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A CLASSROOM INVESTIGATION OF WHEN TO BEGIN NEW-MATTER DICTATION IN GREGG SHORTHAND

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A CLASSROOM INVESTIGATION OF WHEN TO BEGIN NEW-MATTER DICTATION IN GREGG SHORTHAND

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CHAPTER I

INTRODUCTION

One of the important methodological decisions which each teacher of beginning Gregg shorthand must make is that of when in the teaching sequence to introduce new-material dictation. Business education literature presents divergent recommendations upon which that decision can be based.

The preponderance of opinion appears to support the argument epitomized by Leslie:

> . . . new-matter dictation should not be given until after the completion of the theory. . . . The learner should not be compelled, should not be permitted to take new-matter dictation until his shorthand habits are strong enough to withstand the strain. He should not be allowed to begin new-matter dictation until he can handle practiced-matter dictation without undue effort.[1]

However, many shorthand methodologists contend that new-material dictation should be initiated well before theory has been completed. For example, West wrote:

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[1]Louis A. Leslie, Methods of Teaching Gregg Shorthand (New York: Gregg Publishing Division, McGraw-Hill Book Company, Inc., 1953), p. 169.

> . . . a major objective of the training must be to reduce the number of words that will be "new" by including a large vocabulary in the training materials. This is an issue that bears on the unfortunate practice of deferring "new matter" dictation until late stages of training.[1]

There are many such published pronouncements showing various degrees of favor toward either an early introduction or a delay of new-matter dictation; however, little has been written about the psychological bases for opinions which are expressed. In addition, there appear to be no statistically validated classroom investigations of the issue upon which recommendations have been or can be founded.

Although Liles was not concerned directly with the problem of when new-material dictation should be begun, he was referring to the broad issues which face shorthand teachers when he wrote:

> It seems safe to say that more so-called "accepted" principles of teaching methodology in the field of shorthand exist without any objective evidence based on sound research than in any other business subject. In other words, personal opinion seems to be the only defense which supports them.[2]

Flood, too, believed that there has been a lack of genuine scientific research into both the psychological

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[1]Leonard J. West, "The Acquisition of Stenographic Skill: A Psychological Analysis," Business Education Forum, XVIII, No. 1 (October, 1963), p. 8.

[2]Parker Liles, "Issues in Teaching Shorthand," The Balance Sheet, XLV, No. 2 (October, 1963), p. 52.

foundation of shorthand and the process of learning it.[1] Davis also decried the scarcity of research in shorthand learning in at least two publications, in one of which he analyzed a shorthand methodological problem and then concluded: "Data from properly conducted controlled experiments are urgently needed."[2] More specifically, Anderson has emphasized the need for classroom research which would contribute to a determination of the proper time to introduce new-material dictation.[3]

Because the writer has long been concerned with the question, "When should new-material dictation be introduced?" and because of an inability to reconcile the conflicting opinions and nonresearch-grounded recommendations found in the literature, this study was undertaken. The present writing, therefore, is an attempt to present an answer to the question of when to introduce new-material dictation--an answer based upon findings of research in psychology, readings in business education literature, and a classroom investigation.

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[1] Hazel Flood, Brass Tacks of Skill Building in Shorthand (New York: Prentice-Hall, Inc., 1951), pp. 5, 188.

[2] Benjamin Franklin Davis, "A Critique of Shorthand Methodology," Business Education Forum, II, No. 1 (October, 1947), p. 34.

[3] Ruth I. Anderson, "Shorthand and Transcription," Informal Research by the Classroom Business Teacher, The American Business Education Yearbook, XVIII (Somerville, New Jersey: Somerset Press, 1961), p. 130.

The Problem

The problem of this study was to determine whether new-material dictation should be introduced early or delayed until the theory of shorthand has been completed.

To make such a determination, the problem was divided into three inquiries, the findings for which are categorized as:

1. An application of selected learning theories to the problem of when to introduce new-material dictation.
2. The nature and extent of published evidence attesting to both the early introduction and the delay of new-material dictation.
3. The findings from a classroom investigation comparing the results of early introduction and delay procedures.

Hypotheses

In connection with the classroom investigation, three hypotheses were posed. Stated in the null, those hypotheses were:

1. There is no significant difference in the mastery of theory in beginning shorthand when new-material dictation has been delayed until theory has been completed and when new-material dictation has been initiated before theory has been completed.
2. There is no significant difference in familiar-material dictation attainment in beginning shorthand when new-material dictation has been delayed until theory has been completed and when new-material dictation has been initiated before theory has been completed.
3. There is no significant difference in new-material dictation attainment in beginning

shorthand when new-material dictation has been delayed until theory has been completed and when new-material dictation has been initiated before theory has been completed.

Definitions

For the purposes of this study, the following operational definitions were observed:

1. Beginning shorthand refers to a collegiate-level, one-semester course which introduces all of the ten chapters presented in the textbook Gregg Shorthand Simplified for Colleges, Volume I, Second Edition.

2. A beginning shorthand student is one who has had no shorthand training before enrolling in the beginning shorthand class.

3. New material (new matter, unfamiliar material, and unfamiliar matter) is continuous matter that has not been read or practiced prior to dictation, that is graded according to the sequence in which the shorthand principles are presented, and that contains some words which the learner has not encountered in his practice work.

4. Familiar material (familiar matter) consists of continuous matter which has been read and practiced prior to its dictation in class.

5. Group A is the identification given to the class which began to receive new-material dictation practice during the fifth week of the semester and continued to receive it until the fourteenth week when testing began.

6. Group B is the identification given to the class which received no new-material dictation practice, but which was tested over new material at the same time as was Group A.

Sources of Data

The interpretation of the selected psychological theories of learning was based upon reviews drawn from books

and articles written by the creators of the theories which were studied and from such books as Theories of Learning, Contemporary Theories of Learning, and Learning Theories for Teachers, written by the learning-theory compilers Hilgard, Thorpe and Schmuller, and Bigge, respectively. The views of business educators were determined by consulting business education periodicals such as The American Shorthand Teacher, The Balance Sheet, Business Education Forum, Business Teacher, The Delta Pi Epsilon Journal, The Gregg Writer, Journal of Business Education, and National Business Education Quarterly; and from business education methods books, manuals which accompany shorthand textbooks, business education yearbooks, and other such publications.

Classroom procedural data were collected by the writer in classes of beginning shorthand at Central State College, Edmond, Oklahoma, during the 1964-65 fall semester, the 1965 spring semester, and the 1965-66 fall semester.

Procedure

The investigation proceeded according to the following steps:

1. Selected psychological theories of learning were interpreted for the problem of when to introduce new-material dictation.
2. A search of business education literature was made in order to discover the kinds and the extent of verification for both the early introduction and the delay of new-material dictation.

3. Results obtainable with both the early introduction and the delay of new-material dictation were studied through a comparative classroom group investigation involving two classes of beginning shorthand each semester for three semesters at Central State College, Edmond, Oklahoma.

4. Finally, the application of the learning theories to the issue, the summary of the review of business education literature, and the description of the classroom investigation and findings were put into the written form in which it appears in the subsequent chapters.

CHAPTER II

PSYCHOLOGICAL THEORIES OF LEARNING APPLIED TO THE ISSUE

As part of an assessment of the comparative merits of the opposing recommendations surrounding the new-matter dictation issue, a psychological analysis was deemed to be desirable. Therefore, the purpose of this chapter is to present interpretations of selected learning theories in the light of that issue.

The analysis of learning theories proceeded through a consideration of:

1. The historical background for the contemporary theories of learning.
2. The contemporary family of theories of a stimulus-response associationism and behaviorism orientation.
3. The contemporary family of theories comprised by the Gestalt-field-cognitive identification.

Each of the three categories was divided into a consideration of the four elements carefully determined to be the most contributive to an attack upon the new-matter dictation problem: (1) skill development and psychomotor learning, (2) kinesthesis, (3) motivation, and (4) transfer. Within the framework bounded by each of the four divisions, the interpretation was

further broken into classifications defined according to certain theories and theorists.

Of the historical attacks upon the problem of learning, those associated with mental discipline and faculty psychology, unfoldment, apperception, Spencer's physiological psychology, James's psychology of experience, and Dewey's learning as social adjustment were covered. The contemporary theories selected for study were those listed by Hilgard. The stimulus-response associationism theorists thus chosen were Thorndike, Guthrie, Hull, and Skinner. Of the Gestalt-field-cognitive learning analysts, Wertheimer, Koffka, Kohler, Lewin, and Tolman were selected.

Historical Background of Contemporary Theories

Skill Development and Psychomotor Learning

Upon the writings of the historical predecessors of the contemporary theorists were based a limited number of inferences concerning skill development and psychomotor learning. Most applicable of the historical writings was the James-Bain maxim which was to become the early pivotal point of Leslie's argument for the delay of new-matter dictation: "Never suffer an exception to occur till the new habit is securely rooted in your life. . . ."[1]

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[1]William James, Psychology: Briefer Course (New York: Henry Holt and Company, 1920), p. 145.

From Dewey's[1] contentions was drawn an inference favoring the early introduction of new matter. The bases for the inference are:

1. The early introduction meets better Dewey's demand for thinking and rationality as necessary for proper learning because the new material stimulates the intellectual application of shorthand principles to new arrangements rather than the simple repetition of that which has been learned in rote fashion.

2. Early introduction widens earlier the growth horizon of the learner to include more of the total problem-solving situation contexts in which shorthand is used.

Kinesthesis

Through the search of the historical learning-theory references to kinesthesis was found the first mention, by Spencer, of a movement memory.[2] James, too, was concerned with the kinesthetic chaining concept,[3] an application of which is still employed in description of shorthand writing and in defense of early new-matter dictation.

Motivation

When the matter of motivation as viewed historically was attacked, the thread of a pleasure-pain theory was found

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[1]John Dewey, Democracy and Education: An Introduction to the Philosophy of Education (New York: The Macmillan Company, 1916), pp. 57-59, 91, 179, 192, 361, 395-396, 401.

[2]Herbert Spencer, First Principles (New York: American Publishers Corporation, 1880), pp. 200-203.

[3]James, op. cit., pp. 416-417, 420-421, 426.

to be the cohesive force. The James-derived motivational elements appear to indicate that, for shorthand, drive-need interest and will must be utilized to keep attention on the idea of performing the essential acts.[1] Such a utilization appears to include a recommendation that the new be not too soon introduced.

Transfer of Learning

Transfer of learning was treated historically through faculty psychology and mental discipline theories (calling for the exercise of mental muscles), the Herbartian concept of the increasing storage in the apperceptive mass,[2] and Dewey's call for the similarity of elements to facilitate transfer and for the need for preparation for the new.[3] All of such transfer theories point to an interpretation which would call for the early introduction of new-matter dictation.

Summary

No typical or distinct description of shorthand learning processes could be extrapolated from the historical attacks upon learning. However, motivational elements were interpreted to call for the delay of new matter;

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[1] Ibid., pp. 444-446, 448-450, 455.

[2] Morris L. Bigge, Learning Theories for Teachers (New York: Harper & Row, 1964), pp. 256-257.

[3] Dewey, op. cit., pp. 75-78.

transfer-kinesthesis elements appear to call for early introduction. Thus, a conflict in recommendations is apparent.

Stimulus-Response Associationism

Skill Development and Psychomotor Learning

Upon Thorndike's bond hypothesis was based the interpretation that shorthand learning would be viewed as the neural "stamping-in" of sense-impressed stimuli and responses. Drill was deemed to establish habit through the utilization of simple connection-forming and higher-order conditioning through stimulus discrimination and stimulus generalization.

Thorndike, through his law of multiple response, contended that trial and error activity is appropriate for learning processes.[1] However, Thorndike's determination that learning should proceed from the simple to the complex and his law of partial activity appear to negate any extrapolation from the law of multiple response favoring new-matter dictation.[2]

Guthrie's foundational rule of association applied to shorthand learning indicates that the stimuli of sights/sounds which accompany the shorthand reading/writing movements will

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[1] Edward L. Thorndike, Educational Psychology, Vol. II: The Psychology of Learning (New York: Teachers College, Columbia University, 1913), pp. 16, 24, 54-55.

[2] Ibid., pp. 14, 27.

on recurrence tend to be followed by those movements.[1] Desired associations must be established; undesirable ones must be destroyed through the learning of incompatible responses.[2]

Essentially, Hull's system, as the postulates were interpreted for shorthand learning, indicates that internal, reinforced contiguity of stimulus and response is the key requirement.[3] For satisfaction of Skinner's theory, interpretively, shorthand learning can best be guaranteed by an effective arrangement of sight/sound stimuli leading to the reinforcement of desired reading/writing responses.[4]

Kinesthesis

As the muscle sense whose end organisms lie in the tendons, muscles, and joints, kinesthesis received some treatment by Hull because of the reinforcement claimed to be provided by movement-produced stimuli during each repetition of an association.[5] However, the greatest importance was

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[1]E. R. Guthrie, The Psychology of Learning (rev. ed.; New York: Harper & Brothers, 1952), pp. 23, 81, 85, 136, 178.

[2]Ibid., pp. 85, 148-149.

[3]Clark L. Hull, Essentials of Behavior (New Haven: Yale University Press, 1951), pp. 11, 20, 25, 27-28, 32, 38-40.

[4]Louis P. Thorpe and Allen M. Schmuller, Contemporary Theories of Learning (New York: The Ronald Press Company, 1954), pp. 198-199.

[5]Clark L. Hull, Principles of Behavior (New York: Appleton-Century-Crofts, Inc., 1943), pp. 35, 50-56.

accorded to kinesthesis by Guthrie. Guthrie's insistence that countless movement-produced stimulus-response chaining associations are needed for a consummate skill leads to the extrapolation that, for shorthand learning, the early introduction of new material would be indicated.[1]

Motivation

For the associationists, the motivational approach is strictly a mechanistic one--thus, for shorthand, the application of the reinforcing element brings about learning. Motivational elements are considered to arise from primary biological drives and from secondary needs arising from those drives. Thorndike echoed the strains of the historical pleasure-pain theory through his laws of readiness, effect, and "set."[2] However, the shift was made from the dual emphasis to the single emphasis upon satisfyingness as superior to pain; the principles of belongingness, polarity, and spread of effect revealed that shift.[3]

For Guthrie, pleasure and pain had only indirect implication for learning; contiguity was the sole associative

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[1]Guthrie, op. cit., pp. 26-28, 47-48, 73-74, 178.

