# Notetaking — An Overview

MAC YIN MEE

## Definition

Castallo (1976) defined notetaking as a "two step process in which the student must listen for the important information and then write it in some organized way."

## The Importance of Notetaking

According to Dunkel (1985), the lecture method of instruction is the method of information transmittal most often encountered in the university. Notetaking during the lectures is the "instinctive, even ritualistic reaction of college students to a lecture presentation". However, as pointed out by Anderson-Mejias (1986), students cannot successfully follow a university lecture due to faulty listening skills. According to Dunkel and Davy (1989), the term "lecture" refers to "a form of academic communication, an interchange between a professor and a group of students in which student responses are generally articulated in both oral and written form."

Boon (1989) stated that "notetaking during lectures is relevant to secondary students because teachers often lecture on materials from the text, provide background from supplementary materials for understanding the content of the course and include orally presented information in tests." According to Kiewra (1988), most college students attempt to learn from lectures by recording lecture notes and by later reviewing those notes before taking examinations. At tertiary level, notetaking is also a skill practised by most students during their lectures.

Otto (1979) stated that notetaking is useful because when people listen to some kind of discourse, they try to extract information, either factual or effective. The information is then applied to some further need which may be casual conversation, technical writing or answering test questions. The ability to listen for a certain kind of information and apply it to one of these needs is a notetaking skill which can be learned and practised.

Notetaking is important because it improves the listening ability by increasing the listener's attentiveness and prevents sidetracking. Notetaking also increases the listener's chances of reviewing what he has heard, therefore remedying weaknesses in listening. In addition notetaking improves the learner's ability to learn from the spoken word as well as improves memory of what is heard (Curriculum Bulletin, Los Angeles City Schools, 1971).

According to Dunkel and Davy (1989), American students and professors generally agree that taking notes on lecture information "assists in the process of learning and retaining the information...." Carrier (1983 cited in Dunkel & Davy 1989) reported that 100% of the undergraduates interviewed at the University of Minnesota said that they always take notes in lectures. Eisner and Rohde (1959) reported that a number of subjects became very upset when not permitted to take notes during a lecture notetaking experiment.

In a study done by Dunkel and Davy (1989), the international students interviewed stated that they take notes during lectures to reinforce or compare information given in the book and the lecture and to provide a record of facts, spellings, and statistical information presented by the speaker. Taking notes also helps them to compensate for their English listening ability because one person's insufficient notes can be added to another person's notes.

According to Craik and Lockhart, 1972; Craik and Tulving, 1975 (cited in Smith and Tompkins, 1988), the benefits of notetaking result from the heightened activation of several cognitive processes. First, the students have to actively attend to the message and select important ideas to retain in the notes. Second, students who paraphrase and add their own comments are relating their own prior knowledge to the new information. Third, as students elaborate on content by paraphrasing, indicating relationships among ideas, and developing their own examples, they are processing the content more deeply. This increased depth of processing multiple encoding increases the likelihood of compre

hension and retention. Finally, in creating their own notes, students generate a transportable and permanent storage of important information that is available for review.

Rothkopf (1970 cited in Dunkel 1985) stated that notetaking is generally viewed by learner and lecturer alike as "one class of mathemagenic activity" that facilitates the process of learning and retaining lecture material. The facilitative effect of notetaking on lecture learning and recall is thought to be derived from one or both of the two postulated functions of notetaking: the encoding function and the external storage function.

Dunkel (1985) added that the encoding function aids learning and retention by activating attentional mechanisms and by engaging the learner's cognitive processes of coding, integrating, synthesizing and transforming the aurally received information into a personally meaningful form. The external storage function is also important as the notes serve as an external repository of information enabling later revision and review to stimulate recall. Carrier and Titus (1979 cited in Dunkel 1985) dubbed the storage versus encoding hypotheses concerning the utility of notetaking the "product versus process" dichotomy. Ganeske (1981 cited in Dunkel 1985) viewed notetaking to be a multi-level analytical activity, with the product continuously evolving from the process.

