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A NEW ROLE FOR LINGUISTIC PHILOSOPHY IN EDUCATION
WITH AN APPLICATION TO THE FIELD OF
LEARNING DISABILITY

by

Robert John Clinkert

A Dissertation Submitted to the Faculty of the Graduate School
of Loyola University of Chicago in Partial Fulfillment
of the Requirements for the Degree of
Doctor of Philosophy

May

1977

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The author was introduced to empiricism by Professor Arnold Levison at Chicago Circle. It was also at Chicago Circle that the author first became acquainted with ordinary language analysis especially in Professor Irving Thalberg's lectures in philosophical psychology and philosophy of mind.

While studying the philosophical implications of the theory of relativity and foundations of mathematics under Professor Henry Mehlberg at the University of Florida, the author came under the influence of logical positivism. It was also at the University of Florida that the author had the opportunity to study philosophy of mind under Charles Morris who introduced the author to semiotic and the pragmatism of Mead.

During his years at the University of Florida, the author met the positivist Wittgenstein of the Tractatus and the ordinary language analyst Wittgenstein of the Investigations. It was at Loyola, however, that the author was introduced to a new Wittgenstein under the guidance of Professor Maziarz. It was also at Loyola that the author was given a new view of American pragmatism by Professor Robert Barry.

To Bob, Jack, and Jane that they may
better know the two godheads; and to
Eleanor who I never knew.

VITA

The author, Robert John Clinkert, is the son of William Louis Clinkert and Veronica (Sokolik) Clinkert. He was born on January 16, 1942 in Chicago. He presently resides in Glen Ellyn, Illinois with his wife, Delores, and his three children: Robert, Jack, and Jane.

His elementary education was obtained in Chicago and he received his secondary education from Fenwick High School in Oak Park, Illinois where he was graduated in June, 1960.

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He taught mathematics and physics for three years at the high school level in Seminole County, Florida. Afterwards, he taught mathematics and philosophy of science for a year at the College of Orlando

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In July, 1976 he was awarded a financial grant under Title IVc of the Elementary and Secondary Education Act to establish a program of early identification and intervention of learning handicaps for his school district.

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In the beginning was the word . . .
The Holy Bible

CHAPTER I

THE ROLE OF LINGUISTIC PHILOSOPHY IN EDUCATION

Introduction

A new role of philosophy in education is to guide a reconstruction of the history of philosophy as well as a reconstruction of all of the educational disciplines on the basis of "the linguistic turn" which can be described as: the ontological attitude that only language exists.

Taking "the linguistic turn" suggests a new criterion of meaning which displaces the empiricist criterion of meaning. Among the results of adopting this new linguistic attitude are: a new definition of 'man'; a new distinction between science and the humanities; and a reinterpretation of the value and meaning of metaphysics, theology, and religion.

A paradigm application of "the linguistic turn" in the foundations of education can be shown by an analysis of the field of special education and of learning disability in particular.

The role of philosophy in education, apart from history of philosophy, has been the application of the "philosophical method" or "philosophical attitude." This attitude consists in questioning implicit assumptions and in using language in a specifiably cautious manner.

Some of the assumptions which might be questioned, for example, are value assertions such as 'X is a valuable topic to include in the curriculum'. What is in question here, is the meaning of the term 'educationally valuable'. The recent humanist-materialist debate in curriculum construction is evidence of the different meanings that can be attached to this term.¹

The philosophical method further requires that we be forever circumspect in our use of language. Typical imperatives in this regard are: define terms unambiguously and avoid the logical fallacies.

One of the legacies of philosophy to education and to human endeavor in general, can aptly be called "metaphysical semantics." Metaphysical semantics is a way of extracting new meaning from language by taking a new ontological perspective. The concept of metaphysical semantics blurs the classical distinction between epistemology and ontology. Epistemology is thereby regarded as the study of the meaning of language, and ontology is regarded as the description of designata in their relationship to signs.

A Reinterpretation of Philosophy and the History of Philosophy

A brief review of the history of philosophy from this new vantage point demonstrates how the great philosophical systems can be reinterpreted as disguised attempts to posit metaphysical-semantical theories, that is, as disguised recommendations to revise the use of language.

¹Herbert Feigl, "The Scientific Outlook: Naturalism and Humanism," in Readings in the Philosophy of Science, eds. Herbert Feigl and May Brodbeck (New York: Appleton-Century-Crofts, 1953), pp. 8-18.

Plato's eternal forms, for example, provided man with a new, but misleading, picture of the relationship between language and reality. Here the term 'reality' is to be defined from the perspective of metaphysical semantics as 'that which language designates'. Plato's recommended revision of language was that terms be treated as though they had an essential meaning.

Aristotle's categories strengthened the belief that we can eventually arrive at the "real" definition of terms, if we correctly apply the classification procedure of genus and differentia.

The British Empiricists argued that our language is meaningful only insofar as our terms are based on sensation experiences. Hume's dictum to burn all in our libraries not based on this criterion of meaning stands as testimony to the linguistic character of British Empiricism.

During contemporary times, three new language oriented, philosophical outlooks are being assimilated into education: Logical Positivism, American Pragmatism, and Ordinary Language Analysis.

Logical Positivism has renewed interest in the structure of language. Its most perceptible influence on education has been in mathematics and in science. Mathematics is now regarded as an abstract language based on logic. The use of the empiricist criterion of meaning in science has, at last, turned the course of science from the path of Aristotelian essentialism to the productive path of verificationism.