[2]Thorndike, op. cit., pp. 1-2, 4, 13.

[3]Ernest R. Hilgard, Theories of Learning (2d ed., New York: Appleton-Century-Crofts, Inc., 1956), pp. 28-29, 40-43.

principle.[1] Hull's system enshrined primary-drive-reduction reinforcement and secondary reinforcement.[2] For Skinner, reinforcement was conceived as being of responses rather than of associations between stimuli and responses.[3] With the exception of Guthrie, the associationists appear to have established a motivational base which leads to an interpretation that delay of unfamiliar-matter dictation would be recommended.

Transfer of Learning

Contemporary associationists denied the mental discipline theory of transfer and placed emphasis upon the similarity of elements. Thorndike's laws of analogy and associative shifting summarized his beliefs concerning element similarity as the basic determinant of transfer.[4]

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[1]Guthrie, op. cit., pp. 23, 134, 270-271.

Hilgard, op. cit., pp. 76-77.

[2]Hull, Essentials of Behavior, pp. 4, 20, 25, 28, 32, 46, 51, 56, 59, 63, 65, 67, 69, 72, 74-81, 85, 97-99, 102, 104, 107, 109, 112-114.

Hilgard, op. cit., p. 175.

[3]B. F. Skinner, The Behavior of Organisms: An Experimental Analysis (New York: Appleton-Century-Crofts, Inc., 1938), pp. 374, 376, 378.

Hilgard, op. cit., p. 114.

[4]Thorndike, op. cit., p. 15.

Hilgard, op. cit., p. 43.

Hull[1] and Skinner[2] stressed the transfer elements for both stimuli and responses. Guthrie's system denied that reinforcement is required of a connection or response to establish transfer potential. Guthrie added to Thorndike's initial transfer principle the claim of the contributiveness of proprioceptive stimuli and the insistence that transfer is specific rather than general.[3]

Associationistic-behavioristic transfer theory appears to recommend the early introduction of new-matter dictation. Such is deemed so because transfer is alleged to occur in optimum fashion when the situation from which transfer is to be made is as nearly as possible like the final performance situation.

Summary

In summary of the interpretation of the S-R associationism theories for shorthand learning, the essential elements are the temporally contiguous arrangements of sight/sound cues with internal (kinesthetic) and reading/writing responses. Most associationists, with the notable exception

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[1]Hull, Essentials of Behavior, pp. 20, 25, 28, 88-92, 97-99, 102, 104, 117.

Hilgard, op. cit., pp. 144, 175-176.

[2]Ibid., p. 115. Skinner, op. cit., pp. 32, 174.

[3]Guthrie, op. cit., pp. 151-152.

Hilgard, op. cit., p. 77.

of Guthrie, consider reinforcement necessary for skill learning. Therefore, various methods of reward and punishment, based upon drive and need structures, should be utilized to fix or destroy the desired or undesired connections formed as shorthand learning progresses. Practice in shorthand is necessary. Since shorthand is a complex skill, the establishment of simple pairs of cues and responses is not sufficient--rather, increasing numbers of cues (outlines/spoken words), responses (reading/writing), and linkages (internalized movement chains) must be added to the learner's repertoire.

With the exception of Guthrie's nonreinforcement theory (which led to a consistent interpretive recommendation for early introduction), the associationism theories present a conflict between motivational and transfer-kinesthesis prescriptions concerning the introduction of variability into the learning sequence. Because of this conflict, there arises the conclusion that no single summary statement concerning a S-R associationism stand on the issue of this study can be drawn.

Thus, the analysis of the first of the contemporary schools led to the same conclusion derived when the historical views were interpreted. In the following section, the final verification of the lack of resolve created by opposing motivation and transfer-kinesthesis recommendations is evolved.

Gestalt-Field-Cognitive Psychology

Skill Development and Psychomotor Learning

In combined form, the Gestalt-field, cognitive theories of Wertheimer,[1] Koffka,[2] Kohler,[3] Lewin,[4] and Tolman[5] seemingly would purport that skill development and psychomotor learning in the form of shorthand should be through insight and by organized wholes (such as writing shorthand from new-material dictation), or by sub-wholes (such as learning to read, then to write, etc.) totally oriented to the greater wholes.

Kinesthesis

Kinesthesis received a place of de-emphasis in the Gestalt-field-cognitive theories. However, kinesthesis was

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[1]Max Wertheimer, Productive Thinking (New York: Harper & Brothers, 1945), pp. 41-42, 45, 190-191, 199.

[2]Kurt Koffka, Principles of Gestalt Psychology (New York: Harcourt, Brace and Company, Inc., 1935), pp. 110, 164, 171-174, 184, 510, 545, 553-555, 586.

[3]Wolfgang Kohler, Gestalt Psychology (New York: Horace Liveright, 1929), pp. 273, 283, 367, 372, 374-375.

[4]Kurt Lewin, Field Theory in Social Science: Selected Theoretical Papers, ed. Dorwin Cartwright (New York: Harper & Brothers, 1951), pp. 61, 66, 74-75, 283.

[5]Edward C. Tolman, "A Psychological Model," Toward a General Theory of Action, ed. Talcott Parsons and Edward A. Shils (Cambridge, Mass.: Harvard University Press, 1959), p. 358.

Edward C. Tolman, Purposive Behavior in Animals and Men (Berkeley, Calif.: The University of California Press, 1949), p. 21.

either accepted or not denied by the Gestaltists (represented by Kohler[1]), Lewin,[2] and Tolman[3] as one of the many components which comprise the total space or field of the learner.

Interpretively, the kinesthetic sense is employed in the reading and writing learning sequences and then contributes to the storage, so to speak, provided by the trace process. As learning progresses, the kinesthetic traces interact with the new stages (processes) and contribute to the determination of new cognitive structures and to increased speed or temporal improvement. During time lapses between practice sessions, the kinesthetic sense would partake of the tendency toward stability, so that each repetition in spaced practice would involve not only new, partially kinesthetic cognitive structures, but improved ones. So that movement by wholes and sub-wholes toward final shorthand skill might be aided through kinesthesis, the recommendation appears, interpretively, to be the early introduction of new-matter dictation.

Motivation

In summary application to shorthand learning, it appears that Gestalt-field-cognitive motivation theory recommends the following:

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[1]Kohler, op. cit., pp. 166-168, 192, 232-233, 386-387.

[2]Kurt Lewin, A Dynamic Theory of Personality: Selected Papers, trans. Donald K. Adams and Karl E. Zener (New York: McGraw-Hill Book Company, Inc., 1935), p. 269.

[3]Tolman, "A Psychological Model," p. 283.

1. Recognize and utilize drives, need systems, readinesses, and ego.

2. Aid the students to accept the goals of shorthand learning as their own goals.

3. Set and gain acceptance of shorthand sub-goals which are challenging but not beyond the ability of the learners.

4. Assess the levels of aspiration and employ them in the shorthand learning situation and/or use the learning situation to change the levels of aspiration, if necessary, in desired directions.

5. Allow for individual differences through the use of methodological and equipment-produced differentiation, etc., whenever possible.

6. Employ grades, teacher remarks, and group standards to bring about closure when success has been achieved and to keep the problematic situation persistent when performance has been poor.

7. Employ repetition properly so that change occurs instead of allowing oversatiation or a negative valence to result.

Thus, in the realm of motivation, Wertheimer,[1] Koffka,[2] Kohler,[3] Lewin,[4] and Tolman[5] occupy a position of primacy.

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[1]Wertheimer, op. cit., pp. 78, 123, 135.

[2]Koffka, op. cit., pp. 310-311, 325-326, 391.

[3]Kohler, op. cit., pp. 323-327.

Hilgard, op. cit., p. 252.

[4]Lewin, Field Theory in Social Science . . ., pp. 273-297.

Hilgard, op. cit., p. 284.

[5]Tolman, Purposive Behavior in Animals and Men, pp. 357-358.

Hilgard, op. cit., p. 216.

Because of the importance of the learner himself as an active, goal-seeking individual, the selection and facilitation of attainment of goals must proceed carefully. A proper interpretation of motivation recommendations, then, would appear to be that new matter should be introduced early only if it does not create a goal detrimentally high.

Transfer of Learning

The concept of transfer as conceived by the Gestalt-field-cognitive psychologists[1] is dependent upon dynamic organization. Insights, configurative constructions, generalizations, pattern relationships, perceptual similarities, concepts, and trace systems are the elements of transfer thus evolved.

The Gestalt-field-cognitive view of proper teaching and learning for transfer would advise:

1. The understanding of principles of shorthand theory.
2. The understanding of the process of teaching and the ultimate consequences.
3. The utilization of practice which involves changing structures rather than repetitious unchanging drill.

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[1] Wertheimer, op. cit., pp. 62, 67-68.

Koffka, op. cit., p. 547.

Kohler, op. cit., pp. 217, 274.

Hilgard, op. cit., pp. 216, 252-253, 284.

Bigge, op. cit., pp. 278, 282, 284-285.

4. The early introduction of new-matter dictation.

5. The understanding of opportunities for transfer.

Summary

The Gestalt-field-cognitive psychology interpreted for shorthand appears to call for learning through the insight provided by an understanding of the principles of shorthand theory and through organized wholes or sub-wholes. Repetition contributes to improvement because of the trace system and generalization which contribute to chaining and perfecting cognitive structures which move toward the "good" whole--the consummate shorthand skill. There must be a felt problem tied to goals and needs and a purposiveness toward solving the problem.

There is again found an apparent inconsistency between motivation and transfer-kinesthesis recommendations concerning the introduction of unfamiliar-material dictation. The seeming paradox is not at the level for the Gestalt-field-cognitive theorists that it is for the S-R associationists, however. There would apparently be more defense for concluding that the Gestalt-field-cognitive school leans more totally toward early introduction.

However, the discovery of the consistency of discrepancy in advice from both of the contemporary schools and the historical predecessors lent support to the determination to test the early introduction-delay debate in a classroom

environment. Before summarizing the design and findings of that test, however, the review of business education literature is presented.

CHAPTER III

BUSINESS EDUCATORS' VIEWS CONCERNING THE ISSUE

To strengthen the sounding board against which the classroom investigation concerning the proper time to introduce new-material dictation is struck, a measurement of the opinions and contentions of business educators is required. To complete the measurement, it was deemed appropriate to determine the extent of and the reasoning behind recommendations both for and against the early introduction of new-matter dictation. A particular attempt was made to ascertain the extent to which psychological groundings were employed as a basis for reasoning.

Selected for review were both books on shorthand methodology (including handbooks which accompany textbooks) and business education periodicals. The names of the books which were found to be fruitful are presented in the subsequent context and/or footnotes and/or bibliography. However, because of the impracticability of listing every periodical article which was scanned or even of listing every article from which a recommendation was extracted, it is better first to describe the attack upon the periodicals in a summary form.

The periodicals which were methodically consulted, issue by issue, are:

1. The American Shorthand Teacher--which became known as Business Education World after Volume XIII (Volumes II-XI, XIII--1921-1933).
2. The Balance Sheet (Volumes XIII-XLVII--1931-1966).
3. Business Education Forum (Volumes II-XX--1947-1966).
4. Business Education World (Volumes XIV-XLVI--1933-1966).
5. Business Teacher (Volumes XXXVII-XLIII--1959-1966).
6. The Delta Pi Epsilon Journal (Volumes II-VIII--1960-1966).
7. The Gregg Writer (Volumes XXXV, XXXIX-XLI, XLIII-LII--1932-1950).
8. Journal of Business Education (Volumes VII-XLI--1931-1966).
9. National Business Education Quarterly (Volumes V-VIII, X, XII-XIII, XV-XXXIV--1936-1966).

In addition, other publications were sampled as they were encountered.

Before presenting the summary of the business education literature in a form which contrasts the weights of the contentions for and against the early introduction of new-matter dictation, a sketch depicting the chronology of the debate is drawn. The basic historical sequence which revisions of the Gregg shorthand system have followed provides a convenient framework within which to set such a chronology.

From 1888 (the date of publication of Gregg's Light-Line Phonography) through the 1893 revision, and up to the time of the 1916 revision, there appeared to be no issue concerning when new-matter dictation should be introduced. Because Gregg's system was in its infancy, the period was one of founding the very system and the teaching methodologies associated with it which were to form the base from which grew the subsequent discussions, issues, and debates. Because both the initial publication and the first revision were almost totally limited in connected matter, it appears that nearly all connected-matter dictation which was given was taken from new material found in publications separate from those available to the learners. However, during the theory course, there was an almost total de-emphasis on dictation and an emphasis upon theory and rules.

With the 1916 revision came the inclusion of what the Gregg editors called ample amounts of connected matter for homework practice. However, it appears that the manual method of teaching, instigated prior to 1916, continued to dominate the classroom. Therefore, during the theory course, the limited use of any type of dictation, along with the emphasized teaching of theory and rules, evidently was the generally accepted procedure. Even during this period of time, though, there were voices raised in protest against delaying dictation, including new-material dictation, until completion of theory.

It seems, however, that it was not until the era of the 1929 (Anniversary) revision, and the announcement of the functional method by Leslie in 1935, that the question of when to introduce new-material dictation became a point of focus in methodological circles. In fact, it was in the 1930's that all facets of shorthand methodology were subjected to the heaviest of debate.

Early in the 1930's, the scales appear to have been tipped in the favor of delayed dictation of any kind, but in favor of some new-material dictation when dictation was incorporated into the theory-course study. However, as the functional method and the recommendations which accompany it were felt and absorbed by the users of Gregg publications, the balance seems to have shifted, by the early 1940's, to favoring the early introduction of familiar-matter dictation, but the delay of new-material dictation until the completion of theory.