## The Need to Improve Notetaking Skills

Bearing in mind the importance of notetaking, it is unfortunate that students are seldom explicitly taught how to take notes. Students listen to lectures and take notes through trial and error. Good students often "discover" their own techniques but less capable students may not have acquired notetaking skills. Students are often aware of their ineffectiveness and inefficiency of their notetaking strategies but do not know how to improve them. As pointed out by Palmatier and Bennet (1974), only 17% of the 223 American college students interviewed had formal instruction in notetaking. In a study done by Dunkel and Davy (1989), 91.3% of the international students and 58.5% of the American students interviewed expressed a desire to improve their notetaking skills.

Boon (1989) cited various studies that mentioned the poor quality of students' notes (Kiewra 1985); the inability of some students to differentiate important from unimportant information

(Palmatier and Bennett 1974); the difficulty in taking notes given lecture speed versus writing speed (Ladas 1980); the lack of training in notetaking (Palmatier & Bennett 1974); and the fact that students often fail to review their notes (Norton 1981). The importance of having sufficient notes to review was often stressed (Crawford 1925, Fisher and Harris 1973 cited in Kiewra and Frank 1988). Research has also indicated that college students are notoriously incompetent notetakers, generally recording less than 50% of the critical ideas (Hartley and Cameron 1967; Kiewra 1985).

Research suggests that people listen very badly. Students listening to lectures have been found to comprehend half or less than half the basic matter (Nicholas 1988; Brown 1950; Irvin 1953 cited in Wilkinson and Stratta). In addition, approximately 80% of what is not noted is forgotten after two weeks, hence it is of vital importance that notetaking skills are taught (Boon 1989). Moreover, as pointed out by Anderson-Mejias (1986), many textbooks represent notetaking as the advanced listening skill.

Di Vesta and Gray (1973) cited Crawford (1925) who pointed out the importance of investigating the dynamics of notetaking, the need for analysis of notetaking practice and procedure in greater detail to teach students how to get the best possible results from their efforts. According to Di Vesta and Gray (1973), the topic was not taken seriously until investigators such as Howe (1970) and Berliner (1970) took the initiative.

## Studies on Notetaking

According to Dunkel (1985) the intuitive belief that notetaking facilitates learning has led to numerous study skills programs aimed at developing notetaking skills although the few studies that have provided explicit pre-training on notetaking are equivocal in their findings.

According to Peck and Hannafin (1983 cited in Dunkel 1985), it is possible that notetaking instruction may produce metacognitive, encoding format or schema changes, though notetaking instruction may not actually result in more efficient or accurate learning. They pointed out that in several studies, instruction had no significant effect on achievement as measured in post-lecture criterion tests, but produced written notes that were qualitatively (Robin, Fox Martello, & Archable 1977 cited in Dunkel 1985),

structurally (Palmatier 1971 cited in Dunkel 1985), or both qualitatively and structurally (Rickards & Friedman 1978 cited in Dunkel 1985) superior to the notes produced by untrained notetakers. Peck and Hannafin (1983 cited in Dunkel 1985) also stated that the effects of formal notetaking instruction versus learner generated notetaking strategies, as well as the role of opportunity to physically record information, warrant further study.

Most of the studies on notetaking focused on two possible functions, encoding and external storage. The encoding function suggests that students gain more from listening to a lecture if they also take notes because the act of notetaking focuses attention, encourages the association of ideas and involves a deeper level of processing than listening alone (Carrier 1983 cited in Boon 1989).

According to Kiewra and Frank (1988), some researchers posit that the activity of notetaking serves an encoding function (Di Vesta and Gray, 1972) as noted information is processed more thoroughly than is non-noted information and is therefore better recalled. Kiewra and Frank (1988) cited studies which, however, indicate that notetaking in the absence of review does not facilitate recall more than listening to the lecture without notetaking (Hartley 1983; Kiewra 1985). In fact, when presentation rates are rapid (Ash & Carlton 1953; Peters 1972 cited in Kiewra and Frank 1988) or when students are deficient in information processing ability (Berliner 1969, 1971 cited in Kiewra and Frank 1988) the process of taking notes may actually be debilitating.