American Pragmatism has replaced the European monarchical, classroom attitude of privileged access to knowledge with a democratic view which elevates the ontology of ordinary society to the highest level of philosophical acceptability. The contribution of pragmatism to philosophy has been its analysis of language as a social phenomenon which is based on a communitarian ontology.¹

Ordinary Language Analysis is the most recent entry into education, but it has appeared almost exclusively at the theoretical level, in philosophical studies of education. Contemporary ordinary language analysts, such as Hirst and Peters, are attempting to redefine such terms as 'education' by analyzing the ordinary language used to describe the acts of teaching and learning. The result of such redefinition is to restrict the use of educational terminology to conform with ordinary use.

It is thus possible to reconstruct the history of philosophy, from antiquity to contemporary times, in such a way that, given any philosophical system whatever, it can be reinterpreted to be a proposal to reform the use of language. According to this linguistic perspective: ethics concerns the meaning of 'good'; aesthetics concerns the meaning of 'beauty'; epistemology concerns the meaning of 'meaning'; logic is concerned with linguistic transformations; philosophy of science deals with the clarification of the various object languages used in science

¹Professor Robert Barry, Philosophical Lectures in American Pragmatism, Loyola University of Chicago, Fall Semester, 1975.

and the logico-empirical rules of inference used by scientists; and metaphysics is the attempt to characterize the range of referents which language can designate. Philosophy, therefore, is (and always has been) about language.

According to the view of metaphysical semantics, we can stipulatively define the three contemporary philosophical systems as follows: pragmatism is the study of the bio-social basis of language, logical positivism is the study of language verification, and ordinary language analysis is the study of language criteriology.

The Linguistic Turn

It should be noted that throughout this study all propositions about language can be extended beyond verbal language to nonverbal language. This extension has been called "semiotics" which is the study of sign process. Nonverbal languages would include the gestural languages used by animals and the symbolic language exhibited in the honeybee dance. The blind, deaf mute thus acquires a haptically based language of signs.

In order for educators to effectively use linguistic philosophy, they must accept a linguistically based reconstruction of the history of philosophy. The value of this acceptance does not lie in its historical character, however, but in the new perspective suggested by the reinterpretation. This new vantage point will induce the habit of viewing all problems and educational disciplines as having an important linguistic component. The educator must, at times, behave as though only language exists. Accepting this perspective is to take "the linguistic turn."

What follows are numerous examples of making explicit those aspects of educational disciplines which are linguistically based.

Science

(a) Materialism in science consists in the scientist adopting the material idiom while he is in the laboratory. He adopts the "thing language" as his linguistic framework because that particular mode of speaking has been most successful in prediction and postdiction. We must not take the scientist's use of the physicalist language as evidence that he necessarily embraces materialism as an ontology, but rather that he has decided to employ a way of speaking that is pragmatically useful.

(b) The theory of relativity can be regarded as an attempt to redefine 'simultaneity' and 'congruence' in such a way that our ordinary definition of causality continues to apply as a description of events in noninertial frames of reference.

(c) Assertions about theoretical entities such as forces, anti-neutrinos, specific gravity, and solubility can be translated into observational predicates which refer to meter readings and so on.

(d) In biology, statements about genes can be taken as shorthand expressions for probability statements about the likelihood of an offspring exhibiting a trait.

Mathematics

(a) Mathematics can be regarded as an instrument for making

explicit those aspects of empirical theories which are implicit in the premises. Mathematics is thus an auxiliary calculus which assists us in making linguistic transformations within our empirical theories.

(b) The "language" of mathematics (for example, field equations) is useful in describing empirical phenomena because mathematical and empirical constructions exhibit many of the criteria of thinghood such as conservation and continuity.

(c) Mathematics can also be viewed as a formal syntactical system that is composed of empty tautologies which are uninterpreted (meaning free). Mathematics is thereby regarded as a set of transformative rules of inference governing the conventions we use to replace one string of symbols with another.

Psychology

(a) Classical disputes in psychology need not be regarded as being about matters of fact, but can be considered to be disguised disagreements about alternative descriptions of matters of fact. For example, instead of arguing that there is no such thing as the subconscious, the disputant should stipulate, "We do not wish to use the phrase 'subconscious thought' but prefer to reserve the word 'thought' for what Freud called 'conscious thought'."

(b) Philosophical psychology has revealed that statements about psychological states are tangles of linguistic confusions and that psychological claims about emotions can be clarified by ordinary language

analysis. Typically, for example, psychologists reduce the statement 'He is angry' to 'He is engaging in characteristic behavior' or 'He now has a tendency to behave in characteristic behavior' or 'He is undergoing characteristic physiological processes'. The choice of reduction will vary depending on the school of psychology making the analysis.

In any case, however, analyzing 'characteristic' is problematic because criteria for emotional states overlap and are not uniform. For example, one may fidget nervously and have hot flashes, not only when one is angry, but also when one wears woolen underclothes. Furthermore, anger may bring about pacing and feverishness in one person, but immobility and cold shivers in another.