In what might be labeled the contemporary era, beginning with the introduction of the 1949 (Simplified) revision and continuing through the 1963 (Jubilee) revision, to the present time, there appears to have been a continuance of that balance which favors the delay of new-matter dictation. During the period, however, there has been a growing body of dissenters who raise questions concerning the advisability of delay.

The review of business education literature recommendations concerning the issue is divided into two sections--"Advocacy of the Delay of New-Material Dictation" and "Advocacy of the Early Introduction of New-Material Dictation." Each of these sections is in turn divided into two parts--one a summary of the views found in books and the other a summary of the views expressed through periodical publications.

In each of the parts of the two major sections, the reviews proceed on the basis of chronology, with the exception of the placement of Gregg's views first whenever they are included in a given section. However, when a given author's opinions were found scattered through time, all of his writings published in book form determined to be appropriate are summarized at one time in the proper book section; all of his periodical writings are summarized at one time in the proper periodicals section. In both cases, the time at which the earliest review fits into the chronology is used as the point of total summary.

No attempt has been made to review every book or every periodical article which might have pertinence for the issue of this study. However, as revealed by the listing of the periodicals found earlier in this chapter and by the representative dates found in the footnotes and bibliography, a reasonable sampling of opinion was established.

Advocacy of the Delay of New-Material Dictation

Books

Of the twenty-two books which were consulted and found contributive to the study, fourteen recommended the delay of new matter. A brief characterization and explanation of the bases (when ascertainable) for representative recommendations are presented.

As is pointed out in a subsequent section, Gregg appeared to favor the early introduction of new-material writing when his system was very young. However, by the time of the publication of the Anniversary revision in 1929, he had evidently changed his mind.[1] Gregg also paved the way for the pace-setting arguments of Leslie when he turned to the learning principles of James (and thus indirectly to those of Bain). He accepted the James-Bain maxim (described in Chapter II) that in habit-learning, an exception should not occur until the new habit is well rooted.[2]

Brown, on the one hand, recommended the early dictation of the new, but from word lists only. On the other hand, and in conformance with his contemporaries, he called for the delay of all connected-matter dictation until nearly all of

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[1]John Robert Gregg, Gregg Speed Building, One-Year Course: Teacher's Handbook (New York: The Gregg Publishing Company, 1940), pp. 15-16.

[2]John Robert Gregg, Gregg Speed Studies (New York: The Gregg Publishing Company, 1929), pp. 2-3.

the principles and vocabulary were covered. Therefore, although Brown was interested in the early ability to construct new outlines, his recommendations concerning delayed connected matter place him, in the scope of the definitions employed in this study at least, more nearly on the side of those who espouse the delay of new-material dictation.[1]

There also seems to have been a desire for the early presentation of new-matter dictation in Miller's plan, but the desire appears to have been overshadowed by the tradition-bound approach of completing theory before beginning any kind of sustained and regular connected-matter dictation.[2]

As noted in the first chapter, Leslie focalized and continues to lead the school most vocally and ardently in favor of the delay of new material. It was through this basic contention that Leslie revealed the affinity for the philosophy of James and Bain to which allusion has been made.[3]

The motivational aspects of learning loom very large in the assessment by Leslie revealed in the twenty principles

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[1]David Wolfe Brown, The Factors of Shorthand Speed; or How to Become a Stenographic Expert (New York: The Gregg Publishing Company, 1910), pp. 21-22, 30, 33-34.

[2]Jay Wilson Miller, Methods in Commercial Teaching (Cincinnati: South-Western Publishing Company, 1925), pp. 269-270, 279-281.

[3]Louis A. Leslie, Functional Method Dictation: Teacher's Handbook (New York: The Gregg Publishing Company, 1936), pp. 16-17, 23-25.

of skill psychology to which he ascribed. It is quite evident that some of those principles mean for Leslie[1] that:

1. The delay of new-matter dictation sets up the most favorable condition for learning.

2. The early introduction of new-material dictation forces the skill before it is well established.

3. Because of its ease, familiar-material dictation contributes more to speed development than does unfamiliar-matter dictation.

4. The delay of new-matter dictation aids the warding off of mental tension.

5. The obvious path of beginning with new matter is not the correct path.

6. Beginning with familiar-material dictation is a proper sub-whole approach.

7. The principle of starting from the simple and moving to the complex or beginning with the known and progressing to the unknown recommends that new-matter dictation be delayed.

Blanchard, too, concluded, motivationally, that new matter should be used for testing only, and that the time for learning new outlines is before and after dictation--not during it. He believed that the student who begins to practice on new matter with a "poor" preparation for writing the old words is doomed to disappointment.[2]

Lamb contributed to the delay-of-new-material motivational claim by recommending what she called an "easy-does-it"

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[1]Leslie, Methods of Teaching Gregg Shorthand, pp. 279, 417-423, 428.

[2]Clyde Insley Blanchard, Twenty Shortcuts to Shorthand Speed (New York: The Gregg Publishing Company, 1939), p. 77.

idea: "In skill-building, practice should be successful practice. The student's feeling of confidence is so important to achievement that we guard it carefully by emphasizing success. . . ."[1] The preceding words and the recommendation that learning should proceed from the familiar to the unfamiliar and from the simple to the complex appear to place Lamb firmly within the ranks of those who cite a S-R-associationism, law-of-readiness motivation as a primary basis for skill psychology.[2]

Harms and Stehr urged that great care must be taken in selecting material for dictation: "At this /the beginning/ stage, it should be familiar, easy, meaningful to the student, and well previewed."[3] Because there was a great premium placed by Harms and Stehr upon the "success" element of motivation, it is assumed that this element forms the basis for the contention that new material should be delayed.

Tonne, Popham, and Freeman appear simply to have recited and thus to have subscribed to the recommendations made

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[1]Marion M. Lamb, Your First Year of Teaching Shorthand and Transcription (2d ed.; Cincinnati: South-Western Publishing Company, 1961), p. 28.

[2]Ibid., pp. 30-31.

[3]Harm Harms and B. W. Stehr, Methods in Vocational Business Education (2d ed.; Cincinnati: South-Western Publishing Co., 1963), pp. 142, 146, 151, 170.

by the authors of the Diamond Jubilee Series of Gregg shorthand.[1]

Periodicals

The perusal of the periodicals listed at the beginning of this chapter yielded eighty-six articles which included references to the matter of when to introduce new-matter dictation. Out of that number, there were thirty-six articles which favored the delay of new-material dictation until theory is near completion or completed. A sample of the thirty-six articles is reviewed.

Fuller took a strong stand in favor of delay--a stand strong enough that he recommended that new-matter dictation be put off to a time well past the completion of theory. There was an apparent motivational base for his contentions.[2]

Keller also decried the too-early introduction of the dictation of new matter: "To jump students immediately into new dictation upon the completion of the Manual is only inviting disaster to them."[3]

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[1]Herbert A. Tonne, Estelle L. Popham, and M. Herbert Freeman, Methods of Teaching Business Subjects (3d ed.; New York: Gregg Division, McGraw-Hill Book Company, 1965), pp. 201, 209.

[2]James E. Fuller, "Dictation," The American Shorthand Teacher, II, No. 7 (March, 1922), p. 243.

[3]E. F. Keller, "Bridging the Gap in Shorthand," The American Shorthand Teacher, VIII, No. 8 (April, 1928), p. 260.

Swem belonged firmly on the delay-of-new-matter side of the ledger. A motivational foundation was claimed for his argument.[1]

Leslie's view was found expressed in six articles.[2] The reasons for urging delay were:

1. Allowing errors to occur causes a relapse in learning.
2. Skill must be well established before pressure can be applied without damage.
3. Ability to construct a new outline is gained through practice of thousands of familiar words.
4. If new-matter dictation is delayed, it disappears as a problem.

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[1]Charles Lee Swem, "Scientific Dictation," The American Shorthand Teacher, VIII, No. 8 (April, 1928), p. 282.

[2]Louis Leslie, "How I Teach Gregg Shorthand," Business Education World, XVI, No. 10 (June, 1935), p. 814.

Louis A. Leslie, "Functional Method of Teaching Gregg Shorthand--Its Psychological Background," Part VI, Business Education World, XVIII, No. 7 (March, 1938), p. 541.

Louis A. Leslie, "Testing and Grading in Shorthand," Business Education World, XXII, No. 6 (February, 1942), p. 502.

Louis A. Leslie, "Classroom Psychology for Shorthand and Typewriting," Psychology Applied to Skill Building with Special Application to Shorthand and Typing (B. E. W. Service Booklet No. 23; New York: Business Education World, The Gregg Publishing Company, 1943), p. 53.

Louis A. Leslie, "Fallacies in Teaching Shorthand, 1-4," Business Education World, XXXI, No. 4 (December, 1950), p. 193.

Louis A. Leslie, "Paradoxes of Skill Learning," Business Education Forum, IX, No. 2 (November, 1954), p. 12.

An often-repeated reasoning for delay was presented by Gress: "Since there is a wealth of reading and writing practice material provided with each lesson, there seems to be no need to introduce new dictation material before completing the first fifty-four lessons."[1] He backed his contention with a conclusion drawn from a study he had completed: "Certainly in our experiment at Hunter, students showed no lack of ability to take new-matter dictation--and they had no experience with new-matter takes before completing the nine chapters."[2]

Mention is made of the delay recommendations of O'Neill,[3] Brown and Frerichs,[4] and Gress[5] because they referred to collegiate situations. The collegiate level was employed in the classroom-investigation phase of this study.

In projection of his stand, Grubbs wrote:

> Virtually all of your dictation during the first semester should be taken from lessons practiced as part of the previous night's homework. With an open-book policy in effect during the first semester,

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[1] John J. Gress, "Report on Hunter College's First Class in Gregg Simplified," Business Education World, XXX, No. 4 (December, 1949), p. 196.

[2] Ibid.

[3] Jane H. O'Neill, "My Favorite Devices for Teaching Shorthand," Business Education World, XXXIII, No. 10 (June, 1953), p. 506.

[4] Frances A. Brown and Alberta J. Frerichs, "A Successful University Shorthand Program," Business Education Forum, XIV, No. 1 (October, 1959), pp. 7-8.

[5] Gress, loc. cit.

> your students have a key to your dictation right at their finger tips and they will not be forced to flounder or grope for any outline. This is very desirable.[1]

In pieces of writing intended to summarize expert viewpoints, Patrick,[2] Stewart,[3] and Swenson[4] reported that one of the recommended practices is to delay new-matter dictation until sometime during the second semester. The reasons listed were that skill should be well established to allow the student some degree of confidence and that learning should proceed from the familiar to the unfamiliar and from the simple to the complex.

Zoubek, of course, maintained in periodical publications the stand affirmed in teaching handbooks. He contended that there should be little or no new-matter dictation during the first semester.[5]

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[1]Robert L. Grubbs, "R$_x$ for Effective Shorthand Teaching," Part 5: "Strategy for Second Semester Shorthand," Business Education World, XLI, No. 5 (January, 1961), p. 25.

[2]Alfred Patrick, "The Experts Say . . .," Business Education Forum, XVI, No. 7 (April, 1962), p. 29.

[3]Jane Stewart, "On These Things We Agree in the Teaching of Shorthand and Transcription," Business Education Forum, XIX, No. 1 (October, 1964), p. 7.

[4]Renee Swenson, "Conflicting Opinions in the Teaching of Selected Aspects of Gregg Shorthand Theory as Revealed in the Professional Business Education Literature from 1953 to 1962," National Business Education Quarterly, XXXIII, No. 1 (October, 1964), pp. 60-61.

[5]Charles E. Zoubek, "Shorthand Phase Two," Business Teacher, XLIII, No. 3 (January-February, 1966), p. 6.

Advocacy of the Early Introduction of New-Material Dictation

Books

The early introduction of the dictation of new matter was a listed recommended procedure in eight of the twenty-two books which were found to be pertinent to the issue.

As noted earlier, Gregg seems to have changed his mind concerning the best time to begin new-matter writing. The change appears to have moved from a first recommendation calling for its early introduction to a later recommendation calling for its delay. Evidence of his eventual acceptance of the idea of delay has already been presented. The judgment that Gregg viewed the requirement of early new-matter writing as an appropriate learning technique grew out of an assessment of his discussion of examinations presented in an address to teachers.[1]

It appears that Bisbee's primary concern in recommending early new-matter dictation was that transfer might be facilitated.[2]

As early as in the introductory descriptions of the purposes of a book setting forth her method, Frick alluded to her alignment with the position favoring early new matter.

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[1] John Robert Gregg, The Teaching of Shorthand: Some Suggestions to Young Teachers and Other Addresses (New York: The Gregg Publishing Company, 1916), pp. 24-27.

[2] Edith V. Bisbee, Dictation for Beginners (New York: The Gregg Publishing Company, 1930), p. iv.

She claimed a law-of-motion scientific base for her contention.[1]

Lomax and Walsh based their advocacy of early new-matter dictation upon Herbartianism and Thorndike's law of readiness.[2] Skene, Walsh, and Lomax, too, advocated early introduction.[3]

The Zinman-Strelsin-Weitz approach featured sentence-incorporated presentation of new outlines. The principles of apperception, readiness, frequency, and recency were all cited as bases for the sentence method.[4]

Davis admittedly utilized the statement of principles of Odell and Stuart to reach his conclusion calling for early new-matter dictation. The logic of the argument was that

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[1]Minnie DeMotte Frick, Teaching Gregg Shorthand by the Analytical Method: Lesson Plans, Teaching Materials, Procedures (New York: The Gregg Publishing Company, 1931), pp. iii, 8, 37, 44-48, 75, 77, 87.

[2]Paul S. Lomax and John V. Walsh, Problems of Teaching Shorthand: A Classroom Manual of Practical Helps for Teachers of This Subject in Public and Private Secondary Schools and in Teacher-Training Institutions (New York: Prentice-Hall, Inc., 1932), pp. 66-67, 126, 127.

[3]Etta C. Skene, John V. Walsh, and Paul S. Lomax, Teaching Principles and Procedures for Gregg Shorthand (New York: The Gregg Publishing Company, 1932), pp. 15-19, 20-25, 218-227.