Whereas the encoding benefit of notetaking is empirically equivocal, experimental results confirm that achievement is usually higher when notes are reviewed (Hartley 1983; Kiewra 1985 cited in Kiewra and Frank 1988). Notetaking may therefore primarily serve as an external storage function because its main value is not the activity of recording notes but the product that is externally stored and reviewed. This external storage function suggests that notetaking is important mainly as the source of a written document which can be referred to when reviewing for tests (Kiewra and Frank 1988).

According to Hartley and Davies (1978 cited in Boon 1989) out of 35 studies on the effects on notetaking, 17 studies found the notetakers performed better than the non-notetakers, 16 studies found no difference, 2 studies found that notetaking interfered with performance. The studies showing no difference or negative results were analyzed by Ladas (1980 cited in Boon 1989) and serious methodological weaknesses were found in these studies.

The negative results were obtained from lectures delivered at high speeds. Ladas (1980 cited in Boon 1989) concluded that in carefully done studies resembling actual classroom conditions, both the encoding and review functions are supported. According to Boon (1989) similar conclusions were reached by Fisher and Harris (1973); and Kiewra (1985) who found external storage functions more clearly supported. Studies have also been done on what type of external storage would be more useful to students: using their own notes, their instructors' notes or a partial outline of the lecture. Kiewra (1985) reported that in studies allowing an adequate review period and in which tests were delayed, students reviewing their instructors' notes performed better than those using their own.

Hartley (1976 cited in Boon 1989) discussed seven naturalistic studies comparing varying forms of a skeletal outline with the students' own notes. Students using a skeletal outline on which they have taken notes, were found to perform better than those reviewing either their own notes or their lecturers' notes. Kiewra (1985) stated that the skeletal outline provides an advance framework which then guides the students' notetaking efforts.

Studies on the effects of pre-training on notetaking and information recall on native speakers (Jones 1930; Palmatier 1971; Carrier and Titus 1981 cited in Dunkel 1985) indicated that training in notetaking must involve long-term, systematic instruction and continuous practice.

According to Greene (1928) students are able to take notes at only 20 words per minute whereas the average lecture rate is that of 100-180 words per minute. Students generally take notes almost verbatim, with little evidence of reworking or elaborating while notetaking (Carter and Van Matre 1975 cited in Peters 1972, Kiewra 1985). It was also found that students find it easier to take notes on factual details or main points than to take relational notes (Kiewra 1985).

Among the few studies done on comparing various methods of notetaking, Palmatier (1971) found no significant difference in the amount learned by students trained in four different methods of notetaking. Norton (1981 cited in Boon 1989) stated that rereading or rewriting notes seemed equally beneficial and most of the successful test performers were those who took full notes, had positive attitudes towards notetaking and reviewed their notes. Research also seem to point to the value of the overview and ample space as encouragement for increased notetaking.

According to Boon (1989), the skeletal outline is an ideal solution as it provides a overview of the lecture as well as an opportunity for the students to take more organized notes. Kiewra (1985) also stated that students will not be developing their own organizational skills if full notes are available.

In a study by Di Vesta and Gray (1971 cited in Di Vesta and Gray 1973), the number of ideas recalled by subjects after listening to a short passage was favourably influenced by notetaking, by rehearsal immediately after listening to a passage, and by testing on the passage. In comparison, a study by Eisner and Rohde (1959) stated that taking notes during a 3-minute lecture is not superior to delayed note-taking, that is taking notes immediately after the lecture. However, the differences between the results could be due to procedural differences. Two other variables which may have affected recall of material when notes are taken during a lecture, were the length of a consolidation period and the degree of thematic organization of material presented in the lecture.

Consolidation period refers to the period during which the material can be rehearsed or coded for more efficient storage in memory (Hebb 1966, Howe 1970 cited in Di Vesta & Gray 1973). Hebb (1966 cited in Di Vesta and Gray 1973) also added that "newly acquired learning must be undisturbed for some time if it is to last, and it must be allowed to mature between 15 minutes and an hour. Reinforcement may strengthen learning as it provides a period during which consolidation can occur".