Austin illuminated one of the difficulties in a behavioristic definition of psychological states by using the example of 'anger'. In his "Pretending" he concluded:

I think it must on reflection be agreed that in whichever of the ways a man behaves it is open to us to say either 'He is angry' or 'He is only pretending to be angry', and that either statement can be in fact true, depending on the (other) circumstances of the case at least in addition to these features . . .¹

If emotion is a feeling identifiable with physiological sensations, a subject could undergo an emotion only while he was undergoing sensations. For example, if John enjoys his chess game, we assume he is enjoying the entire game, not just those parts during which he is experiencing jolts of pleasure. Ryle saw that this claim entails an

¹J. L. Austin, "Pretending," in Essays in Philosophical Psychology, ed. Donald F. Gustafson (New York: Doubleday & Co., 1964), p. 101.

infinite regress because we could ask of each pleasure sensation, "Was it pleasant?" He pointed out that to answer that it was pleasant would lead to a redundancy or worse: the same question could in turn be asked about this feeling, and so on ad infinitum.¹

Moreover, if an emotion is a set of sensations then the strength of an emotion would be the same as the strength of the sensations involved. The most extreme emotions would be composed of violent sensations which could distract us to the point of interfering with our activities. On the contrary, extreme emotions frequently increase the efficiency of the subject in his activities. Would a pianist's great pleasure in playing his favorite concerto, for example, ever interfere with his playing as a toothache might? Bedford maintained that emotion words such as 'anger' are not the names of sets of sensations. He insisted, for example, that angry men feel no specific anger feelings as such, nor do we need to experience any feelings at all in order to be angry.²

These examples illustrate that behavioral descriptions and physiological descriptions of psychological states are amenable to linguistic analysis.

¹Gilbert Ryle, "Pleasure," in Essays in Philosophical Psychology, ed. Donald F. Gustafson (New York: Doubleday & Co., 1964), p. 196.

²Errol Bedford, "Emotions," in Essays in Philosophical Psychology, ed. Donald F. Gustafson (New York: Doubleday & Co., 1964), pp. 79-80.

Humanities

(a) One of the characteristics which uniquely distinguishes the humanities from science is language use. The language of science is denotative; that is, free of any dependence on figurative language. In scientific assertion, synonymous substitution does not affect meaning. This is not the case in poetry, for example. Merely substituting synonyms for words in a poem will not reproduce the original meaning of the poem.

(b) Unlike science, the humanities provide a direct vehicle for self-expression; that is, the idiom of the humanities allows the assertion of one's personality in the medium of his production.

(c) Metaphor is the omnipresent principle of the humanities. Without the metaphoric use of language, it would be impossible for man to express the ideas that matter most to him.

Religion

Antony Flew and others have argued that religious assertions such as 'God exists' and 'There is life after death' are meaningless because such statements are unverifiable. According to this criticism, the meaning of a statement consists in the ways in which the statement is verified. For example, the meaning of 'This table is five feet long' can be found in the operations used in determining whether the statement is true or false.

Flew challenged anyone to describe the test conditions by which

religious statements could be verified (confirmed) or falsified (disconfirmed).¹

In answer to Flew's challenge, it can be shown that some religious statements are verifiable, that is, descriptions of test conditions can be generated which would confirm or falsify some religious assertions.²

Consider the statement ' (name) is God'. A substitution instance might be 'Jones is God', or 'Aton is God', or 'Jesus is God'. What test conditions would confirm or disconfirm the assertion 'Jones is God'? An example verification-reduction set could be:

- a. J. performs benevolent acts.
- b. J. does not perform malevolent acts.
- c. J. asserts that he is God.
- d. J. performs amazing feats such as waking up corpses, feeding multitudes of hungry people with a small quantity of food, curing blindness, walking on water, and so on.
- e. J. performs his amazing feats without the mediation of illusions, deceptions, drugs, relief of psychosomatic illness, floatation devices, hypnosis, hysteria, and so on.

¹Antony Flew, "Theology and Falsification," in The Existence of God, ed. John Hick (New York: Macmillan Co., 1964), pp. 225-227.

²Although John Hick was able to establish a set of testable reduction sentences for 'There is life after death', his results were restricted in that his proposed reduction set was only confirmable but not falsifiable. He argued ad hoc, however, that a statement can be verifiable without being falsifiable, for example, 'There are three successive 7's in the decimal expansion of π '. John Hick, "Theology and Verification," The Existence of God, pp. 253-273.

The point of this rebuttal to Flew is that theological-religious statements per se cannot be ruled out of court ab initio on the grounds that they are unverifiable. Even if we accept the strict verificationist criterion of meaning, Flew's criticism is simply in error.

Without restriction, however, the empiricist criterion of meaning cannot be taken seriously but must be qualified as follows:

1. The meaning of an empirical statement about theoretical entities is equivalent to the meaning of its corresponding "testable" (in the Carnapian sense) reduction sentences.
2. A statement has denotative meaning only if it can be reduced to observational predicates, but its original meaning may not be equivalent to that of the reduction.

It should be noted that the above restrictions constitute a proposed reformation of the use of language. Therefore, these restrictions are as unverifiable as the original empiricist criterion of meaning. (The previous statement is a remark about the philosophical grammar of meaning criteria.)

The first restriction alludes to a recent revision in the empiricist criterion of meaning as formulated by Carnap. Accordingly, disposition terms such as 'soluble' can be defined by stating the test conditions (and positive test results) for which a space-time point could be described as exhibiting that property, for example, 'if x is placed in water then, x is soluble if and only if x dissolves'. Such reductions have been aptly called "test-conditions-test-results conditionals."¹

¹Rudolf Carnap, "Testability and Meaning," in Readings in the Philosophy of Science, eds. Herbert Feigl and May Brodbeck (New York: Appleton-Century-Crofts, 1953), pp. 52-55.

