 39) describes implicit memory as unintentional, whereas the explicit is an intentional one.

There has been a huge controversy about the degree of importance of explicit and implicit memory in foreign language learning. For example, Graf and Schacter (1985) explain that implicit memory facilitates task performance with the absence of the learners' intentionality of the retrieval process. Meanwhile, Ellis (1994a, p. 4) illustrates that explicit memory facilitates the acquisition of the implicit knowledge.

Anderson's Theory (1983, 1985) implies that teachers work on helping language learners through three different stages in order to activate both explicit and implicit memory.

These three stages are: (a) Cognitive stage where the learners are instructed how to do the task and informed of the target rules, i.e. declarative knowledge; (b) Associative stage in which declarative knowledge is partially turned into procedural where the learners apply the rules consciously; and (c) Autonomous stage in which the learners' performance becomes automatic and effortlessly with less emphasis on the working memory.

Durkin (1994, p. 534) mentions that research findings have led to a conclusion that implicit memory functions are less sensitive to age differences. On the contrary, Durkin reports that most measures of explicit memory indicate differences related to age factor. However, he recommends that further researches need to be conducted in order to verify correlations between age on one hand; and explicit and implicit teaching on the other.

2.2.3. Studies Related to Explicitness and Implicitness

The following schedule presents a surveyed group of studies related to teaching foreign languages explicitly and/or implicitly.

Table 1. A visual representation of a surveyed of studies related to explicit and implicit teaching of foreign languages, as developed by the present author

| Author | Year | Subjects | Focus on | Treatment | Major findings |
|----------------|------|--------------------------------------|------------------------------------|---|---|
| Oretega | 2000 | 64 adult FL learners | Linguistic aspects | Investigating the role of attention (analysis not treatment) | Conscious attention was given to the linguistic aspects at the pre-task stage as well as the stage of performance of the task. |
| Rosa & O'Neill | 2000 | FL Learners of Spanish | Grammar | Five different degrees of explicitness | The higher level of explicitness and awareness raising, the stronger the effect on intake. |
| Williams | 2000 | 54 adult learners of Spanish as a FL | Morphology | Explicit teaching | Positive effects of explicit teaching on learning |
| Leow | 1997 | 28 learners of Spanish as a FL | Recognition and written production | Investigating the role of awareness and noticing in language leaning (analysis not treatment) | a. different levels of awareness led to differences in processing. b. More awareness contributed to more recognition and accurate written production of noticed forms. |

Table 1. Continued

| Author | Year | Subject | Focus | Treatment | Major Findings |
|--|------|--------------------------------------|------------------------------|---|--|
| Alanen | 1995 | 36 adult learners of Finnish as a FL | suffixes | 1 control and three treatment groups : 1 explicit rule-based 2. Visual enhancement 3. both 1.2 | Control < enhance < rule < rule & enhance |
| Leeman, Arteagoitia, Fridman & Doughty | 1995 | 12 adult learners of Spanish as a FL | Accuracy | Explicit versus implicit | Explicit group demonstrated significantly improved accuracy in the targeted forms |
| Robinson | 1995 | 104 adult learners of ESL | Focus on cognitive abilities | Explicit versus implicit | No significant differences |
| Ellis, N | 1993 | Adult learners of Welsh | Grammar | Three types: a. random (just exposure) b. just rules c. rules and application | Explicit knowledge had a beneficial effect on language acquisition if combined with appropriate linguistic input |
| Doughty | 1991 | Adult EFL learners | Grammar | 1 control (implicit) and two experimental: a. meaning-oriented explanation through reading passages, b. just rule-based instruction | The two experimental groups improved on an equivalent degree and significantly more than the control one |

Comments on the Studies

- 1. No clear correlations were stated to be found between explicit/implicit teaching of foreign languages with age differences;**
- 2. Several studies tended to prove the role of explicit and rule-based instruction in adult's learning of foreign languages;**
- 3. Explicit teaching was reported to have positive effects on classroom foreign language learning;**
- 4. Attention was found to be essential for foreign language learning whether in explicit or implicit settings; and**
- 5. Further researches need to be conducted in order to verify the relationships among biological age, explicit/implicit teaching, and foreign language learning.**

Conclusion

To conclude the present chapter, the author suggests the following recommendations:

1. Adequate and suitable opportunities to study English as a foreign language should be given to the students involved in Adult Education Programs.
2. Foreign language educators need to consider the age of the learners when designing language courses; developing curricula; selecting teaching methods/styles; and assigning classroom interactions and homework.
3. Course designers and curricula developers are required to utilize the background knowledge and the personal experiences of adult, as well as young, learners for the sake of achieving the highest level of success in foreign language learning.
4. Field studies need to be conducted in order to investigate the relationships between explicit-implicit language teaching and the students' learning styles.
5. Researchers may direct their attention toward studying the cognitive, psychological, and cultural factors that affect

adult's learning of English as a foreign language.