The thematic relatedness of the content involved in the listening passages differed among the studies conducted by Eisner and Rohde (1959); Crawford (1925); and Berliner (1970). Such differences in thematic relatedness may have an effect on the strategy the student uses to store the material during learning and his ability to recall it later. It may also have an effect on recall either through proactive or retroactive inhibition (Wickens 1970 cited in Di Vesta and Gray 1973) or through the implicit possibilities for subjective organization of the passage.

According to Di Vesta and Gray (1973), thematic relatedness is a neglected variable that accounts for differences in procedures among studies on notetaking. Di Vesta and Gray (1973) investigated the effects of thematic relatedness and consolidation on the learner's recall. Their findings revealed that when notetaking was not permitted, more ideas were recalled when the material was on different topics or unconnected than when the material

was on the same topic and connected. No significant effects due to variations in listen-study intervals were found. The findings also supported Berliner (1971 cited in Di Vesta and Gray 1973)'s finding that when memory ability was low, attention was sometimes better than notetaking as a learning strategy. When memory ability was high, notetaking was clearly superior to paying attention.

Di Vesta and Gray (1973)'s findings also supported Crawford (1925)'s finding that the immediate value of notes is less than the delayed-review value. However, Crawford (1925) pointed out that this immediate value is of sufficient importance to justify the practice of taking notes, even if there is no opportunity to use them later. Moreover, taking notes on a point may not guarantee its being recalled later but failing to take note of it very greatly decreases its chances of being recalled.

Although notetaking is advocated by most teachers, some students however contend that taking notes during a lecture hampers their listening comprehension. These students stated that they are so busy writing down one point that they do not hear the others. According to Peters (1972), little systematic effort has been made to determine whether the student instrumental activity of notetaking actually improves performance as measured in subsequent testing situations.

Studies on the effects of notetaking on recall offer mixed support for the value of this activity. Crawford (1925) and McHenry (1969 cited in Peters 1972) reported significant differences favouring note-takers on true-false questions and multiple-choice questions given immediately after a study period. McHenry (1969 cited in Peters 1972) stated that all three of his notetaking treatments (copious, abbreviated and fact-principle) had a significant positive effect. Peter and Harris (1970 cited in Peters 1972) stated that subjects permitted to take notes during a taped presentation performed significantly better on a subsequent multiple-choice test than a no-note control group. Other studies (Eisner & Rohde 1959; Pauk 1963) provided no support for the advantages of notetaking.

In the above studies, one variable that had been either experimentally controlled or allowed to vary randomly was the rate at which the material was presented. Taking notes during a rapid presentation may interfere with listening, while at slower speeds, it may enhance listening by increasing the concentration of the student.

According to Peters (1972), there would be a crossover rate at which notetaking would make no difference to performance.

This may help explain the conflicting results in the notetaking literature. The crossover is expected to be within the range of the normal rate of speech, that is between 125-200 words per minute (Johnson 1966; Nichols & Stevens 1967; Oliver, Felko & Holtzman 1966 cited in Peters 1972).

However, other researchers have reported that the rate of presentation without notetaking affects comprehension only at very high rates (300 words per minute or more) and decrements in performance occurring with rates in or near the normal range must be due to some other form of interference (Fairbanks, Guttman and Miron 1957, Jester 1966, Nelson 1948 cited in Peters 1972).

Peters (1972) also pointed out that research in the effects of notetaking on listening seldom take individual differences of the learner into account. Peters and Harris (1970 cited in Peters 1972) investigated the effects of several global learner personality variables into performance with disappointing results. Of the several interactions, only one was found to be of acceptable level of significance. Subjects scoring low (tolerant) on a measure of intolerance for ambiguity (Budner 1963) showed inferior learning when not allowed to take notes. In contrast, subjects scoring high on this measure, showed no differences in performance regardless of whether they were permitted to take notes.