The first restriction is a more acceptable formulation of the verifiability principle because terms which name theoretical entities are, in fact, shorthand expressions for test-conditions-test-results conditionals. This formulation of the empiricist criterion of meaning represents a tautology. In this form, the empiricist criterion of meaning is not empirically verifiable and, therefore, meaningless in the strict positivist sense. From a formalist point of view, however, the formulation can be regarded as a metalinguistic transformative rule: having a meaning equivalent to its use.

The second restriction establishes the condition that since language is learned through public-social experiences, a (literal) statement has meaning only if it has public criteria for use. This study seeks to apply this restriction, however, only to denotative uses of language and not to metaphoric uses.

The second restriction avoids a methodological difficulty with the empiricist criterion of meaning because it merely states a necessary condition for denotative meaning, but does not make the reduction set equivalent to the intended meaning of the original statement. For example, if one were to assert 'Grandma is in the sitting room,' the assertion could reduce to:

- t_1 : If the lady in the sitting room were fingerprinted, her prints would be the same as Granny's.
- t_2 : If the lady in the sitting room were asked for identification, she could produce a driver's license with Granny's name on it.

In ordinary language circumstances, we find such reductions counter-intuitive. The speaker might protest, for example, "That's not at all what I meant! I was not even thinking about fingerprints or a driver's license. Granny doesn't drive. I wouldn't think of fingerprinting her because she has arthritis in her fingers. She would be deeply offended by such outrageous conduct."

Regardless of how comprehensive and cautious we are in generating empirical verification sets for an assertion, one could always object, "That is not at all what I intended by my statement." By this analysis, we can only accept an empirical reduction set as a necessary condition for meaning, not as the meaning of the original statement. It is not being argued here that such reduction sets are useless, however. Test-condition-test-result conditionals are useful to the empiricist in formulating operational definitions so that hypotheses may be advanced and tested.

Now, pressing the Jones analysis further, we might hypothesize that, indeed there are historical accounts of a Jones who realized test conditions (a) through (e) several hundred years ago. Now, 'Jones is God' resembles 'Lincoln was shot.' because further verification entails an additional criterion:

- f. The written historical accounts about J. are true, accurate, and comprehensive.

Regardless of the evidence in favor of (f), however, some degree of uncertainty may remain. Believing that Lincoln was shot, for example,

requires faith in historical records such as the news reports of the period, and faith in the veracity and accuracy of eye witnesses, and so on. The positivists have recognized that empirical assertions are never completely verified, although they may be completely confirmable or completely testable.¹

The parallel of the Jones case to Christianity is, of course, not a matter of coincidence. Long ago, Isaias developed the following confirmation criteria for 'J. is God':

God himself will come and will save you. Then shall the eyes of the blind be opened, and the ears of the deaf be unstopped. Then shall the lame man leap and the tongue of the dumb be free.²

An observer later reported that these test conditions were realized, that is, each test predicate was not only observable, but observed:

Go and report to John what you have heard and seen: the blind see, the lame walk, the lepers are cleansed, the deaf hear, the dead rise, . . .³

Therefore, skepticism related to the assertion 'Jesus is God.' involves either empirical doubts about criteria (e) and (f), or doubts about the reduction set being a sufficient confirmation basis for 'J. is God'.

The second kind of skepticism involves the issue of conventionalism, that is, it is a matter of convention how we stipulate an opera-

¹Rudolf Carnap, "Testability and Meaning," in Readings in the Philosophy of Science, eds. Herbert Feigl and May Brodbeck (New York: Appleton-Century-Crofts, 1953), pp. 84-86.

²Isaias 35:4-6.

³Matthew 11:3-6.

tional definition of an empirical predicate. For example, it is merely a matter of convention that we operationalize 'measuring this table top' as 'laying off a foot ruler x number of times along the length and width'. We could have specified metric measurement, or the use of surveyor's instruments, or even 'doing a rhumba across the table top', if we chose. Paradoxically, operational definitions are thus mixtures of conventional-but-yet-not-arbitrary meaning criteria.

The first mentioned skepticism rests on empirical grounds, not on logical or linguistic grounds. Christians, of course, set aside their empirical doubts, much as contemporaries generally set aside doubts that Lincoln was shot.

It should be noted, that the rebuttal of Flew's criticism does not establish that:

1. All religious/theological statements are true.
2. No religious/theological assertion is self-contradictory.
3. All religious/theological statements are meaningful.
4. Established confirmation bases for empirically verifiable religious/theological assertions are acceptable to all persons.

The rebuttal entails establishing only that some religious/theological claims are verifiable (meaningful in the logical positivist sense).

The logical positivists and ordinary language analysts have been generally antireligious but not without a notable exception. In his Notebooks Wittgenstein remarked,

To believe in a God means to understand the question about the meaning of life. To believe in a God means to see that the

facts of the world are not the end of the matter. To believe in a God means to see that life has a meaning.¹

A fragment from his Zettel reveals a linguistic basis for Wittgenstein's understanding of God: "'You can't hear God speak to someone else, you can hear Him only if you are being addressed.'--That is a grammatical remark."²

Metaphysics and Theology

Wittgenstein recognized that public accessibility is a necessary condition for learning (using) language. For Wittgenstein, part of the meaning of a statement is found in the speech act and within the form of life in which the utterance is made. For example, the meaning of 'Halt!' is embedded in the act of a sentry stopping an unauthorized intruder into a military compound. The meaning partly arises in the military form of life. Part of our understanding of 'Halt!', therefore, involves understanding the use of the expression by a guard, the rationale for obeying the order, the consequences of not obeying, and a host of other things. In short, we must understand the military "language game" which Wittgenstein would describe as the philosophical grammar of 'Halt'.