[4]Meyer E. Zinman, Rosalyn E. Strelsin, and Elizabeth Friend Weitz, Daily Lesson Plans for Teaching Gregg Shorthand by the Sentence Method (New York: The Gregg Publishing Company, 1934), pp. v, 3-5, 8-9, 11.

learning should take place in the same manner and form as at the final expert use level.[1]

Psychologically, the Brewington-Soutter direct method, including the early introduction of new-matter dictation, appears first to have incorporated the thought-unit "wholes" or the language-arts type of learning of the Gestalt-field-cognitive school. However, by the twenty-fifth lesson, there appeared the science and practice types of learning. The science type of learning involved "parts" building through reasoning and understanding, and the practice type employed in the S-R associationism type of repetition learning.[2]

Periodicals

There were fifty recommendations for the early introduction of new-material dictation found in periodical literature. Only selected reviews are presented.

Bisbee carried her commitment in favor of early new matter to the extent of conducting a classroom experiment intended to measure its impact upon accomplishment in shorthand learning. Her examination of the issue is the nearest thing

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[1]Benjamin Franklin Davis, A Study of Shorthand Teaching: Comparison of Outcomes in the Learning of Shorthand Effected by Differences in Teaching Methodology (Teachers College, Columbia University, Contributions to Education, No. 693; New York City: Bureau of Publications, Teachers College, Columbia University, 1936), pp. 45-46, 90, 102-103.

[2]Ann Brewington and Helen I. Soutter, Lesson Plans for Teaching Gregg Shorthand by the Direct Method (New York: The Gregg Publishing Company, 1943), pp. 33-34, 66, 68-72.

to a parallel of and predecessor to the classroom investigation reported in this paper that was found. As a result of her study, Bisbee reached the following conclusions:

> 1. It is not sufficient to store the mind of the writer with mental images of the outlines he studies. He is likely to be helpless in a new situation.
> 2. If a reading approach is used, it would be well to supplement it with dictation of unfamiliar material matter in order to train the students in the faculty of thinking in unexpected situations and in making decisions as to correct outlines under stress of notetaking.
> 3. We must use some method of approach which will give the student both an automatic vocabulary of the language and also the power, within the limits of his progress, to handle notes in response to the stimulus of the spoken word. . . . the material should include some new words, in order to put him in the position of having to think out suitable outlines for these words as dictation goes steadily forward. If this is begun in the earliest lessons, his shorthand is usable . . . .
> 4. In order to train the student to read his own notes, it is necessary to provide him with notes of his own making for that purpose. If he is "brought up" on a dictation approach, that material lies at hand.[1]

Adams claimed to be speaking for her times when she observed: "We are getting away from much dictation of highly familiar matter as being of any great worth. We are rapidly accepting the value of dictating each day the new, building by degrees readiness to respond to any spoken word with an easily built outline."[2] Of particular interest is that Adams

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[1]Edith V. Bisbee, "The Shorthand Approach," The American Shorthand Teacher, X, No. 10 (June, 1930), pp. 377-378.

[2]Elizabeth Starbuck Adams, "The Shorthand Course: Present-Day Trends in Teaching and Testing," The American Shorthand Teacher, XI, No. 4 (December, 1930), p. 135.

cited early new-matter dictation as a motivationally contributive element in the learning of shorthand. Such a pronouncement is a diametrical opposite to the Leslie-drawn conclusion that early new-matter dictation is detrimental to optimum motivation.

In a deliberate attempt to sell the idea of theory-course dictation of unpracticed matter, Fitch exhorted: ". . . give new-matter dictation almost from the start."[1] She backed her argument with the recommendation that ". . . the students, when writing new outlines, /should/ think about the theory that underlies them."[2]

"Startling as the idea may seem to some shorthand teachers, midterm of the first semester is not too early to introduce five-minute new-material takes. This is before theory has been completed; and no preview is given, even at this early stage!"[3] Condon and Wellman added to this dramatic statement the recommendation that the postview technique be employed along with the new-matter dictation.[4] They intimated a motivational base for their contention when they wrote of a study they had made:

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[1]Marjorie Fitch, "Shorthand--Constructed or Memorized?" Business Education World, XXVI, No. 9 (May, 1946), p. 497.

[2]Ibid.

[3]Arnold Condon and Rowena Wellman, "A Challenge to Some Commonly Accepted Shorthand Teaching Practices," Business Education Forum, X, No. 1 (October, 1954), p. 11.

[4]Ibid.

> It was apparent that the students, instead of feeling frustrated, liked to attempt writing outlines for new words and felt that they could function in a realistic situation. They subsequently welcomed the shortcuts introduced in succeeding lessons.[1]

Strony wrote: "While new-matter dictation is usually deferred in the high school until the completion of lesson 54, it may be started much earlier with college students or adults."[2] She thus indicated that she considered maturity a factor to be considered when pondering the issue. Moulton, too, concluded that college-level classes can handle new material so long as unencountered principles are not included in the material.[3]

Nelson pointed to a conflict which was identified in Chapter II of this study when he concluded:

> Here we face what appears to be a paradox of psychological principles--that of providing realistic job-like instruction on erratic office-style dictation and that of insuring "success" experiences that will be motivating for all learners. However, if both objectives are kept in mind, the instructor will be able to provide some elementary office-style dictation even during initial stages of learning without seriously handicapping the slow students.[4]

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[1] Arnold Condon and Rowena Wellman, "More Shorthand Learning in Less Time," The Delta Pi Epsilon Journal, II, No. 1 (October, 1958), p. 22.

[2] Madeline S. Strony, "Streamlining Shorthand Instruction," Business Education Forum, X, No. 1 (October, 1954), p. 14.

[3] Priscilla M. Moulton, "Shorthand Corner," Business Education World, XLIV, No. 6 (February, 1964), p. 35.

[4] Roger H. Nelson, "Psychological Principles Applied to Shorthand Instruction," Business Education Forum, XIII, No. 1 (October, 1958), p. 13.

Although office-style dictation is not the same as the new-matter dictation to which reference is consistently made in this paper, the contrast of teaching for transfer and teaching for motivation drawn in the quoted paragraph is a striking parallel to the contrast presented by the unfamiliar-matter-timing debate contentions. Nelson's decision appears to be one which conceives of resolving the seeming paradox.

Russon suggested that the most exciting part of shorthand should not be delayed until a semester has passed. She thus indicated her acceptance of the motivation-creation potential of early new-matter dictation. In addition, she referred to the contention of some psychologists that learning takes place best in conditions approximating final use.[1] From such a reference, the inference can be drawn that Russon was concerned with transfer and/or the "wholes" of the Gestaltists.

As noted in Chapter I, West contended that new matter should be introduced early. Because West urged that more and longer kinesthetically stimulated response chains characterize higher levels of dictation skills, he contended that teachers should maximize the number of outlines which can be chained.

> . . . the conventional concentration throughout the training on a relatively small vocabulary of a few

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[1]Allien R. Russon, "Let's Start New-Matter Dictation Early," Business Education World, XLIV, No. 2 (October, 1963), p. 16.

> thousand words and, even more, on the brief forms flatly defeats that objective. We overlearn the brief forms and the highly common words at the expense of time that could be devoted to the development of a larger writing vocabulary. Any stenographer knows that it takes only a few "new" words in any dictation to make him "lose" the dictation. . . .[1]

Most appropriate for this study, West wrote that there is no practicable way to insure that all words the stenographer could be asked to write can be included in the learning.

> . . . the only sensible option is to furnish plenty of practice situations in which words must be constructed during the press of dictation. This does not mean that one suddenly dictates from a treatise on nuclear physics, but that a sprinkling of "new" words should be included in much of dictation material quite early in the training and continuously thereafter.[2]

Christensen suggested that moderate-anxiety variation is needed for motivation and that new matter provides that variation. His recommendation grew out of an avowed acceptance of the Gestalt theory as the most appropriate for shorthand learning.[3]

Summary

The search of selected books and teacher's handbooks and the generous sampling of business education periodical literature revealed that a considerable amount of attention

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[1] West, op. cit., p. 8. [2] Ibid.

[3] G. Jay Christensen, "Atmosphere for Learning: Chaos or Creativity," Business Education Forum, XVIII, No. 7 (April, 1964), pp. 23, 29.

has been given to the problem of when to introduce new-matter dictation. Chronologically, the debate seems to have followed this pattern: From 1888 through 1893, there was no apparent issue struck. From 1916 to 1929, the delay of any kind of dictation until the completion of theory seems to have been the accepted procedure. However, when dictation was incorporated into the pre-theory-completion process (and such was frequently urged), new material, in addition to familiar material, was used. From 1929 to 1949, the maximum debate concerning the issue occurred. However, primarily as the result of the acceptance of the functional method, the final balance growing out of that debate favored the delay of new matter. From 1949 to the present, that balance has continued, but there has been reactivation of a vocal defense of the early introduction of new-matter dictation.

Of twenty-two books found with recommendations concerning the issue, fourteen commended delay, and eight urged early introduction. Fifty of the eighty-six recommendations found in periodicals favored early introduction, and thirty-six called for delay.

The motivationally oriented bases for the delay recommendation included the following:

1. All dictation should be delayed until the completion of theory.
2. Learning should progress from the simple to the complex and from the unfamiliar to the familiar.

3. Because of the law of readiness, the final-performance situation should not be approximated too soon.

4. Learners should experience success instead of disappointment.

5. Ability to construct new outlines is the outgrowth of an extensive automatized basic vocabulary.

6. Gregg textbooks themselves contain ample new matter.

7. No exception should be allowed to occur until the skill has been firmly implanted.

8. Mental tension is warded off.

9. Beginning with familiar-matter dictation is a proper sub-whole approach.

10. Authorities recommend delay.

11. Familiar-matter dictation contributes to speed building.

12. If new-matter dictation is delayed, it disappears as a problem.

The advice for the early introduction of new matter included more dissimilar foundations for such advice. Some of the more often repeated of those foundations were:

1. Learning time can be shortened.

2. Kinesthetic movements necessary for writing unpracticed outlines need to be established.

3. Motivational stimulus is provided by mild anxiety.

4. The final performance environment is approximated.

5. Learning should proceed by wholes.

6. Transfer is facilitated.

7. The language-arts approach to learning is correct.

8. The laws of readiness, frequency, and recency are served.

9. The Herbartian apperceptive mass is built.

10. Parts learning through reasoning, understanding, and repetition is facilitated.

11. Motivation is provided by the excitement of writing "real" shorthand.

12. The maturity of college students allows for new-matter writing.

Although more of the recommendations extracted from periodicals listed a preference for early dictation from new material than for its delay, the contention is maintained by the writer that the balance, both historically and currently, favors delay. A plausible explanation for the excess in numbers favoring early introduction is that recommendations for early introduction appear more or less as reactions to the established procedure--delay. Summary statements, issued periodically, verify the contention, for they usually list delay of new-matter dictation as one of the accepted and generally practiced elements of shorthand methodological procedure. In addition, the impact from methods books and teacher's handbooks (which consistently recommend delay) is much greater than that from single articles found scattered through differing periodicals and through time.

CHAPTER IV

DESIGN OF THE CLASSROOM INVESTIGATION

In previous chapters, the problem of when new-matter dictation should be begun has been reviewed from psychological and business education literature vantage points. Now, the final of the examinations which together comprise a three-pronged attack upon the issue is presented.

The need for practical investigation into the problem of the proper time to introduce new-matter dictation was established in the first chapter of this paper. However, two additional authoritative recommendations are added to the base upon which this segment of the study was built.

First, without direct reference to the issue of when new-material dictation should be begun, Stolurow did capture the essence of that issue and call for the study of the vital elements surrounding it. Notice his allusion to the motivation-versus-transfer conflict which has been repetitively set out in this paper as the crucial core of the new-matter dictation debate:

> . . . the problem in designing instructional materials is one of balancing off the benefits accruing from minimum change in early stages with the poorer transfer to later performance which results from such a practice. The relative merits of the two

> possibilities for instructional materials probably depend in large part on when in the learning of a skill greater variability is introduced. The problem is an empirical one and eminently worth experimental investigation.[1]

A review was made in the previous chapter of the Condon-Wellman sanction of the early introduction of new-matter dictation. As an editorial comment following one of their articles which included that recommendation as one of many, West called for the testing, in rigorous, formal experimentation, of each particular feature one at a time. "Otherwise, if some global package of methods is tested against some other global package of methods, it will not be possible to ascertain just what feature or features of instruction account for results."[2]

Thus, the third element of the investigatory triad took the practical form of a classroom measurement of the comparative effects of the early introduction and the delay of new-material dictation upon achievement in collegiate beginning Gregg shorthand. To arrive at such a measurement, a classroom investigation was designed and completed at Central State College, Edmond, Oklahoma, during the fall, 1964-65, spring, 1965, and fall, 1965-66, semesters.

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[1]Lawrence M. Stolurow, "The Psychology of Skills," Part II: "Analysis and Implications," The Delta Pi Epsilon Journal, II, No. 3 (June, 1959), p. 27.

[2]Leonard J. West, "Editorial Comment," The Delta Pi Epsilon Journal, II, No. 1 (October, 1958), p. 24.

For each of the three semesters, three sections of elementary shorthand were scheduled. One of the sections was offered (and so identified) for those students who had had previous formal study in Gregg shorthand, but who needed to repeat that study. The remaining two sections (both taught by the writer of this paper) were thus reserved for students who had not encountered Gregg shorthand in any formal manner. It is with the two sections set aside each semester for beginners that this investigation was concerned. More is written of the composition of the classes as the description progresses.

Central State College enrollment procedures preclude the establishment of predetermined matched groups to be studied in experimental fashion. To overcome, as much as possible, the obstacles to this investigation thus imposed, five devices were employed.

First, the two beginning shorthand sections offered each semester were scheduled at prime morning hours. Such a scheduling of the only two sections of beginning shorthand, both of which were taught by the same teacher, led to a desired random selection by the students. According to recommended research methods, such randomly selected groups form a reasonably satisfactory base upon which to build a control-group/experimental-group comparative-result design.