In another study by Peters (1972), the effects of notetaking and rate of presentation on short term objective test performance were investigated. The findings revealed that subjects not engaged in taking notes scored significantly better on the criterion measure. No differences attributable to the presentation mode were found. Moreover, Aptitude X Treatment interaction analysis revealed that low scorers on the aptitude measures (low efficiency listeners) did better when the material was presented at a normal rate or read and when not required to take notes.

Peters (1972) pointed out that the results of his study which revealed the deleterious effect for notetaking is contradictory to the results of previous research which suggested either no effect or a facilitating effect for note- taking. Peters (1972) stated his findings do suggest an interaction between presentation rate and notetaking but the crossover point varies with the individual's information processing efficiency. He added that "specification of both the characteristics of the subjects and of the rates of presentation of the auditory stimuli therefore would seem essential if the contradictory findings of research on the effects of notetaking

are to be understood." In addition Peters (1972) emphasized that different lecture material contents play a role in the value of note-taking and that the effect of notetaking on performance is more complex than was suggested in previous research.

More recently, with the advent of instructional psychology, a movement has emerged to discover instructional aids that can compensate for learners' inadequacies. According to Kiewra and Frank (1988) one such aid involves the provision of instructors' lecture notes to students. They are usually either detailed notes (a comprehensive and organized summary of all the lecture's main ideas and subordinate ideas) or skeletal notes (an organized listing of headings and subheadings with ample space for students to fill in details).

Kiewra (1985) reported that both types of instructors' notes often produce higher achievements than do personal notes. Maqsud (1980) also supported the view that detailed notes generally provide a "better means of external storage". However, the encoding benefit of detailed notes is untested, nor has research directly addressed the relative encoding and external storage effects of instructors' notes. Regarding the skeletal notes, neither the encoding nor external storage function has been explicitly assessed (Kiewra & Frank 1988).

According to Kiewra and Frank (1988), much of the research involving the encoding and external storage functions of notetaking fails to consider how individual differences affect types of learning outcomes One such individual difference linked to note-taking is cognitive style (Annis 1979, Annis & Davis 1978, Frank 1984, Kiewra & Frank 1986 cited in Kiewra and Frank 1988). Learners with a field-dependent cognitive style typically display a deliberate, passive and rigid approach to learning and are bound by the inherent organization of the stimulus. Learners with a field-independent cognitive style are often active processors and likely to spontaneously restructure a stimulus field (Kiewra and Frank 1988).

Due to these processing differences, field-independent learners generally perform more accurately than do field dependent learners on higher-order tasks (Annis 1979 cited in Kiewra and Frank 1988), and on lower-order tasks unless encoding and external storage conditions help field-dependent learners to compensate for their deliberate and passive processing style. Frank (1984) reported that field-independent learners had higher achievement scores than did field-dependent learners on comprehension level questions when lecture notes were taken.

However, the field-dependent learners performed comparably to field-independent learners when skeletal notes or detailed notes were provided for notetaking and review purposes.

Kiewra and Frank's (1988) study on the encoding and external storage effects of personal lecture notes, skeletal notes and detailed notes for field-independent and field-dependent learners revealed that field-independent learners generally achieve higher scores on factual and higher order tests than the field-dependent learners. Differences in factual performance were reduced from immediate to delayed testing indicating that field-dependent learners benefit more more the storage function of notetaking than from the initial encoding function. It was also found that the three learning techniques did not produce differential achievement on immediate factual test as they all serve a similar encoding function. Reviewing detailed instructors' notes also served a superior external-storage function.

## Suggestion on Teaching Notetaking

According to Boon (1989), many of the studies on notetaking include lists of suggestions for lecturer style, the teaching of notetaking and the student. The following suggestions are complied from studies by Castallo (1976), Hartley and Davies (1978), Kiewra (1985), McAndrew (1983),:

(1) Teach students the value of notetaking, making explicit the relationship between recording what is said in class, reviewing notes periodically and performing well on tests.

(2) Provide skeletal outlines before lecture.