To understand the meaning of the word 'book' we must, therefore, not only understand the "naming language game" (the process of ostensive definition), but at least some of the companion public actions such as reading a book, bringing a book, turning the pages of a book, and so on.

¹Ludwig Wittgenstein, Notebooks, eds. G. H. von Wright and G. E. M. Anscombe, trans. G. E. M. Anscombe (New York: Harper & Row, 1961), p. 74e.

²Ludwig Wittgenstein, Zettel (1928-1948), eds. G. E. M. Anscombe and G. H. von Wright, trans. G. E. M. Anscombe (Berkeley: University of California Press, 1967), p. 21e.

In short, we must have assimilated at least some of the public forms of life associated with book utilization.

In spite of the supposed opposition between the Tractatus (logical positivism) and the Investigations (ordinary language analysis), there is an obvious ingredient common to both: a public accessibility criterion for denotative language use. The "simples" of the Tractatus were to be publicly observable and the criteria of the Investigations were to be public criteria. In view of this strong public accessibility doctrine, one would expect that Wittgenstein was forced to reject metaphysics and theology (as most positivists and ordinary language analysts have done).

We arrive now at a revelation of a different Wittgenstein, not the antimetaphysical critic, but the champion and protector of theology and metaphysics.

It may be the case that some theological assertions are verifiable, but others are clearly not, for example, 'God is perfect'. Such statements have an obvious metaphysical character. Are such statements, therefore, meaningless?

The difficulty with metaphysical statements arises from a limitation of language itself, and since language is the vehicle of thought, our very thoughts suffer this same limitation.

Wittgenstein has been interpreted, until recently, as arguing that language misleads philosophers and theologians into making meaning-

less metaphysical statements.

S. Morris Engel, however, has suggested a new view of Wittgenstein as revealed in what Engel calls "the dilemma of the Blue Book." Engel observes that it is one thing to claim that it is possible that philosophers are misled by language, but it is still another matter to claim that linguistic confusion must arise inevitably. Here Engel is alluding to the superficial appearance of a contradiction in the Blue Book.¹

At times, Wittgenstein's dominant thesis seems to be that the source of philosophic confusion is language: language is the source of our philosophical perplexities and, therefore, language is the level at which the problems must be solved. At other times, Wittgenstein seems to hint at an entirely different thesis: ". . . we try to find a form of expression which fulfills a certain craving of the metaphysician which our ordinary language does not fulfill . . . and which produces . . . puzzlement."²

Engel believes that in such passages, Wittgenstein is suggesting that not all metaphysical perplexities are products of linguistic confusion, but arise instead from a curious discontentment that the metaphysician has with language itself.³ In a similar passage Wittgenstein declares: "Our ordinary language holds our mind rigidly in one position,

¹S. Morris Engel, Wittgenstein's Doctrine of the Tyranny of Language: An Historical and Critical Examination of His Blue Book (The Hague: Martinus Nijhoff, 1970), pp. 14-17.

²Ludwig Wittgenstein, The Blue and Brown Books (New York: Harper & Bros., 1958), p. 55.

³Engel, Tyranny of Language, pp. 14-17.

as it were, and in this position sometimes it feels cramped, having a desire for other positions as well."¹ Here we find Wittgenstein's doctrine of "the tyranny of language." Now he speaks not of a problem with the philosopher, but rather of a problem with language itself: language is confining and the metaphysician is forced to revise it.

In summary, the dilemma of the Blue Book is that two differing theses seem to have been advanced by Wittgenstein:

1. that language deceives the metaphysician into absurd doctrine
2. that the metaphysician realizes that existing language is unable to express "certain things" and, therefore, he is forced to invent new usages to try to express them.

If the second thesis is correct in asserting that the metaphysician is forced to revise language because of its constricting nature, then it does no good to show him how these expressions are actually used in ordinary language, since that is precisely what gives him discomfort. This second thesis implies that philosophical confusion sometimes runs deeper than language even though its symptoms are exhibited linguistically.²

We know that Wittgenstein did not hold metaphysicians in contempt. Wittgenstein was, after all, a metaphysician himself. Once he remarked to Drury: "Don't think that I despise metaphysics or ridicule it. On the contrary, I regard the great metaphysical writings of the past as among

¹Wittgenstein, Blue Book, p. 59.

²Engel, Tyranny of Language, pp. 14-17.

the noblest productions of the human mind."¹

Wittgenstein's greatest accomplishment was to have recognized that because learning language requires public criteria, its denotative use cannot describe those things which transcend the publicly observable. Language can describe that which is transcendent only figuratively.

By this view all metaphysical assertions are metaphoric statements and cannot be interpreted literally. Wittgenstein thus reserved the metaphoric use of language not only for the humanities, but for metaphysics and theology as well.

To summarize, Wittgenstein discovered that the relationship between language and reality, between God and man, cannot be stated literally but can only be hinted at indirectly in metaphoric language. Only metaphoric language can describe the transcendent.