Finally, it could be said that teachers, researchers and course designers have nothing, or little, to do to improve a learner's age. However, they can do much to influence a learner's learning environment, motivation, learning strategies, as well as many other factors that affect language learning.

References

Abdallah, M.Q. (2003). The psychology of memory (In Arabic). *The World of Knowledge Series, Feb, 2003*, Kuwait: The National Council for Culture, Arts, and Literature.

Alanen, R. (1995). Input enhancement and rule presentation in second language acquisition. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning (Technical Report # 2)* (pp. 259-302). Honolulu, Hawai'i: University Press, Second Language Teaching and Curriculum Center.

Anderson, J.D. (1985). *Cognitive psychology and its implications*. New York, NY: Freeman.

Anderson, J.N. (1983). *The architecture of cognition*. Cambridge, MA: Harvard University Press.

Anees, A. (2003). The characteristics and the motivations of adult learners and techniques for teaching them (In Arabic). *Paper presented at the Seminar of Contemporary Trends for Teaching Adults*, Dept. of Curriculum & Instruction Damietta FOE, Mansoura University, Damietta, Egypt, Feb 26.

Assar, R.M. (2003). Toward a life and skills-based contemporary curriculum for teaching adults in Egypt and the Arab area (In Arabic). *Paper presented at the Seminar of Contemporary Trends for Teaching Adults*, Dept. of Curriculum & Instruction Dumyat FOE, Mansoura University, Dumyat, Egypt, Feb 26.

Berndt, A. (2001a). Foreign language learning in old age: Ontogenetic bases for language learning in old age. *Neusprachliche Mitteilungen aus Wissenschaft und Praxis*, 54, 77-84.

Berndt, A. (2001b). Thoughts on the learning and teaching experiences of older people. *Language Teaching*, 34, 237-238.

Bialystok, E. (1978). A theoretical model of second language learning. *Language learning*, 26, 69-84.

Bialystok, E., & Miller, B. (2000). The problem of age in second language acquisition: Influences from language, structure, and task. *Language Teaching*, 33, 239.

Bialystok, E., & Hakuta, K. (1999). Confounded age: Linguistic and cognitive factors in age differences for second language acquisition. In D. Birdsong (Ed.), *Second language acquisition and the critical period hypothesis* (pp. 162-181). Mahwah, NJ: Erlbaum.

Birdsong, D. (1992). Ultimate attainment in second language acquisition. *Language*, 68, 706-755.

Bongaerts, T., Van Summeren, C., Planken, B., & Schils, E. (1997). Age and ultimate attainment in the pronunciation of a foreign language. *Studies in Second Language acquisition*, 19, 447-465.

Carr, T.H., & Curran, T. (1994). Cognitive factors in learning about structured sequences: Applications to syntax. *Studies in Second Language Acquisition*, 16, 205-230.

Council of Europe, (Modern Language Section)(1998). European perspectives on modern language learning. *Language Teaching* 31, 206-217.

Dekeyser, R. (2000). The robustness of critical period effects in second language acquisition. *Studies in Second Language Acquisition*, 22, 499-533.

Dekeyser, R. (1996). Exploring automatization processes. *TESOL Quarterly*, 30, 349-357.

Dekeyser, R. (1994). Implicitness and explicitness learning of L2

grammar: A pilot study. *TESOL Quarterly*, 28, 188-193.

Doughty, C. (1991). Second language acquisition does make a difference: Evidence from an empirical study of SL relativization. *Studies in Second Language Acquisition*, 13, 431-469.

Durkin, K. (1994). The lure and language of implicit memory: A developmental perspective. In N.C. Ellis (Ed.), *Implicit and explicit learning of languages* (pp. 523-548). San Diego, CA: Harcourt Brace & Company, Publishers.

Ehrman, M. (1996). *Understanding second language learning difficulties*. Thousand Oaks, CA: SAGE Publications.

Ehrman, M., & Oxford, R. (1995). Cognition plus: Correlates of language learning success. *Modern Language Journal*, 79, 67-89.