(3) Survey the lecture to set purposes for listening and noting.

(4) Lecture at moderate speed, slowing down for important points or allowing a few minutes for consolidation.

(5) Write important points on the board or transparencies so that they will be recorded.

(6) Provide handouts when using other visual aids to convey very complex materials.

(7) Collect notes periodically and confer with students to improve their notetaking abilities.

(8) Emphasize the importance of regular review. Encourage students to revise their notes or to elaborate on them in review sessions.

Zaytoun (1988) suggested combining listening comprehension with notetaking practice. He stated that the advantage of this technique is that it not only develops the student's notetaking ability, but it also deals with several interlocking skills necessary for academic success. They are: (i) processing information received aurally (ii) making inferences and drawing conclusions therefrom (iii)becoming familiar with the various styles and accents of the lecturers (iv) handling objective test-taking formats (v) preparing for classroom discussions and debates.

Otto (1979) described the four skills involved in increasing proficiency in individual notetaking. These skills are in order of difficulty in mental processing: (i) the transfer of spoken word to written test (ii) listening of key words and phrases (iii) selecting relevant details (iv) recognizing topics and main ideas.

The following exercises were used :

(i) a listening dictation followed by true/false questions directed towards relating the spoken word to the written word in a functional way;

(ii) a cloze exercise on a mini lecture followed by multiple-choice questions on the missing content words and logic carriers in the cloze;

(iii) a mini-lecture accompanied by a notetaking fill-in exercise. The key points are left blank and comprehension questions are based on these notes;

(iv) a mini-lecture accompanied by an out-line fill-in exercise, details and main points left out and comprehension questions based on main points and inference.

In the subsequent exercises, less and less information is given until the student is finally able to listen and take notes with no help at all.

Paulston and Bruder (1976) also gave the students a steadily decreasing amount of information about the lecture as their notetaking skills increase. Their lessons are divided into stages:

Stage One:
Introduction to basic considerations of notetaking. Give students lists of common symbols and abbreviations; common rhetorical devices and expressions used in lectures, vocabulary items and detailed outlines. Lecture followed by discussion.

Stage Two:
Different speaker gives same lecture in language laboratory. Give students a vocabulary list, a less detailed outline and comprehension questions. Students fill in basic points, then answer questions based on notes.

Stage Three:
Give students a bare outline and comprehension questions. Students fill in the outline with notes, then answer questions.

Stage Four:
Give students outline with major headings. Students take own complete sets of notes, then answer questions.

Stage Five:
Give students comprehension questions only. Students listen and take notes at own discretion.

Paulston and Bruder (1976) stated that, the lectures given after Stage Five would be much longer than the earlier stages as the students would have build up their notetaking skills.

Mendelsohn and Klein (1974) described two different formats for notetaking used by students at the Hebrew University. Format One is in the preparation for notetaking. During these lessons, the most important parts of the lecture are played to the student who listens to an abridged but not simplified version. While listening the student takes down notes. Then the whole text is played only once and the student is required to listen and fill in his incomplete notes. Based on these notes, he answers some open-ended comprehension questions. Format Two is on real notetaking whereby the student hears the complete text only once. While listening the student takes notes and then answers questions based on his notes.

Ausubel (1968) advocated improving didactic methods of instruction by increasing meaningfulness of the material to be learned. Hence, the learning period, prior to consolidation, should be filled with material characterized by at least, a minimal degree of meaningfulness, to facilitate coding by the learner.

Another consideration of importance in the analysis of note-taking is the number of ideas presented sequentially, prior to a consolidation. Because of the limitations of short-term memory, a lecture that contains too many ideas in a single sequence would be difficult to retain since there would be insufficient time for rehearsal, that is, the material will not remain in short term memory long enough to be encoded or organized.