At this juncture, Christians would hasten to point out that much of what Christ said was spoken in parables. Was this style chosen because Christ spoke to simpletons who could only understand fables? Obscure, enigmatic allegories are hardly food for the simpleton. An alternative explanation is that Christ had no choice except to speak in the only idiom available to designate the transcendent world.

Wittgenstein's contribution was to reveal a division of labor in language which appropriates the denotative use of language to science; and the metaphoric use to metaphysics, theology, religion and the arts.

¹Ibid., p. 37.

Whenever a person uses denotative language when he should be using metaphoric language, he is doomed to utter nonsense. That is the doctrine of the tyranny of language. Language legislates a different use depending on whether the referents to be designated are publicly accessible or transcendent. The tyrant's decree is "Wovon man nicht sprechen kann, darüber muss man schweigen."¹

Under this interpretation, assertions in metaphysics and theology can be regarded as paraverifiable but yet not meaningless. Instead of linguistic philosophy being the roadblock to metaphysics, it can be its triumphal arch back into philosophy and education.

A New Definition of 'Man'

Even the definition of 'man' can be stipulated in terms of language characteristics. Mead, the American pragmatist, was the first to suggest this new definition. Although Mead recognized that many biological species use language (signs), he realized: only man understands his own utterances.

For Mead, the self, mind, and consciousness of man arise simultaneously through the process of linguistic social experience. The self, mind, and consciousness are not present at birth (except potentially), but develop out of the process of language acquisition. The self begins

¹Ludwig Wittgenstein, Tractatus Logico-Philosophicus, trans. D. F. Pears and B. F. McGuinness, with an Introduction by Bertrand Russell (New York: The Humanities Press, 1961), p. 150. The famous seventh proposition traditionally thought to be a censure of metaphysics can be re-interpreted as a pronouncement to science (and metaphysics).

to develop when the human organism acquires the use of social gestures which have become "significant symbols." Man becomes a self as soon as he is able to interpret and anticipate the meaning of his own gestures. For Mead, "the internalized conversation of gestures constitutes thinking."¹

Mead does not limit communication to vocal gestures, however, "There is the language of speech and the language of hands and the language of the expression of the countenance."²

Although many species have achieved communication of gestures, only man has taken an additional leap up the evolutionary ladder. Only man can understand his own gestural utterances. According to Mead, a dog snarls and other dogs "understand" this snarling, but the snarling dog does not understand his own snarl. The growling dog is thus emitting a vocal gesture (symbol), but is not being controlled or affected by it.³

The self emerges only when the emitted gestures become understood by the organism emitting them, that is, when what we are going to do is controlling what we are doing.⁴ For example, to yell "Fire!" in a crowded theater upon smelling smoke is merely an automatic response, not a significant symbol, unless the vocal gesture "Fire!" affects the speaker as it affects others. "Fire!" becomes a significant symbol when the

¹George H. Mead, Mind, Self, and Society, ed. and with an Introduction by Charles W. Morris (Chicago: University of Chicago Press, 1962), p. 156.

²Ibid., p. 147. ³Ibid., p. xx. ⁴Ibid., p. xxi.

urge to emit this symbol is controlled by the speaker because of his understanding of the meaning of the symbol. "The effect on himself of what he is about to say checks him; there is here a conversation of gestures between the individual and himself."¹

During this inner conversation of symbols, "the individual experiences himself . . . from the generalized standpoint of the social group as a whole to which he belongs."² Here Mead is focusing on what is necessary to the existence of the self:

The organized community or social group which gives to the individual his unity of self may be called "the generalized other." . . . only by taking the attitude of the generalized other toward himself, . . . can he think at all; for only thus can thinking--the internalized conversation of gestures--occur.³

Mead believed that only man has made this transition from impulse to rationality. His explanation for man's uniqueness is that only the human organism has the neurological makeup necessary to undergo this qualitative change: ". . . the self reaches its full development through the mechanism of the central nervous system, . . ."⁴

Mead's analysis of social language as the very substance of thought is brought to mind when we review the experiences of Helen Keller. At the age of seven, Helen became aware of significant symbols and of the "naming language game" (that signs can designate objects). The force of these discoveries changed her from a "dumb" animal to a thinking, human self. Helen described her experiences as follows:

¹Ibid., p. 141. ²Ibid., p. 138. ³Ibid., pp. 154-156.

⁴Ibid., p. 158.

As the cool water gushed over one hand she spelled into the other the word "water" first slowly, then rapidly. I stood still, my whole attention fixed upon the motion of her fingers.

Suddenly I felt a misty consciousness . . . and somehow the mystery of language was revealed to me. I knew then that "w-a-t-e-r" meant the wonderful, cool something that was flowing over my hand. That living word awakened my soul, gave it light, hope, joy, set it free. . . . I left the wellhouse eager to learn. Everything had a name, and each name gave birth to a new thought.¹

The words of Helen Keller thus stand as a testimony revealing the relationship between language, thought, and the self.

From Mead's point of view regarding the distinction between man and other animal species, the "talking apes" do not have a self and thus are qualitatively different from man. The chimpanzee, "Washoe," for example, may have been conditioned to automatically use signs denotatively, but there is no evidence that Washoe's behavior is controlled by her own "utterances." Her signs do not appear to be "significant." According to this view, the talking apes do not have internalized, ego-centric speech.

The transformational grammarian, McNeil, also doubts that Washoe has acquired genuine human language because of syntactical "peculiarities" exhibited by the chimpanzee: "I find much room for doubt that the chimpanzee has learned to use genuine words."² He notes that all attempts to teach primates to "speak" have "failed dismally."³

¹Helen Keller, The Story of My Life (New York: Dell Publishing Co., 1961), p. 34.