Ellis, N. (1994a). Implicit and explicit language learning: An overview. In N. Ellis (Ed.), *Implicit and explicit learning of languages* (pp. 1-32). San Diego, CA: Harcourt Brace & Company, Publishers.

Ellis, N. (1994b). Psychological perspectives on the role of conscious processes in vocabulary acquisition. *AIL Review*, 11, 37-56.

Ellis, N. (1994c). Vocabulary acquisition: The implicit ins and outs of explicit cognitive mediation. In N. Ellis (Ed.), *Implicit and explicit learning of languages* (pp. 211-282). San Diego, CA: Harcourt Brace & Company, Publishers.

Ellis, N. (1993). Rules and instances in foreign language learning: Interactions of explicit and implicit knowledge. *European Journal of Cognitive Psychology*, 5, 289-318.

Ellis, R. (1994). A theory of instructed second language acquisition. In N. Ellis (Ed.), *Implicit and explicit learning of languages* (pp. 79--114). San Diego, CA: Harcourt Brace & Company, Publishers.

Flege, J.E. (1999). Age of learning and second language speech. In D. Birdsong (Ed.), *Second language acquisition and the critical period hypothesis* (pp. 101-131). Mahwah, NJ: Erlbaum.

Fotos, S. (1999). Shifting the focus from forms to form in the EFL classroom. *Language Teaching*, 32, 162.

Gardner, R., Tremblay, p., & Masgoret, A. (1997). Towards a full model of second language learning: An empirical investigation. *The Modern Language Journal*, 81, 344-362.

Graf, P., & Schacter, D. (1985). Implicit and explicit memory for new associations in normal and amnesic subjects. *Journal of Experimental Psychology: Learning, Memory, and Cognition*, 11, 501-518.

Halliwell, S. (1995). *Teaching English in the primary classroom*. New York, NY: Longman.

Harley, B. (2000). Listening strategies in ESL: Do age and L1 make a difference? *TESOL Quarterly*, 34, 769-777.

Harley, B., & Hart, D. (1997). Language aptitude and second language proficiency in classroom learners of different starting ages. *Studies in Second Language Acquisition*, 19, 379-400.

Harley, B., Howard, J., & Hart, D. (1995). Second language processing at different ages: Do younger learners pay more attention to prosodic cues to sentence structure? *Language Learning*, 45, 43-71.

Hendriks, H. (1999). How does the cat get up high? By climbing! The acquisition of spatial reference in L1 and L2 Chinese, French, and German. *Language Teaching*, 32, 180-181.

Ioup, G., Boustagui, E., Tigi, M., Moselle, M. (1994). Reexamining the critical period hypothesis: A case of successful adult SLA in a

naturalistic environment. *Studies in Second Language Acquisition*, 16, 73-98.

James, C. (2000). Language awareness: Implications for the language curriculum. *Language Teaching*, 33, 19.

Krashen, S. (1985). *The input hypothesis*. London: Longman.

Kirsner, K. (1994). Second language vocabulary learning: The role of implicit processes. In N. Ellis (Ed.), *Implicit and explicit learning of languages* (pp. 283-312). San Diego, CA: Harcourt Brace & Company, Publishers.

Kubaneck, A. (1998). Primary foreign language teaching in Europe: Trends and issues. *Language Teaching*, 31, 193-205.

Leeman, J., Arteagoitia, I, Fridman, B., & Doughty, C. (1995). Integrating attention to form with meaning: Focus on form in content-based Spanish instruction. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning (Technical Report #9)* (pp. 217-258). Honolulu, Hawai'i: University Press, Second Language Teaching and Curriculum Center.

Leow, R. (1997). attention, awareness, and foreign language behavior.

Language Learning, 47, 467-505.

MacIntyre, P., & Charos, C. (1996). Personalities, attitudes and affect as predictors of second language communication. *Journal of Language and Social Psychology*, 15, 3-26.

Marinova-Todd, S.H., Marshall, D.B., & Snow, C.E. (2000). Three misconceptions about age and L2 learning. *TESOL Quarterly*, 34, 9-34.

McLaughlin, B. (1993). *Theories of second language learning* (7th impression). London: Edward Arnold.

McLaughlin, B. (1990). Conscious versus unconscious learning. *TESOL Quarterly*, 24, 617-634.

Melles, G. (1998). Focus on linguistic competence: Grammar consciousness-raising. *Language Teaching*, 31, 226-227.

Moyer, A. (2000). Ultimate attainment in L2 phonology: The critical period factors of age, motivation, and instruction. *Language Teaching*, 33, 40.