The Curriculum Bulletin of Los Angeles Schools (1971) also listed some guidelines on note-taking:

I Good practices in note taking

(i) Keep notes clear
use complete thoughts, sentences, headlines, type sentences
use indentation, underlining, group main points or ideas together
(ii) Keep notes brief
(iii) Review notes to clarify ideas

II Procedures in note taking

When it is a well prepared formal talk:

(i) Listen for
– main thesis, keep it in mind as you listen
– transitional words or phrases that introduce each new step or point to be made
– generalisations or points made by illustration, example, explanation
– conclusion reached
(ii) Summarize in your own words the main points and chief details
(iii) Write out the conclusion

When the organization of the talk or discussion is not apparent:

(i) Divide paper into two columns – facts vs. principles or main ideas
(ii) As you listen, put the notes in the proper column, carefully study these notes soon after they are made in order to reorganize them for use.

Ferguson and Reilly (1978) have graded exercises which are divided into three parts : Immediate recall exercises, Outline writing and Practice in simultaneous notetaking. As the students progress, the exercises on notetaking get progressively more difficult.

Byrne (1978) provides interesting materials for developing notetaking skills. The material used is mainly in the form of short informative talks In his graduated approach, provision is made for the students to listen for global understanding, record in written form selected ideas or facts and take notes on a more extensive scale.

In comparison to all these studies, very little work on notetaking has been done in Malaysia. It is hoped that this paper has offered some ideas for us to use in our classes.

## References

### Books


Ausubel, D. P. (1968). *Educational Psychology: A Cognitive View.* New York: Holt, Rinehart & Winston.

Berliner, D.C. (1970). *Effects of test-like events and note taking on learning from lecture instruction.* Amherst,Mass.: Center for Educational Research.

Byrne, D. (1978). *Note Taking Teacher's Book.* London: Longman Group Ltd.

Duker, S. (1971). *Listening: Readings Vol. 2.* New Jersey: The Scarecrow Press, Inc.

Ferguson, N. and M. O' Reilly (1977). *Listening and Notetaking.* London: Evans Brothers Ltd.

Nelson, H. (1948). The effect of variations of rate on the recall by radio listeners of "straight" newscasts. *Speech Monographs 15,* 173-180.

Nichols, R.G. and L.A. Stevens (1957). *Are You Listening?* New York: McGraw Hill.

Paulston, C.B. and M.N. Bruder (1976). *Teaching English As a Second Language – Techniques and Procedures*. Boston: Little Brown Company.

**Periodicals**

Anderson-Mejias, P. L. (1986). "English for Academic Listening: Teaching the Skills Associated with Listening to Extended Discourse". In *Foreign Language Annals*, 19, 5:391-398.
Boon, O. (March 1989). "Notetaking for hearing and hearing impaired students". In *Journal of Reading* 523-536
Brown, G. (1950). "Teaching Oral English" In *English Journal* 39, 128-136.
Budner, S. (1963). "Tolerance of Ambiguity as a Personality Variable." In *Journal of Personality* 30 , 29-50.
Castallo, R. (1976). "Listening Guide – A First step towards Notetaking and listening stills". In *Journal of Reading* 19, 289-90.
Craik, F. and R.Lockhart (1972). "Levels of Processing: A Framework for Memory Research". In *Journal of Verbal Learning and Verbal Behaviour* Vol 11, No.6, 671-184.
Craik, F. and E. Tulving (1975). "Depth of Processing and Retention of Words in Episodic Memory". In *Journal of Experimental Psychology* Vol 104, No. 3, 268-294.
Crawford, C. C. (1925). The Correlation between college lecture notes and quiz papers. In *Journal of Educational Research* 12, 282-291.
_____. (1925). Some experimental studies of the results of college notetaking. In *Journal of Educational Research* 12, 379-386.
Di Vesta, F. J. and G. S. Gray (1973). "Listening and Notetaking: II. Immediate And Delayed Recall as Functions of Variations in Thematic Continuity, Notetaking, And Length of Listening-Review-Intervals". In *Journal of Educational Psychology* 64, 3:278-287.
_____. (1972). "Listening and Notetaking". In *Journal of Educational Psychology* 63 , 8-14.
Dunkel, P. (December 1985). "Listening and Notetaking: What Is the Effect of Pretraining in Notetaking?". In *TESOL Newsletter* 30-31.
Dunkel, P. A. (1986). "Developing Listening Fluency in Theoretical Principles and Pedagogical Considerations". In *The Modern Language Journal* 70:99-106.
Dunkel, P. and S. Davy (1989). "The Heuristic of Lecture Notetaking: Perceptions of American and International Students