²David McNeil, The Acquisition of Language: The Study of Developmental Psycholinguistics (New York: Harper & Row, 1970), p. 54.

³Ibid.

Although Piaget and others have suggested that thought does not require language, the Russian linguists, most notably Vygotsky and Luria, insist that thought depends on language acquisition.¹

Wittgenstein, who has the unique distinction of giving impetus to two contemporary philosophical systems, logical positivism and ordinary language analysis, also contended that in order to think, the thinking subject must have language.

Until recently, the interpretations of Wittgenstein relied almost exclusively upon the Tractatus and the Investigations. Within the last decade, however, Wittgenstein's other works, more recently published, have become regarded as most important because they reveal a bridge across Wittgenstein's seemingly opposing views as represented by logical positivism (the Tractatus) and ordinary language analysis (the Investigations).

In his Blue Book and Zettel, for example, Wittgenstein analyzed the relationship among mind, language, meaning, and thought. His analysis is noticeably different from the theme of the Tractatus or of the Investigations. Some of his main arguments may be summarized as follows:

1. Philosophers are misled into believing that there are occult processes such as thinking, hoping, and wishing which are independent of the processes of expressing thoughts, hopes, and wishes: "Testimony . . . cannot convince one that it is possible to think without a language."²

¹Ibid., p. 126.

²Ludwig Wittgenstein, Zettel (1928-1948), eds. G. E. M. Anscombe and G. H. von Wright, trans. G. E. M. Anscombe (Berkeley: University of California Press, 1967), p. 21e.

2. The mind is not an agent in the same way that the hand is an agent in writing. This way of speaking is only a metaphor. To say otherwise, is to be misled by our mistaken belief that all nouns must have referents in the denotative sense: "One of the most dangerous ideas . . . is that we think with our heads or in our heads."¹
3. What is the real meaning of a word? Whatever meaning we give to it, and some words literally have thousands of meanings (uses).

Clearly, Wittgenstein's position is that thinking requires language and that thoughts are not mental images in one's head.

The Reunification of Curriculum

If it is difficult to classify the various educational disciplines, it is so because the process of classifying and compartmentalizing education is itself artificial. Is the definition of 'man' within the realm of biology or the humanities? Is religion a part of history or theology (or perhaps metaphysics, philosophy, logic, or psychology)? The barriers among disciplines were erected long ago, most formally by Aristotle. Although many modern educators have sensed the error of separatism in curriculum, it has been difficult to philosophically justify reunification.

It is clear that there are pragmatic advantages to specialization or depth knowledge in a specific discipline. Also, the overpowering advent of the "knowledge explosion" requires that we organize and select

¹Ibid., p. 105e.

our reception of information. At the same time, however, many concerns are beginning to emerge related to man's imbalanced diet of knowledge.

We have become more aware of the interrelatedness of our problems, especially in politics, ecology, ethics, economics, and technology. The new perspective in medicine of "wholistic health care" gives testimony to the value of integrating the various disciplines in the solution of our problems.

We are now faced with the most awesome problems that have ever confronted mankind. These new problems are cataclysmic in their consequences because for the first time in history their outcome will determine whether man will vanish from "spaceship earth" in a final nuclear or ecological convulsion.

As Plato saw the need for philosophical vision in government, we must apprehend the value of philosophical vision in education. This new, unitary perspective must be inculcated in students, teachers, and administrators. Only then will education produce the most appropriate framework for tomorrow's solutions.

Is there a strand of unity that runs through the multidisciplinary, educational fabric? The thesis herein advanced is that philosophy, and especially linguistic philosophy, is that reunifying thread. Once we have made the linguistic turn in philosophy and in education, we will be able to see that all things are related through language, and that curriculum can be reconstructed on a new metalinguistic foundation.

This work is attempting to illuminate a reinterpretation of philosophy and education, which makes language the central axis. Language would thus gain a metaphysical significance in philosophy and in education: that language is the very essence of man, of man's relationship to his God, of science, and of the arts.

The Function of Philosophy in Education

The question concerning the role of philosophy in education can now be answered.

First, reconstructed philosophy and especially linguistic philosophy must become an important part of the curriculum at every level so that the learner will discover a unity in his diverse world. This universal perspective must become a principal aim of education.

Even if this idealistic goal were not reached, there is new evidence that the teaching of philosophy, in itself, may be instrumental in yielding advances in basic academic skills. For example, in 1975 the Institute for the Advancement of Philosophy for Children (Montclair State College) completed experimental research which demonstrates that elementary age school children who are taught philosophy make significant gains in reading and in critical thinking skills, as well as highly significant gains with respect to interpersonal relationships.¹

¹"Results of 1975 Experimental Research in Philosophy for Children," (Mimeographed). See also Matthew Lipman, Ann Margaret Sharp, and Frederick S. Oscanyan, Philosophy in the Classroom (West Caldwell, N. J.: Universal Diversified Services, 1977).

The improvement of the experimental group in language was most dramatic. The children in the experimental classes gained an average of eight months over the control group. One class gained a year and four months, and another advanced two and a half years.¹

Secondly, the curriculum should be reconstructed intradisciplinary and interdisciplinarily. Within each subject linguistic aspects should be made explicit, and the various disciplines should be reorganized according to metalinguistic relationships.