The second measure employed to overcome the factors which made predesigned group equivalency impossible was the

assessment and comparison of selected student attributes after the groups had formed. The ages, grade point averages, American College Testing, Inc. (ACT) composite scores, and ACT English scores were recorded for all students for whom they were available. The attributes measured were tested, using chi-square and the Fisher exact probability test, to determine whether significant differences between the groups existed. Greater detail of the process just described is given in later paragraphs.

The third precautionary device was the testing of the measures cited in the preceding paragraph and of the final findings not only for the groups combined for all three semesters, but for the groups of each semester separately. It was contended that if the outcomes of the separate and the collective tests were consistent, it could be safely assumed that random selectivity had established groups possessing satisfactory equivalence.

The fourth protective procedure involved the selection of chi-square and the Fisher exact probability tests as the statistical tools. Since identical-sized, matched-paired groups could not be created, it was necessary to use statistical measures based upon tests of proportions. Chi-square and the Fisher exact probability tests meet this requirement, as well as the demand that the test of significance be one that can be applied to a distribution-free population. Much more

is written of the procedures as a prelude to the reports of statistical testing.

The final process intended to assure that the groups were essentially equal had to do with the determination of which were to be the control and which the experimental groups. After the groups were enrolled each semester, one was arbitrarily designated as Group A (the group which was to receive new-material practice) and the other as Group B (the group which was to receive no new-material practice). No assessment of the capabilities of the respective groups was attempted prior to that designation--thus the arbitrariness. Again, the contention was that the random assignment would contribute to the establishment of a proper framework from which conclusions could be drawn.

Classroom Procedures

The classroom procedures were essentially the same for all of the three semesters. Because very minor deviations were introduced into the procedures, only the one master teaching plan is described. Whenever anything worthy of mention was done differently in one or more of the semesters, that difference is delineated.

Both groups met for 50-minute daily periods, five days a week, for a theoretical 18-week semester. However, because of enrollment week, final-examination week, and holidays, the classes actually met for 16 weeks, or 80 days.

Gregg Shorthand for Colleges, Volume I, and the transcript which accompanies it were the textbooks in the possession of every student. A modified manual and writing approach was used for both Groups A and B.

During the first class period, the following were accomplished:

1. Routine remarks concerning attendance, textbooks, instructional materials, etc., were made.
2. A brief history of shorthand was given.
3. The assurance that shorthand is exciting and not too difficult to learn, with proper and regular practice and concentration, was given.
4. Approximately the first half of the first lesson was presented at the chalkboard and followed section by section by oral spelling and pronunciation by the students.
5. The assignment of the spelling and reading aloud of the word lists for the first half of the first lesson was made.

Mention was made neither the first day nor later to either group that the two sections would be taught differently from each other or that their performances would be the subject of analysis. Likewise, the students were not told until the fifteenth week that they would be tested over both familiar and new material. Such a delay was considered necessary because if the students in Group B had known that they were to be tested over new material and that they were not being given any new-material dictation in class, they might have practiced on new material outside of class. Such a preparation would have destroyed the attempt to determine whether

differences in achievement exist when one group is given practice in new-matter dictation and the other is not.

During the remainder of the first week, the first lesson was completed, and lessons 2, 3, and 4 were introduced. Homework assignments continued to be the spelling and pronouncing aloud, with the transcript of the words at first uncovered and then covered, of the words in the word lists and of the connected matter. By the time the connected-matter transcript was to be found in the supplementary booklet (for the third lesson), the students were taught how to use it. Writing of the shorthand characters and very simple words was begun (in the classroom only) during the first week. After the first lesson, the lessons were introduced one each class meeting until the completion of the theory.

The second week brought the first design-created teaching-procedure variation for Group A. The students in that group were initiated into the thinking process which accompanies construction of previously unencountered outlines. To make the initiation, the teacher asked the students to tell, by spelling aloud as a group, how a few new words would be spelled in shorthand. As the students spelled those words (selected to incorporate principles already introduced), the words were written on the chalkboard. The students were commended for being able to "tell" the teacher "how" to do the writing. Once instigated, the student-spelled,

teacher-written, and eventually student-written new outlines were included and expanded as a regular feature of the class periods for Group A.

At the same time that the assignment of reading lesson 7 was made, a homework writing assignment was added. The students were told to prepare a written copy including at least two outlines for each of the words in the word list in the first lesson. Thus, in consistent fashion, the following day's assignment was to read lesson 8 and write the word list in lesson 2 at least twice. Then, when the first connected-matter writing assignment (of lesson 3) was made, it was done so in conjunction with a reading assignment from lesson 9. Thus, the pattern of writing a lesson six lessons behind the reading lesson was begun and was continued throughout the remainder of the semester.

The day that the first assignment of connected-material writing was given, the students in both groups were shown how to use the tape recorder and were urged to use it and the tapes of the Gregg lessons to prepare their homework. Thus, at this point, those students who were able to listen to the tapes began to write the words in the word lists as many times as they could in the time allowed by the tape dictator and began to write the connected matter three times. For those who were not able to take advantage of the laboratory facilities, the assignment was to write word lists and the writing practice at least twice. From questioning and observation, it became

clear that less than 25 per cent of the students, no matter how much the urging, were doing their homework from the tapes.

The first test was given on the tenth day. The students were asked to transcribe in longhand and in class a letter from lesson 8 (the lesson that had been read for that day). The students had been told that such tests would be given at periodic intervals. Mention is made of this type of test because it was part of the teaching procedure, not because it was used in the final comparative statistical analysis.

During the third and fourth weeks, transcription tests from plate material for practiced lessons were administered. The Group A students wrote a few unpracticed words and brief form derivatives from dictation each day.

The first of the chapter tests was administered during the fourth week. The theory test covered the word lists in the first chapter; 25 representative words and phrases and all of the brief forms from the chapter were dictated. The students wrote shorthand outlines, one to a line, on their papers as the dictation was given. After the dictation was completed, the students wrote the longhand transcript for each outline on the line beside it.

Because the same procedure was followed for all subsequent chapter tests (which were administered every sixth class meeting once they were begun), the scoring of all of the tests is described at this point. Each chapter test was

assigned two scores--one for the 25 representative words and phrases and one for the brief forms. A percentage scoring system was employed, with equal weight assigned to the shorthand outline and the transcription. For the 25-word test, there were 50 items to be checked, so each item was worth two points. The number of points assigned to each item on the brief form quizzes varied for the different chapters because the number of brief forms varied from chapter to chapter. More is written of how the chapter test scores were combined to make the final comparative assessment in the next chapter.

Note should be made before leaving the description of the first chapter testing that in the third of the three semesters of teaching, the first chapter test was administered at the end of the third week instead of at the end of the fourth week, as was done in the other semesters. The decision was made that the delay was not really necessary, and that beginning the tests one week earlier would not affect the outcomes of the study.

Group A had been told during the fourth week that they would be responsible for the shortest letter of each day's lesson to the extent that they should be prepared to write it from dictation without following the book as they had been allowed to do for all dictation up to that point. (Group B continued to write all dictation with books open.) With the weaning away from dependency upon the book came the next stage in the training for ability to take new-material

dictation--the writing of dictation from the stimulus of sound alone. During the fifth week, teacher-constructed new-material sentences and supplementary material from Graded Drills in Gregg Shorthand Simplified by Klein were introduced. Once begun for Group A, the pattern of dictation from practiced material, without benefit of following the book, and new-material dictation of connected matter was continued. The time allotted to such dictation was gradually increased. The individual takes were of short duration at first and gradually lengthened as the semester progressed.

For example, in the sixth week, the Group A students were assigned two letters from each lesson for special emphasis. The letters were dictated during class for writing without the book at 50, 60, and 70 words a minute. The new-material dictation from Klein's book was given at 40 words a minute. By the sixth week, Group B had been assigned the preparation of one letter to be written in class from dictation only.

The distinguishing feature for the seventh week was the giving of the first dictation test over familiar material for both groups. The groups were told which letter would be dictated for the test; the letter was dictated at 50 words a minute, after being preceded by a thorough preview and warmup. In that same week, Group B was told to begin emphasizing the two shortest letters in each of the writing homework lessons.

The new-material dictation for Group A was at 40 and 50 words a minute.

The eighth week brought the increase of new-material dictation to speeds of 50 and 60 for Group A and a dictation test from lesson 31. The dictation test was again given to both groups, and they were given a choice of taking either a 50- or a 60-words-a-minute previously announced test. Both groups were told to begin emphasizing the three shortest letters in each lesson.

During the ninth week, more emphasis was placed on new material for the Group A students, and in-class dictation without benefit of viewed copy was stressed for both groups. The dictation test for the week was again composed of dictation at 50 and 60, but the students were told only that the test would be taken from the three emphasized letters of lesson 35, not which letters would be given at which speeds.

On Wednesday of the tenth week, the familiar-material dictation test was taken from the three shortest letters of lesson 39 dictated at 50, 60, and 70. The students again did not know which letter would be dictated at which speed prior to the test. Emphasis upon the four shortest letters was announced.

Group A new-matter dictation speeds were increased to 60 and 70 in the eleventh week. In addition, a dictation test taken from the four shortest letters was administered at speeds of 50, 60, and 70.

The twelfth week brought the completion of the presentation of theory (through lesson 54). By the twelfth week, Group A was receiving new-matter dictation for about half of each period. In place of the new matter, Group B received familiar-material dictation, written without the book. A test, dictated at speeds of 50, 60, 70, and 80, was given to both groups. The letters were selected at random from lesson 47, the writing lesson assigned for the day on which the test was given. The homework assignments for the rest of the semester continued to be the writing (at least twice) of a given lesson and the reading of a lesson six lessons ahead.

The dictation test for week 13 was an unannounced one given at 50, 60, 70 and 80, but previewed in class and selected from practiced material. Both groups continued to receive heavy amounts of dictation practice. Practice involved both short and long speed-building takes.

Week 14 brought the beginning of daily final testing over familiar material for both groups. For the first three days of testing during that week, three-minute tests at 50, 60, 70, and 80 were selected from practiced material. No preview was given, and the transcript was made in longhand. By the fourth testing day, the dictation at 50 was dropped, and the speed of 90 was added.

During the fifteenth week, the last of the chapter tests (chapter 9) was given, and final daily new-material dictation testing was begun for both groups. At first, the

new-material tests were dictated at speeds of 50, 60, and 70 for three minutes. The tests were taken from the Gregg contest materials published in the Business Teacher and from Zoubek's Previewed Dictation. In addition to the dictation of new material, at least two takes of familiar material were given each period too. The students were permitted to transcribe both a familiar-matter take and a new-matter take or two familiar-matter or two new-matter takes, as time allowed.

Testing was continued and culminated during the sixteenth week (which included the two periods set aside for the final examination). Dictation on new matter at 80 words a minute had been added to the daily testing. Dictation at 100 for familiar material and at 90 for new material was also begun as soon as any students had satisfactorily established 90-familiar and 80-new speeds. However, no one was able to establish performance at the highest speeds, so the upper-limit attainment was determined for all students. During the final week, a test over the marginal reminders and vocabulary builders in the textbook was administered. However, the results were not included in the final analysis for the purposes of this study.

A full description of scoring procedures for the final new- and familiar-material testing is given at this point so that only the results will need to be reported in the next chapter. In order to establish a given speed on either familiar or new material, the student was required to

pass any three of the three-minute takes at that speed or higher. To pass a test, the student was required to transcribe in longhand at 95 per cent accuracy. Errors of mistranscribed words, spelling, punctuation, etc., were assessed a penalty of one point each. The students were allowed to attempt any speed which they felt capable of writing; they were not required to establish each of the speeds of the hierarchy before proceeding to another. Only the highest speed established was considered in the final reporting of the findings.

Statistical Procedures

For the statistical computations completed in the following section and in Chapter V, the null hypothesis consistently tested was that proportions in Groups A and B were equal, at the 0.05 level of significance, for whatever variable was being studied. Chi-square was employed as the statistical tool whenever the data were cast into a 2 x 4 contingency table or whenever each of the cells of the expectancy classification was five or greater in frequency. Even for the 2 x 4 contingency tables, the data were arranged so that no expectancy distribution cell contained less than a frequency of five. The rationale and details of

computational procedure for chi-square testing can be found in Nonparametric Statistics for the Behavioral Sciences.[1]

For the 2 x 2 contingency distributions containing one or more cells with an expected frequency of less than five, the Fisher exact probability test was employed.[2] Only the exact probability of the occurrence of each particular observed distribution was calculated.

For a chi-square test based upon a 2 x 2 contingency table, any computed value greater than 3.84 would lead to a rejection of the null hypothesis of equality of proportions.[3] For the 2 x 4 tables, the rejection point is 7.82.[4]

The Fisher test computation results in a probability value. Therefore, any outcome equal to or less than the 0.05 of the significance level would lead to a rejection of the null hypothesis of equality for Groups A and B.[5]

For all of the statistical tests in this paper, the observed distribution tables are presented. In addition, the chi-square or Fisher exact probability value derived is shown for each distribution.

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[1] Sidney Siegel, Nonparametric Statistics for the Behavioral Sciences (New York: McGraw-Hill Book Company, Inc., 1956), pp. 104-111, 175-179.

[2] Ibid., pp. 96-104, 110.

[3] Ibid., p. 249.

[4] Ibid.

[5] Ibid., p. 101.

Composition of Groups A and B

Because final tests were run for each of the three semesters and for all of the semesters combined, it was necessary to determine whether the groups for each semester and for all semesters combined were sufficiently equivalent to warrant the tests. As previously noted, four measures were employed and chi-square or Fisher exact probability tested in order to determine whether equivalency existed. Tests for each of the four measures are described semester by semester and then for the three semesters in combination. Before proceeding with the reporting of those tests, however, a review of the over-all make-up of the groups is in order.

First, because Central State College is located in the Oklahoma City metropolitan area, the 8,000-member student body takes on some distinguising characteristics. For example, the number of commuting students and students who work full or part time is unusually large.