Regarding the Value and Practice of Notetaking". In *English for Specific Purposes* 8, 33-50.
Eisner, S and K. Rohde (1959). Notetaking during or after the lecture. In *Journal of Educational Psychology* 50, 301-304.
Fisher, J.L. and Harris (1973). "Effects of Notetaking and Review on Recall". In *Journal of Educational Psychology* 65, 321-325.
Frank, B.M. (1984). Effect of Field Independence-dependence and Study Technique on Learning from a Lecture. In *American Educational Research Journal* 21, 669-678.
Green, E.B. (1928). "Lecture vs. Reading" In *Genetic Psychology Monograph* 4, 457-560.
Hartley, J. and Cameron A. (1967). "Some Observations on the Efficiency of Lecturing". In *Educational Review* 20, 30-37.
Hartley, J. and Davis, K. (1978). "Notetaking: A Critical Review" In *Programmed learning and Educational Technology* 15, 207-24.
Howe, M.A. (1970). Using students' notes to examine the role of the individual learner in acquiring meaningful subject matter. In *Journal of Educational Research,* 64, 61-63.
Jones. E.S. (1930). Studies from the office of personnel research. *University of Buffallo Studies.*VIII (I) 39-47.
Kiewra, K. A. and Frank, B. M. (1988). "Encoding and External-Storage Effects of Personal Lecture Notes, Skeletal Notes, and Detailed Notes for Field – Independent and Field-Dependent Learners". In *The Journal of Educational Research* 81, 143-148.
Kiewra, K.A. (1985). Students' notetaking Behaviour and efficacy of providing the instructor's notes for review. In *Contemporary Educational Psychology* 10, 378-386.
Masqud, M. (1980). "Effects of Personal Lecture and Teacher Notes on Recall of University Students". In *British Journal of Educational Psychology* 50, 289-294.
McAndrew, D.A. (1983). "Underlining and Notetaking: Some suggestions from Research". In *Journal of Reading* 27, 103-08.
Mendelsohn, D. and Klein, M. (1974). "Experiment in teaching of listening comprehension to advanced students." In *English Language Teaching Journal* 28 , 343-349.
Nicholas, L.N. (1988). "Teaching Listening Comprehension". *English Teaching Forum* 1, 19-22,36.
Otto, S. A. "Listening for Note-taking in EST". In *TESOL Quarterly* (September 1979): 319-328.
Palmatier, R. A. (1971). Comparisons of four notetaking procedures. In *Journal of Reading* 14, 235-240; 258.
Palmatier, R.A. and Bennett J.M. (1974). Notetaking habits of col-

lege students. In *Journal of Reading* 18 , 215-218.
Pauk, W. (1963). Does Notetaking interfere with listening comprehension? In *Journal of Developmental Reading* 6, 276-278.
Peters, D. L. (1972). "Effects of Note Taking and Rate Of Presentation on Short-Term Objective Test Performance". In *Journal of Educational Psychology* 63, 3:276-280.
Smith, P.L. and G.E. Tompkins. ( 1988). "Structure Notetaking: A New Strategy for Content Area Readers". In *Journal of Reading* 46-53.
Wilkinson, A. and Stratta, L. (1972/3). "Listening and the Study of Spoken Language" In *Educational Review* 25 , 3-20.

**Miscellaneous and Unpublished Material**

Kiewra, K. A. (1986) "Cognitive Aspects of Autonomous Notetaking: Control Process, Memory strategies and prior knowledge." Paper presented at the meeting of the *Midwestern Educational Research Association*, Chicago.
Curriculum Bulletin, University of Northern Iowa, 1971.
Curriculum Bulletin, Los Angeles City Schools. 1971.