Muthaup, U. (1998). Mental network, procedural knowledge and foreign language teaching. *Language Teaching*, 31, 94.

Nikolov, M. (2001). Successful adult learners of Hungarian and English. *Language Teaching*, 34, 115.

Oliver, R. (2000). Age differences in negotiation and feedback in classroom and pair work. *Language Learning*, 50, 119-151.

Oliver, R. (1998). Negotiation of meaning in child interactions. *The Modern Language Journal*, 82, 372-386.

Ortega, L. (2000). Planning and focus on form in L2 oral production. *Language Teaching*, 33, 41.

Palmen, M.J., Bongaerts, T., & Schils, E. (1997). An authentic accent in foreign language learning beyond the critical period: Dutch learners of French at a very advanced level. *AILE*, 9, 173-191.

Pennington, M. (1999). The teachability of phonology in adulthood. *Language Teaching*, 32, 171-172.

Porter, D., & O'Sullivan, B. (1999). The effect of audience age on measured written performance. *System*, 27, 65-77.

Reber, A.S. (1993). *Implicit learning and tacit knowledge*. Oxford:

University Press.

Robinson, P. (1995). Aptitude, awareness, and the fundamental similarity of implicit and explicit second language learning. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning (Technical Report #9)* (pp. 303-357). Honolulu, Hawai'i: University Press, Second Language Teaching and Curriculum Center.

Robinson, P. (1994). Implicit knowledge, second language learning, and syllabus construction. *TESOL Quarterly*, 28, 160-166.

Rosa, E., & O'Neill, M.D. (2000). Explicitness, intake, and the issue of awareness: Another piece to the puzzle. *Language Teaching*, 33, 183.

Schacter, D. (1995). Memory distortion: History and current status. In J. Coyle (Ed.), *Memory distortion*. Cambridge: Harvard University Press.

Schmidt, R. (1995). Consciousness and foreign language learning: A tutorial on the role of attention and awareness in learning. In R. Schmidt (Ed.), *Attention and awareness in foreign language learning (Technical Report #9)* (pp. 163-182). Honolulu, Hawai'i: University Press, Second Language Teaching and Curriculum Center.

Scovel, T. (2000). A critical review of the critical period research. *Annual Review of Applied Linguistics*, 20, 213-223.

Sharwood-Smith, M. (1999). Consciousness-raising meets language awareness. *Language Teaching*, 31, 86.

Sherif, A.S. (2002). The Egyptian experiment for illiterate education (In Arabic). *The Regional Workshop Around Illiterate and Adult Education: Education for All*, June.

Singleton, D. (1997a). Age and second language learning. In G.R. Tucker & D. Corson (Eds.), *Encyclopedia of Language and Education, Vol. 4. Second Language Education* (pp.43-50). Amsterdam: Kluwer Academic.

Singleton, D. (1997b). Second language in primary school: The age dimension. *The Irish Yearbook of Applied Linguistics*, 15,155-166.

Singleton, D. (1995). Introduction: A critical look at the critical hypothesis in second language acquisition research. In D. Singleton & Z. Lengyel (Eds.), *The age factor in second language acquisition* (pp. 1-29). Bristol, PA: Multilingual Matters.

Skehan, P. (1998). *A cognitive approach to language learning*.

Oxford: University Press.

Stevens, G. (1999). Age at the immigration and second language proficiency among foreign-born adults. *Language in Society*, 48, 555-578).

The Newbury House Dictionary of American English. (1999). Boston, MA: Heinle & Heinle.

Tomlin, R., & Villa, V. (1994). attention in cognitive science and second language acquisition. *Studies in Second Language Acquisition*, 16, 183-203.

Wang, W. (1999). Age and second language acquisition in adulthood: The learning experience and perceptions of women immigrants. *TESL Canada Journal*, 16, 1-19.

Weber-Fox, C., & Neville, H. (1992). Maturation constraints on cerebral specializations for language processing: ERP and behavioral evidence in bilingual speakers. *Society for Neuroscience Abstracts*, 18, 335.

White, L. (1998). Second language acquisition and binding principle B: Child/adult differences. *Second Language Research*, 14, 425-439.

White, L., & Genesee, F. (1996). How native is near-native? The issue of ultimate attainment in adult second language acquisition. *Second Language Research*, 12, 233-265.

Williams, J.N. (2000). Memory, attention, and learning. *Language Teaching*, 33, 44.

Wuillemin, D., & Richardson, B. (1994). Right hemisphere involvement in processing later-learned languages in multilinguals. *Brain and Language*, 46, 620-636.