In addition, the Central State College student body is not, on the average, as academically apt as are the student bodies of the two Oklahoma universities. In verification of the preceding statement are comparative statistics made available through a study completed by the Oklahoma State Regents for Higher Education. That study revealed that the median composite standard ACT Score for Central State College entering freshmen in the fall of 1962 was 17, compared with

21 for the universities.[1] Also, the proportion of Central State College entering freshmen drawn from the two highest ACT quartiles in the fall of 1962 was 49 per cent, compared with the 78 per cent proportion from the two highest quartiles for the universities.[2] Central State College's first-year dropout rate (as a proportion of original enrollment) was 43 per cent, compared with 37 per cent for all four-year colleges and 30 per cent for the universities.[3]

Such a brief description was deemed necessary in order to explain the high withdrawal rate and the relatively poor performance exhibited by the shorthand classes. However, it is contended that the peculiarities of the student body did not significantly affect the outcome of this investigation because the groups were equated and the results measured were comparative ones.

After withdrawals, there were 10 of Group A remaining to be considered in the investigation for the fall, 1964. For that same fall, the Group B section was reduced to 15 which could be included in the study. In addition to withdrawals, 10 students were discovered to have had previous experience with shorthand, in spite of the care which was taken during the enrollment process to separate the true beginners

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[1] In and Out of College, Report I: The First Year (Oklahoma State Regents for Higher Education, Oklahoma City: State Capitol, 1964), p. 20.

[2] Ibid., pp. 20, 24. [3] Ibid., pp. 81, 89.

from those who were repeating. Those 10 could not, of course, be included in the investigation.

In the spring semester, 1965, Group A, after losses, included 14 students. There were an eventual 8 definitionally acceptable Group B students for that semester.

The fall, 1965, Group A usable enrollment was 19. For Group B, 25 could be utilized in the final testing.

When the three semesters were pulled together, then, there were 43 in Group A and 48 in Group B. Thus, a total of 91 cases were included in the combined portion of the investigation. However, in the measurement of group equivalency which ensues, the semester and combined totals will not always be the same as all of the totals just cited. In the case of the ACT scores, older and transfer students' records were either nonexistent or not available. An exhaustive attempt was made, though, to obtain records as extensive as possible. The appendix contains the raw data for all 91 subjects; and when a given piece of information is missing, such omission is clearly indicated.

Comparative Ages

Tests to determine whether differences in ages existed between Groups A and B were considered necessary because levels of maturity are important predictors of learning ability, and chronological ages are reasonable measures of maturity. The age at the nearest birthday at the beginning

of the semester in which shorthand was taken was recorded for each student. The ages were then classified and combined into frequency tables. From these tables there were developed the chi-square or Fisher exact probability computations for each of the three semesters and for the semesters combined.

Fall, 1964.--Table 1 is the frequency distribution for the ages of the Group A and Group B students at the beginning of the fall semester, 1964. The computed value of the Fisher exact probability for the ages is 0.3032. Therefore, because the computed value is greater than 0.05, there was no significant difference in the ages.

TABLE 1

CLASSIFICATION OF THE AGES OF GROUPS A AND B, FALL, 1964

Group	Ages 18-19	Ages 20 and Over	Total
A	6	4	10
B	8	7	15
Total	14	11	25

Fisher Exact Probability = 0.3032

Spring, 1965.--Table 2 shows the distribution of ages for Groups A and B for the spring semester, 1965, and a Fisher exact probability value of 0.2630. Therefore, the

hypothesis that the ages of Group A and Group B were equal cannot be rejected.

TABLE 2

CLASSIFICATION OF THE AGES OF GROUPS A AND B, SPRING, 1965

Group	Ages 18-19	Ages 20 and Over	Total
A	8	6	14
B	6	2	8
Total	14	8	22

Fisher Exact Probability = 0.2630

Fall, 1965.--The observed ages for the fall, 1965, are classified in Table 3. The chi-square value of 0.0158, based upon the data, indicates that there was no significant difference in the ages of Groups A and B.

Fall, 1964, spring, 1965, and fall, 1965, combined.--Table 4 establishes the observed distribution and the chi-square result based upon the ages for all of the A Groups combined and all of the B Groups combined. Since the computed 1.7998 is less than the tabular 7.82, the null hypothesis (that the ages of Group A are equal to the ages of Group B) cannot be rejected.

TABLE 3

CLASSIFICATION OF THE AGES OF GROUPS A AND B, FALL, 1965

Group	Ages 18-19	Ages 20 and Over	Total
A	11	8	19
B	14	11	25
Total	25	19	44

Chi-Square = 0.0158

TABLE 4

CLASSIFICATION OF THE AGES OF GROUPS A AND B, FALL, 1964, SPRING, 1965, FALL, 1965

Group	Age 18	Age 19	Age 20	Ages 21 and Over	Total
A	16	9	5	13	43
B	15	13	9	11	48
Total	31	22	14	24	91

Chi-Square = 1.7998

Comparative Grade Point Averages

The selection of the grade point average as a predictor of shorthand achievement was made because many classroom experiments have shown that the average is correlated

with the level of success in shorthand. For example, a recent report revealed that Casey and Heemstra had conducted a study and had concluded that the total grade point average showed promise as a predictor of shorthand success.[1] A conclusion reached as the result of another study completed by Heemstra was that, of the predictors examined, "the total grade average is a better predictor of shorthand success at the college level."[2]

The grade point averages employed in this study were those derived from collegiate records based upon a 4-point A, 3-point B, 2-point C, and 1-point D. The averages were computed from all collegiate work, including the grades for the semester in which beginning shorthand was part of the enrollment. The lack of constancy in the total number of grades included in the averages posed no problem because both groups included students with differing numbers of grades.

Fall, 1964.--In Table 5 are presented the data necessary to reveal a Fisher exact probability value of 0.2650. Since that value is greater than 0.05, no significant difference was found in the grade point averages of Groups A and B for the fall, 1964.

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[1]John P. Casey and Joyce Heemstra, "Development of Criteria for Screening Shorthand Enrollees," Business Education Forum, XIX, No. 4 (January, 1965), p. 25.

[2]Joyce J. Heemstra, "Shorthand Prognosis: Can We Be Sure?" Business Education Forum, XX, No. 5 (February, 1966), p. 21.

TABLE 5

CLASSIFICATION OF THE GRADE POINT AVERAGES OF GROUPS A AND B, FALL, 1964

Group	Below 2.0000	2.0000 and Above	Total
A	4	6	10
B	4	11	15
Total	8	17	25

Fisher Exact Probability = 0.2650

Spring, 1965.--When the grade point averages for the spring of 1965 were considered in a Fisher exact probability analysis, the determination was made that the hypothesis of equality could not be rejected. Table 6 leads to that determination because of the resultant value of 0.1494.

TABLE 6

CLASSIFICATION OF THE GRADE POINT AVERAGES OF GROUPS A AND B, SPRING, 1965

Group	Below 2.0000	2.0000 and Above	Total
A	3	11	14
B	4	4	8
Total	7	15	22

Fisher Exact Probability = 0.1494

Fall, 1965.--Much like the preceding two semesters, the fall, 1965, semester data revealed no real difference between the grade point averages of Group A and those of Group B. Table 7 presents the data from which chi-square equal to 1.3856 was derived.

TABLE 7

CLASSIFICATION OF THE GRADE POINT AVERAGES OF GROUPS A AND B, FALL, 1965

Group	Below 2.0000	2.0000 and Above	Total
A	11	8	19
B	10	15	25
Total	21	23	44

Chi-Square = 1.3856

Fall, 1964, spring, 1965, and fall, 1965, combined.--The 1.8037 value of chi-square, the data providing the basis for which are presented as Table 8, leads to the acceptance of the null hypothesis. Therefore, there was no significant difference in the grade point averages of Groups A and B when all semesters were combined. Only two divisions were employed even in the combined chi-square analysis because the break at the C (2.0000) average is such a logical one for classification.

TABLE 8

CLASSIFICATION OF THE GRADE POINT AVERAGES OF GROUPS A AND B, FALL, 1964, SPRING, 1965, FALL, 1965

Group	Below 2.0000	2.0000 and Above	Total
A	18	25	43
B	18	30	48
Total	36	55	91

Chi-Square = 1.8037

Comparative ACT Composite Scores

The decision to test the equivalency of Groups A and B on the basis of performance on the ACT tests was based upon the findings of some analysts of shorthand prognosis reported in the literature. For example, Whittle reported, as the result of a study, that the College Entrance Test, among other criteria, would be valuable in shorthand guidance at an institution of higher learning.[1] Danielson also reported that "there is a substantial relationship between achievement in shorthand dictation and general scholastic ability."[2]

Because the American College Testing program scores were available for most students enrolled in Groups A and B,

[1]Marie Whittle, "Do We Have Criteria for Predicting Shorthand Success?" Business Education Forum, XVI, No. 6 (March, 1962), p. 26.

[2]Harriet A. Danielson, "Shorthand Vocabulary's Relationship to Dictation Achievement," Business Education Forum, XV, No. 5 (February, 1961), p. 21.

those composite scores were selected as the measure of general scholastic ability upon which to base one aspect of the analysis of the equivalence of the groups. In verification of the applicability of the scores for the purposes of this study, the ACT program is cited to be designed to measure ". . . the ability of a student to perform those intellectual tasks he is likely to face in his college studies."[1]

Instead of using the standard ACT scores themselves, however, the percentiles based on national norms were selected. For the individual semesters, the percentiles were divided into two classes only, with the breaking point at the fiftieth percentile.

Fall, 1964.--When the ACT composite percentiles were subjected to a test of significance for the fall, 1964, semester, the hypothesis of equality was accepted. The verification for the acceptance is shown in a Fisher exact probability value of 0.2641, the outgrowth of the classification which comprises Table 9.

Spring, 1965.--A Fisher exact probability value of 0.1987 for the spring semester of 1965 is larger than the 0.05 specified. Therefore, Groups A and B were sufficiently equal in attainment on the ACT composite percentile rankings. See Table 10.

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[1] ACT--Using the ACT Scores on Your Campus (Iowa City, Iowa: American College Testing Program, Inc., 1962-63), p. 8.

TABLE 9

CLASSIFICATION OF THE ACT COMPOSITE NATIONAL NORM PERCENTILES OF GROUPS A AND B, FALL, 1964

Group	Below 50	50 and Above	Total
A	3	6	9
B	6	6	12
Total	9	12	21

Fisher Exact Probability = 0.2641

TABLE 10

CLASSIFICATION OF THE ACT COMPOSITE NATIONAL NORM PERCENTILES OF GROUPS A AND B, SPRING, 1965

Group	Below 50	50 and Above	Total
A	3	9	12
B	4	4	8
Total	7	13	20

Fisher Exact Probability = 0.1987

Fall, 1965.--No significant difference in ACT composite percentiles was ascertained when the chi-square analysis was imposed upon the records of Groups A and B for the fall, 1965, semester. The outcome of 0.2694 created by the data in Table 11 illustrates the preceding statement.

TABLE 11

CLASSIFICATION OF THE ACT COMPOSITE NATIONAL NORM PERCENTILES OF GROUPS A AND B, FALL, 1965

Group	Below 50	50 and Above	Total
A	8	10	18
B	8	14	22
Total	16	24	40

Chi-Square = 0.2694

Fall, 1964, spring, 1965, and fall, 1965, combined.--No significant difference in ACT composite percentiles between Group A and Group B was revealed. Table 12 led to a chi-square figure of 1.1706, an amount falling well within the acceptance region.

TABLE 12

CLASSIFICATION OF THE ACT COMPOSITE NATIONAL NORM PERCENTILES OF GROUPS A AND B, FALL, 1964, SPRING, 1965, FALL, 1965

Group	Below 40	40-59	60-79	80-99	Total
A	8	10	14	7	39
B	13	9	13	7	42
Total	21	19	27	14	81

Chi-Square = 1.1706

Comparative ACT English Score Percentiles

The final of the criteria used as evaluators of the equivalence of Groups A and B are the ACT percentiles derived from the scores on the English section of the test. Again, the selection was made because of business education literature recommendations of English aptitude as being correlated with achievement in shorthand.

For example, Cheney and Goodish reviewed shorthand diagnostic studies and concluded that the greatest efficiency of the various methods was awarded to English, spelling, and the general scholastic average derived from the Differential Aptitude Test Battery.[1] Selden, too, listed both English grades and the results of language or English aptitude standardized testing as important criteria for shorthand prognosis.[2] Finally, Anderson concluded from her analysis of research in shorthand and transcription that English ability measurement is listed as among the best measures yet selected to predict accomplishment in shorthand.[3]

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[1]Truman M. Cheney and Naomi Goodish, "Analysis--Between Certain Variables and Achievement in Beginning Shorthand," Journal of Business Education, XXXVIII, No. 8 (May, 1963), p. 318.

[2]William Selden, "Criteria for Selection of Stenographic Students," Journal of Business Education, XXXVII, No. 3 (December, 1961), p. 106.

[3]Ruth I. Anderson, "Research in Shorthand and Transcription," Part II, Journal of Business Education, XXIII, No. 6 (February, 1948), p. 20.

Fall, 1964.--For the semester in the fall of 1964, the classification culminated in a Fisher exact probability value of 0.3576. Therefore, Groups A and B were equal in English aptitude for all reasonable purposes of analysis. Refer to Table 13.

TABLE 13

CLASSIFICATION OF THE ACT ENGLISH NATIONAL NORM PERCENTILES OF GROUPS A AND B, FALL, 1964

Group	Below 50	50 and Above	Total
A	3	6	9
B	4	8	12
Total	7	14	21

Fisher Exact Probability = 0.3576

Spring, 1965.--The spring, 1965, Fisher exact probability calculation revealed no significant difference in the Groups A and B abilities in English as shown in the ACT percentiles. The outcome of 0.0978 was derived from the data in Table 14.

Fall, 1965.--In like manner, the fall, 1965, Groups A and B were found to be equivalent in English aptitude, as shown by the 0.3330 value of chi-square. Table 15 sets out the data.

TABLE 14

CLASSIFICATION OF THE ACT ENGLISH NATIONAL NORM PERCENTILES OF GROUPS A AND B, SPRING, 1965

Group	Below 50	50 and Above	Total
A	3	9	12
B	5	3	8
Total	8	12	20

Fisher Exact Probability = 0.0978

TABLE 15

CLASSIFICATION OF THE ACT ENGLISH NATIONAL NORM PERCENTILES OF GROUPS A AND B, FALL, 1965

Group	Below 50	50 and Above	Total
A	9	9	18
B	9	13	22
Total	18	22	40

Chi-Square = 0.3330

Fall, 1964, spring, 1965, and fall, 1965, combined.--When the data for the three semesters were pooled, the chi-square result showed that there was no significant difference between Group A and Group B abilities in English. The value

of 0.5485 was calculated from the distribution presented as Table 16.

TABLE 16

CLASSIFICATION OF THE ACT ENGLISH NATIONAL NORM PERCENTILES OF GROUPS A AND B, FALL, 1964, SPRING, 1965, FALL, 1965

Group	Below 40	40-59	60-79	80-99	Total
A	12	8	11	8	39
B	11	8	15	8	42
Total	23	16	26	16	81

Chi-Square = 0.5485

Summary

To the extent that the measures upon which the tests of equality were made were valid, and to the extent that the tests themselves were statistically sound, it appears that Groups A and B were equivalent for each of the semesters considered singly and for the combination of the three semesters. Therefore, not only were the groups established on a random-sampling basis (as reported earlier), but the groups were tested and found not significantly different in respect to ages, grade point averages, ACT composite percentile ranks, and ACT English percentile ranks. Within reasonable limits, then, it seems that if differences in performance had been

ascertained, those differences would be due to the variations in teaching procedure which were administered rather than to any differences inherent in the composition of the groups themselves.

CHAPTER V

FINDINGS

To test the null hypotheses that there are no significant differences in achievement in (1) theory, (2) familiar-material dictation, and (3) new-material dictation, chi-square and Fisher exact probability tests of significance were employed. As was done with the testing of group equivalence reviewed in the preceding chapter, analyses were made for the semesters singly and combined. Such was done in order to determine whether consistency of findings in four different tests of each of the hypotheses could be established. Such a consistency would tend to lead to the drawing of more firm conclusions.

Comparative Achievement in Theory

As described in an earlier section, accomplishment in shorthand theory was measured through chapter tests scored on a percentage-correct basis. There were nine chapter tests and eight brief form tests. For each student, the percentages attained on the tests were added according to a weight of two for the word list tests and weight of one for the brief form tests. The total was then divided by 26 to obtain

the weighted arithmetic mean of the percentages. (In a very few cases, given chapter tests were not taken or made up by a student. In those cases, the mean of the tests which were taken was struck.) All of the means were then classified according to the captions noted in the tables which portray the observed distributions.

Fall, 1964

Table 17 reveals the data from which grew the conclusion that there was no significant difference in attainment in the theory of shorthand between Groups A and B in the fall of 1964. The Fisher exact probability value of 0.3408 firmly attests to that conclusion.

TABLE 17

CLASSIFICATION OF THE MEANS OF PERCENTAGE SCORES OF THEORY TESTS OF GROUPS A AND B, FALL, 1964

Group	Below 80%	80% and Above	Total
A	3	7	10
B	4	11	15
Total	7	18	25

Fisher Exact Probability = 0.3408

Spring, 1965

Likewise, a computed Fisher exact probability value of 0.2191 derived in the spring, 1965, led to an acceptance of equal attainment for Groups A and B. Table 18 sets out the distribution.

TABLE 18

CLASSIFICATION OF THE MEANS OF PERCENTAGE SCORES OF THEORY TESTS OF GROUPS A AND B, SPRING, 1965

Group	Below 80%	80% and Above	Total
A	4	10	14
B	4	4	8
Total	8	14	22

Fisher Exact Probability = 0.2191

Fall, 1965

That fall, 1965, Groups A and B were not significantly different in accomplishment in theory of shorthand is established through the computation derived from Table 19. The 0.1513 value of chi-square must lead to an acceptance of the null hypothesis.

Fall, 1964, Spring, 1965, Fall, 1965, Combined

When the theory test score means for the three semesters were pooled, the findings for each of the three semesters

considered separately were verified. The chi-square value of 2.5374 called for an acceptance of the statement of equality for Groups A and B. Table 20 is the basis for reaching that conclusion.

TABLE 19

CLASSIFICATION OF THE MEANS OF PERCENTAGE SCORES OF THEORY TESTS OF GROUPS A AND B, FALL, 1965

Group	Below 80%	80% and Above	Total
A	8	11	19
B	12	13	25
Total	20	24	44

Chi-Square = 0.1513

TABLE 20

CLASSIFICATION OF THE MEANS OF PERCENTAGE SCORES OF THEORY TESTS OF GROUPS A AND B, FALL, 1964, SPRING, 1965, FALL, 1965

Group	Below 70%	70%-79%	80%-89%	90%-99%	Total
A	5	10	18	10	43
B	11	9	13	15	48
Total	16	19	31	25	91

Chi-Square = 2.5374

Comparative Achievement in Familiar-Material Dictation

As indicated when the design for the study was sketched, the final testing in familiar-material dictation took place after the completion of the first 54 lessons. Only speeds of 60, 70, 80, and 90 on three-minute takes were included in the analysis. The material for the dictation was taken from any of the practiced lessons in Volume I, and no preview was given. For the testing, each student's highest level of achievement (based upon the lowest of the three highest speed attainments) was recorded according to the classes indicated in the tables which present the data.

Fall, 1964

There was no difference in the familiar-material dictation achievement of Groups A and B in the fall of 1964. The value of the Fisher exact probability computed from the data in Table 21 equals 0.3215.

Spring, 1965

The difference obtained when the spring, 1965, groups were compared on ability to pass familiar-dictation tests was not significant. A Fisher exact probability equal to 0.2384 evolved from the analysis based upon the distribution presented as Table 22.

TABLE 21

CLASSIFICATION OF THE FAMILIAR-MATERIAL DICTATION TEST SPEEDS OF GROUPS A AND B, FALL, 1964

Group	60 or None	70, 80, and 90	Total
A	6	4	10
B	9	6	15
Total	15	10	25

Fisher Exact Probability = 0.3215

TABLE 22

CLASSIFICATION OF THE FAMILIAR-MATERIAL DICTATION TEST SPEEDS OF GROUPS A AND B, SPRING, 1965

Group	60 or None	70, 80, and 90	Total
A	8	6	14
B	3	5	8
Total	11	11	22

Fisher Exact Probability = 0.2384

Fall, 1965

A chi-square value of 1.2042 was computed from the data in Table 23. Therefore, no significant difference in familiar-material dictation attainment was discovered for the fall, 1965.

TABLE 23

CLASSIFICATION OF THE FAMILIAR-MATERIAL DICTATION TEST SPEEDS OF GROUPS A AND B, FALL, 1965

Group	60 or None	70, 80, and 90	Total
A	13	6	19
B	13	12	25
Total	26	18	44

Chi-Square = 1.2042

Fall, 1964, Spring, 1965, Fall, 1965, Combined

Table 24 presents the data leading to a chi-square value of 2.8006. Thus, for the combined semesters there was no significant difference between Group A and Group B in attainment as measured by the ability to take familiar-matter dictation.

Comparative Achievement in New-Material Dictation

The final testing based on new-material dictation was described in the preceding chapter. For purposes of the investigation, no speed less than 50 (for three minutes) was counted. The highest speed attained was 80. Just as in the preceding section, the speed classified for each student was the lowest of the top three speeds which he was able to transcribe with 95 per cent accuracy.

TABLE 24

CLASSIFICATION OF THE FAMILIAR-MATERIAL DICTATION TEST SPEEDS OF GROUPS A AND B, FALL, 1964, SPRING, 1965, FALL, 1965

Group	None	60	70	80 and 90	Total
A	22	5	9	7	43
B	18	7	9	14	48
Total	40	12	18	21	91

Chi-Square = 2.8006

Fall, 1964

With a Fisher exact probability value of 0.2650 derived from the computations based upon new-material dictation achievements for Groups A and B for the fall, 1964, semester, the groups must be considered statistically equal in attainment. Table 25 presents the data which led to that conclusion.

Spring, 1965

The Fisher exact probability result for the spring of 1965 was even greater--0.3250. Therefore, it must be concluded that there was no significant difference in the accomplishment of Groups A and B, measured in the light of new-matter dictation. (See Table 26.)

TABLE 25

CLASSIFICATION OF THE NEW-MATERIAL DICTATION TEST SPEEDS OF GROUPS A AND B, FALL, 1964

Group	50 or None	60, 70, and 80	Total
A	6	4	10
B	11	4	15
Total	17	8	25

Fisher Exact Probability = 0.2650

TABLE 26

CLASSIFICATION OF THE NEW-MATERIAL DICTATION TEST SPEEDS OF GROUPS A AND B, SPRING, 1965

Group	50 or None	60, 70, and 80	Total
A	8	6	14
B	4	4	8
Total	12	10	22

Fisher Exact Probability = 0.3250

Fall, 1965

Although the outcome was not as resounding as in the fall, 1964, and spring, 1965, semesters, the fall, 1965, semester nonetheless was found to be comprised of groups statistically equal in ability to take and transcribe new-matter

dictation. Table 27 led to a Fisher exact probability of 0.0939, a value greater than the cutting point specified.

TABLE 27

CLASSIFICATION OF THE NEW-MATERIAL DICTATION TEST SPEEDS OF GROUPS A AND B, FALL, 1965

Group	50 or None	60, 70, and 80	Total
A	16	3	19
B	16	9	25
Total	32	12	44

Fisher Exact Probability = 0.0939

Fall, 1964, Spring, 1965, Fall, 1965, Combined

From Table 28 was computed chi-square equal to 0.7809. Therefore, the combined data also led to a decision that Groups A and B were not unequal in new-matter dictation attainment.

Summary

When significantly equal-ability groups (labeled A and B) of first-semester, collegiate Gregg shorthand students received instruction identical in every respect except for the replacement of familiar-material dictation practice with new-material dictation practice for Group A:

TABLE 28

CLASSIFICATION OF THE NEW-MATERIAL DICTATION TEST SPEEDS OF GROUPS A AND B, FALL, 1964, SPRING, 1965, FALL, 1965

Group	None	50	60	70 and 80	Total
A	18	12	4	9	43
B	17	14	7	10	48
Total	35	26	11	19	91

Chi-Square = 0.7809

1. Groups A and B were not significantly different in their performances on tests of shorthand theory.
2. Groups A and B were not significantly different in their performances on tests of familiar-material dictation.
3. Groups A and B were not significantly different in their performances on tests of new-material dictation.

Stated positively, the procedures associated with both the early introduction and the delay of new-material dictation proved to be equally effective in bringing about achievement in theory, familiar-material dictation, and new-material dictation.

CHAPTER VI

SUMMARY AND CONCLUSION

A shorthand methodological decision which has consistently led to debate revolves around the proper time to introduce new-material dictation. Contemporarily, the weight of opinion and of practice accepts the delay of new-matter dictation until the theory of shorthand has been completed as the most desirable procedure.

Proponents of delay, for the most part, adhere to the recommendation and supporting arguments expounded by Leslie. Those who urge the early introduction of new matter are not so solidified in their reasons for doing so, but are increasingly expressive of their contentions.

Although the new material dictation issue has been of long duration and of varying degrees of intensity, there has been a lack of psychology- and research-based data upon which to found a conclusion. Because of the concern that a contribution be made to a fund of such data, this study was undertaken.

Restatement of the Problem

The problem of this study was to determine whether new-material dictation should be introduced early or delayed until the theory of shorthand has been completed.

The procedural attack upon the problem was divided into three basic steps. First, selected learning theories were interpreted to discern what the psychology-based recommendations concerning the new-matter dictation issue appear to be. Those interpretations were presented in Chapter II. Second, a review of business education literature was made to determine the historical sequence and the extent and relative weights of each of the recommendations. The review comprises Chapter III. Third, a classroom investigation was designed and implemented to test the respective merits of the contentions (as reported in Chapter IV), and findings were drawn (as summarized in Chapter V). The null hypotheses posed in connection with the classroom investigation were:

1. There is no significant difference in the mastery of theory in beginning shorthand when new-material dictation has been delayed until theory has been completed and when new-material dictation has been initiated before theory has been completed.

2. There is no significant difference in familiar-material dictation attainment in beginning shorthand when new-material dictation has been delayed until theory has been completed and when new-material dictation has been initiated before theory has been completed.

3. There is no significant difference in new-material dictation attainment in beginning shorthand when new-material dictation has been delayed

until theory has been completed and when new-material dictation has been initiated before theory has been completed.

Psychological Theories of Learning Applied to the Issue

Historical Background

From the analysis of the writings of the historical forerunners of contemporary learning theorists was drawn the James-Bain maxim which was adopted by Leslie as the basis of his delay argument. That maxim urges that no exception should be allowed to occur until the skill is firmly implanted. In addition, Spencer and James developed the concept of the kinesthetic memory and chaining which was picked up contemporarily to defend the early introduction of new-matter dictation.

Reviews of historical passages concerning motivation (involving drives, needs, interests, and will) led to the interpretation of a recommendation for delay. However, the historical treatments of transfer (faculty psychology and mental discipline, storage in the apperceptive mass, and the necessity for the similarity of elements) led to an interpretation calling for early unfamiliar dictation. Thus, the conflict between motivational and transfer-kinesthesis recommendations concerning the issue was discerned in even the historical analysis.

Stimulus-Response Associationism

From the review of the contemporary stimulus-response associationism theories was derived a description of shorthand learning as proceeding because of the temporally contiguous arrangements of sight/sound cues with internal (kinesthetic) and reading/writing responses. Guthrie's treatment of kinesthesis led to a firm interpretation that new material should be introduced early.

The motivation elements of the theories of Thorndike, Hull, and Skinner created a basis from which an extrapolation favoring delay was drawn. In contrast, the inferences from transfer theories of the associationists were consistently pointed toward early new-material dictation. The opposition of motivation and transfer-kinesthesis recommendations was again evident.

Gestalt-Field-Cognitive Psychology

An application of contemporary Gestalt-field-cognitive psychology indicated that, for shorthand, learning should be organized by wholes or properly oriented sub-wholes and tied to the insight gained through an understanding of shorthand theory principles. Kinesthesis was accepted, or at least not denied, by the Gestaltists, Lewin, and Tolman as only one of the many components which make up the total field or space of the learner. So that sub-whole development might be aided by kinesthesis to move toward closure (the final shorthand

skill), the recommendation appears, interpretively, to be the early introduction of new-material dictation.

Motivationally, the Gestalt-field-cognitive psychologists created a base calling for careful goal-setting, from which was drawn the inference that new matter should not be introduced so early as to create a goal detrimentally high. Transfer elements based upon dynamic organization, generalization, perceptual similarities, and trace systems led to a consistent interpretation that early new-matter dictation would be proper. Thus, the final of the three learning-theory attacks upon the issue of this study provided no resolution--motivational and transfer-kinesthesis recommendations were in conflict.

Business Educators' Views Concerning the Issue

The discernment of the pulse of the business education writers concerning the issue was made possible by a search through selected books on shorthand methodology, handbooks designed to accompany shorthand textbooks, and an extensive sample drawn from issues of selected business education periodicals. The chronology of the debate thus determined appeared to form the following sequence: From 1888 through 1893, there was no apparent issue. From 1916 to 1929, the delay of all dictation until theory had been completed seems to have been the favored procedure. From 1929 to 1949, the greatest debate concerning the issue occurred.

However, the final balance growing out of that debate leaned toward the delay of new matter. From 1949 to the present, the balance in favor of delay has continued, but there has been an upsurge of dissension and a revived defense of the early introduction of new-matter dictation.

Advocacy of the Delay of New-Material Dictation

Of the twenty-two books found with recommendations concerning the issue, fourteen contained the recommendation for delay. Thirty-six of the eighty-six article recommendations which were found urged delay. The recommendations for delay were based upon the admonitions that learning should proceed from the simple to the complex and from the unfamiliar to the familiar, that the final performance conditions should not be approximated too soon, that learners should taste success instead of disappointment and mental tension, that the ability to construct new outlines is best developed through the automatization of a basic vocabulary, that Gregg textbooks themselves contain enough new matter, that no excaptions should be allowed until the skill has been firmly implanted, that familiar-matter dictation is a proper sub-whole approach to contribute to speed building, and that authorities make such a recommendation.

Advocacy of the Early Introduction of New-Material Dictation

Eight books and fifty articles favored the early introduction of new-matter dictation. For those who urged early introduction, the bases for the contention included the following: the need to save time; the desire to establish the kinesthetic movements necessary for writing new outlines; the motivational stimulus that comes from mild anxiety and from approximating the final performance situation; the importance of learning by wholes; the need for the creation of transfer potential; the laws of readiness, frequency, and recency; apperception; the language-arts approach; and parts learning through reasoning and understanding.

Design of the Classroom Investigation

For each of three collegiate semesters, two sections for beginning shorthand students were offered at prime morning hours, with the writer as the teacher for both sections. Thus, simple random selection was expected to create the essential equivalence of capability necessary to conduct an investigation into the effect upon achievement of the early introduction and the delay of new-material dictation.

For each of the semesters, teaching procedures for the two sections were identical, with the exception of the introduction of new-matter dictation during the fifth week of the semester for one group. The training in the ability to take new material was designed to progress from a very brief

introduction to the utilization of about half of the class period for practice by the end of the presentation of the theory chapters.

Equivalent theory tests covering each of the nine Simplified edition theory chapters were administered to both groups at appropriate intervals. During the final weeks of each semester, identical three-minute familiar- and new-matter dictation tests were administered to both groups. The dictation tests were scored on a 95 per cent accuracy basis, and each student was required to pass three tests at a given speed or higher in order to establish that speed.

Composition of the Groups

After the data were collected, chi-square and Fisher exact probability tests of significance were employed to determine whether the groups for each of the semesters and for the three semesters combined were indeed possessed of the essential equivalence intended of establishment by the random-selection process described earlier. The characteristics deemed the best for such an analysis were ages, grade point averages, ACT composite national norm percentiles, and ACT English national norm percentiles. For each semester and the combined semesters, no significant difference between the groups was found for any of the four characteristics. Essential equivalency was thus deemed to be satisfactorily established.

Findings

Each of the three semesters and the combined semesters were submitted to chi-square and Fisher exact probability testing of significance for each of three tests administered to the groups--tests over theory, familiar-material dictation, and new-material dictation. In no test was there found a significant difference in achievement for the two groups. Thus, neither the early introduction nor the delay of new-material dictation differentially affected achievement in theory, familiar-material writing and transcription, and new-material writing and transcription.

Expanded interpretations can be drawn from the classroom investigation findings. First, additional practice on familiar-material dictation for one group did not lead to a familiar-material dictation performance superior to that for another group receiving less of such practice. Neither did the new-material practice given to the one group and not to the other lead to a comparative superiority of new-material dictation performance for the group receiving the practice.

No damaging motivational effect was discerned for the group receiving early new-matter dictation although that early introduction appears to run counter to some psychological pronouncements concerning motivation. No measurable transfer superiority was evident for the group receiving early unfamiliar-material dictation although such a procedure

appears to be psychologically sound according to recommendations for preparation for optimum transfer.

No advantage for either the S-R associationism or Gestalt-field-cognitive psychological schools could be ascertained. Such was so because no significant differences in performance for the two groups were found, and, more importantly, because interpreted recommendations concerning new-matter dictation did not recognize the lines of definitional demarcation between the learning-theory schools.

Finally, all of the findings would appear to be as applicable for other collegiate institutions as for Central State College, as applicable to high schools as to colleges, and as applicable to the Jubilee as to the Simplified editions of Gregg shorthand.

Conclusion

The evidence of this study indicates that there is no real psychological, business education literature, or applied classroom investigation base upon which to build a recommendation for either the early introduction or delay of new-matter dictation. Thus, the conclusion must be drawn that each teacher of Gregg shorthand should be aware of the merits of the arguments surrounding the issue and select and apply in optimum fashion those procedures which prove pragmatically best for him.

To substantiate the foregoing conclusion, a review of the reasons for the lack of ascertainable resolve found in each of the three areas of analysis is made. First, although there appears to be slightly more of the early-introduction recommendation in the Gestalt-field-cognitive psychology than in S-R associationism, there was no real evidence that the contentions for delay and early introduction recognize psychological learning-theory school boundaries.

Instead, the differentiation of recommendations is more strikingly drawn between motivation and transfer-kinesthesis as those learning elements are interpreted without regard to learning-theory school or theorist. The analysis of the psychology of motivation led to the interpretation that new-matter dictation should be delayed until theory has been completed. In opposition, the analysis of the psychology of transfer-kinesthesis led to the interpretation that new-matter dictation should be introduced very early.

Thus, there seems to be possible no absolute reconciliation of the conflicting psychological interpretations. Rather, the application of psychological theories of learning to the issue surrounding unfamiliar-matter dictation would call for the striking of a proper balance between optimum motivation and optimum transfer-kinesthesis--the introduction of new matter as early as possible (to facilitate transfer-kinesthesis), but an introduction so very skillful, gradual, and careful that motivation is kept high.

Taken as a whole, the views of the new-matter dictation debate expressed in business education literature have leaned toward favoring delayed introduction. However, there have been opposing arguments so sufficiently well defended and extensive as to preclude the construction of an unquestioned conclusion representing the business education stand concerning the issue. The relative lack of foundational evidence to back the contentions of either the advocates of delay or the advocates of early introduction also made a resolution of conflicting recommendations difficult.

In an echoing verification of the lack of resolve found from the analysis of psychological theories of learning and the review of business education literature, the early classroom introduction of new-material dictation had no discernible effect upon beginning shorthand achievement when that achievement was compared to that of a group receiving no new-material dictation practice. Accomplishment in theory, new-matter dictation, and familiar-matter dictation was equivalent for the groups whether they were given early new-matter dictation or the added practice in familiar-matter dictation made possible by the lack of new-material dictation. Because no resolution was found as a result of the three attacks upon the issue made in this study, a major concern developed in the mind of the writer.

Major Concern

The historical shorthand methodological debate surrounding the issue of the proper time to introduce unfamiliar-matter dictation may well be "much ado about nothing" or at least "much ado" about an issue calling forth opposing, yet validly equivalent and counterbalancing psychological and applied arguments. On the other hand, the debate may be concerned with a real problem, but one which has not been properly identified.

What has been called a problem concerned with the introduction of new-matter dictation could possibly prove to be subordinate to the problem of when to introduce dictation written from the stimulus of sound alone. However, it would appear that a study of the issue of whether to dictate with books open or closed would probably lead to findings, in all three areas of analysis, very similar to those found for the new-matter dictation analysis made in this paper.

Therefore, perhaps shorthand methodologists and teachers should shift their energies from the new-material dictation debate to other, more productive aspects of the shorthand learning process.

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APPENDIX

DATA FOR CLASSROOM INVESTIGATION

FALL, 1964

Student No.	Age	Grade Point Average	ACT Composite %ile	ACT English %ile	Theory %	Familiar Matter Speed	New Matter Speed
			Group A				
1	20	2.5938	75	91	85	70	60
2	19	2.0952	46	22	79	0	50
3	18	1.5652	52	54	74	0	0
4	19	1.8250	41	38	89	0	50
5	21	2.9375	68	66	90	90	80
6	18	2.4595	86	72	88	70	60
7	25	2.3846	--	--	86	60	50
8	18	1.9600	52	60	85	70	70
9	21	2.2941	32	32	84	60	50
10	18	1.3125	82	77	79	0	0
			Group B				
11	20	1.9048	57	65	95	70	60
12	19	2.2368	24	26	72	0	0
13	20	1.6957	--	--	86	0	50
14	21	2.3301	20	93	84	80	50
15	18	2.5682	24	38	83	60	0
16	19	2.4762	28	52	89	70	50
17	18	2.6750	52	77	94	90	70
18	20	2.4533	73	60	65	0	0
19	19	1.6154	42	72	79	0	50
20	18	2.5152	78	87	89	60	50
21	25	2.7843	--	--	93	80	50
22	19	2.6119	73	77	88	0	60
23	20	1.6481	22	44	72	0	0
24	18	2.3913	63	46	87	80	70
25	23	2.4130	--	--	86	60	0

DATA FOR CLASSROOM INVESTIGATION

SPRING, 1965

Student No.	Age	Grade Point Average	ACT Composite %ile	ACT English %ile	Theory %	Familiar Matter Speed	New Matter Speed
			Group A				
26	18	2.2821	63	82	85	60	0
27	19	2.5676	73	82	92	80	70
28	20	2.3333	57	59	72	0	50
29	18	2.2258	63	72	68	0	0
30	18	3.9118	98	96	98	90	80
31	18	3.4894	78	72	91	80	70
32	18	2.2286	41	46	94	0	70
33	35	2.2899	--	--	81	70	0
34	20	1.7273	46	26	72	0	50
35	19	1.7273	42	29	81	0	0
36	27	2.8300	--	--	94	70	50
37	22	1.9444	92	91	75	0	50
38	18	2.4167	82	82	85	90	80
39	20	2.8667	86	93	89	0	60
			Group B				
40	18	1.3793	35	46	47	0	50
41	18	1.5625	24	46	67	70	50
42	18	1.6905	63	87	85	90	80
43	20	2.5474	62	40	74	0	0
44	19	2.9167	32	40	93	90	70
45	19	3.3571	92	96	87	90	80
46	19	1.0476	78	72	73	60	50
47	25	3.0000	4	38	97	80	70

DATA FOR CLASSROOM INVESTIGATION

FALL, 1965

Student No.	Age	Grade Point Average	ACT Composite %ile	ACT English %ile	Theory %	Familiar Matter Speed	New Matter Speed
			Group A				
48	19	1.4545	68	77	74	0	0
49	18	2.0000	13	17	91	80	70
50	19	1.6750	46	54	81	70	0
51	22	1.6154	68	60	82	0	0
52	44	2.0000	78	54	77	0	0
53	21	2.1351	28	23	78	70	50
54	19	0.7273	24	46	79	60	0
55	20	3.9000	92	98	98	80	70
56	19	3.0233	63	72	85	60	50
57	18	1.6429	35	54	81	0	50
58	23	1.3333	63	66	56	0	0
59	19	1.2308	63	60	90	0	0
60	18	2.1875	63	38	71	0	0
61	21	1.0000	13	26	62	0	0
62	18	0.7857	68	46	43	0	0
63	18	1.5385	52	38	86	0	0
64	27	0.6364	13	22	85	0	0
65	18	2.0714	24	32	86	70	60
66	29	3.2400	--	--	89	70	50
			Group B				
67	37	2.3253	--	--	89	60	0
68	19	2.5652	68	38	92	70	60
69	18	1.7857	73	66	90	80	0
70	20	2.4776	80	72	93	90	60
71	18	1.0000	41	26	31	0	0
72	18	0.9091	35	17	53	0	0
73	21	0.9048	46	60	68	0	0
74	21	3.0263	75	78	95	60	60
75	18	0.9091	52	60	65	0	0
76	19	2.2500	82	60	76	0	60
77	19	1.3056	13	10	62	0	0
78	26	2.7321	--	--	79	70	50

FALL, 1965--Continued

Student No.	Age	Grade Point Average	ACT Composite %ile	ACT English %ile	Theory %	Familiar Matter Speed	New Matter Speed
79	19	2.0000	58	38	86	70	50
80	22	4.0000	82	72	97	80	80
81	18	2.3158	68	82	94	70	50
82	43	2.8571	46	32	96	90	80
83	20	2.7143	89	93	94	60	50
84	18	1.2727	18	10	57	0	0
85	21	2.4932	46	46	96	90	70
86	20	2.6226	92	72	79	70	70
87	18	3.0000	92	89	96	70	50
88	19	1.0000	13	17	49	0	0
89	20	1.8614	--	--	78	0	0
90	19	1.0000	73	72	3	0	0
91	18	2.2500	63	87	89	80	60