Thirdly, the value and meaning of theology, religion, metaphysics, and the humanities should be reassessed (as well as parascientific phenomena such as intuition, religious experience, and psychic experience).

Finally, educational problems should be approached from a linguistic standpoint including the application of ordinary language analysis, verificationism, and the linguistic turn.

Now that the new role of linguistic philosophy in education has been proposed, what must follow is a demonstration of a paradigm application of this new role.

¹Ibid.

CHAPTER II

THE THEORY OF LEARNING DISABILITY:

A PRE-SCIENCE

Bertrand Russell once described philosophy as "speculation about matters where scientific knowledge is not yet possible."¹ According to Russell's view, one of the services of philosophy is to formulate problems so that they can be handed over to science in a science-acceptable form. The formulation process serves to clarify the problem so that it becomes more amenable to the scientific method.

There are many problems in foundations of education that are in need of clarification. One such problem is represented by the question: "How does one learn?" Recently, many advances are beginning to appear in the areas of behaviorism, neurophysiology, psycholinguistics, and language acquisition theory which promise to shed considerable light on the problem.

The behaviorists, however, have implicitly reformulated the question as "What are the external, publicly accessible aspects of learning?" and the neurologists have revised the question to "What central

¹Bertrand Russell, Bertrand Russell Speaks His Mind, comp. The Hearst Corporation (New York: Hearst Corporation, 1960), p. 9.

nervous system activities and structures are necessary conditions for learning?"

One of the functions of philosophy is to make such implicit reformulations explicit so that it becomes clear which derivative question is really being addressed by science and how this reformulation differs from the original question. For example, to what extent does the answer to the question "What central nervous system activities and structures are necessary conditions for learning?" answer the question "How does one learn?"

A companion question to "How does one learn?" is "What prevents one from learning?" and this second question has received much more attention than its consort for at least two reasons.

First, in the United States educators find themselves confronted by the challenge of "universal education." American education has been based on an assumption that all children can learn and that education is for everyone. In America, education is valued because it is regarded as an instrument for the maintenance of democracy. As a result of adopting mass education we are frequently faced with students who have difficulty learning.

Second, there has recently developed a legal movement in the United States to "mainstream" "exceptional" children. Here 'exceptional' means educationally handicapped and 'mainstream' means educate within the normal peer group environment. This movement has been brought about

by legislation on behalf of exceptional children and by litigation surrounding special education.

In 1975 the Education of All Handicapped Children Act, as signed by President Ford, became the law of the land. This law requires equal educational opportunities for all exceptional children regardless of the severity of their learning handicaps. Under this law, all educationally handicapped children must be provided a free, public education in the least restrictive environment; that is, they are to be educated with their normal peer group as much as possible.¹

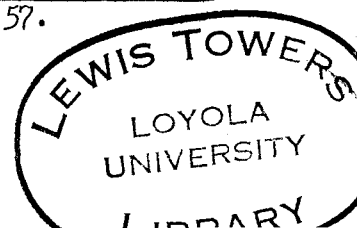
The famous Brown Case of 1954 established the precedent that "separate is not equal" not only as related to race but to every social category. The courts now interpret the "separate is not equal" doctrine as applying to educationally handicapped children.²

Until the last decade, exceptional children were most often placed in "special education" institutions or in "special" classrooms. In the Mill Case of 1972, a class action suit was brought against a school board on behalf of all handicapped children. The case was won in favor of exceptional children. The court decreed that children forced into special education placements were being deprived of their civil rights. Each year additional litigation is being won on behalf of exceptional children and being lost by those who espouse a separatist philosophy of special education.³

¹Thomas N. Fairchild and Ferris O. Henson, Mainstreaming Exceptional Children (Austin, Texas: Learning Concepts Inc., 1976), p. 57.

²Ibid., p. 58.

³Ibid., p. 59.



Now that the problem of educating handicapped children has become the responsibility of local boards of education, the question "What prevents one from learning?" has taken on a new urgency. The answer to this question will indirectly provide an answer to its companion question "How does one learn?" Hence, there is a double motive for exploring this problem.

Educational handicaps are considered to be of six different types:

1. behavioral disorders such as schizophrenia
2. physical handicaps such as visual impairments, deafness, and muscular dystrophy
3. profound brain damage
4. mental retardation (operationally defined as IQ below 80)
5. environmental, cultural, and economic disadvantage
6. learning disability; that is, learning problems not listed above

An analysis of the last category, "learning disability," will have paradigmatic value because many of the problems surrounding the concept of learning disability are shared by the other labels.

The problem of "What is a learning disability?" is especially amenable to philosophical investigation because of the newness of the field of learning disability (1960-65). The study of learning disability is in a prescientific stage of development, characteristically laden with confused definition, competing models, and inconsistent practices. As recently as February 1976, for example, researchers have shown that the most frequently used tests to identify learning disabled chil-

dren are, in fact, unable to differentiate between normal and learning disabled children.¹

The tasks at hand in this field are clarification, definition, hypothesis formulation, validation of premises, and the postulation of a productive ontology--all philosophical activities. The next chapters of this work are devoted to accomplishing these tasks.

¹Stephen C. Larsen, Dorothy Rogers, and Virginia Sowell, "The Use of Selected Perceptual Tests in Differentiating between Normal and Learning Disabled Children," Journal of Learning Disabilities 9 (February 1976):85.

CHAPTER III

A PHILOSOPHICAL CRITIQUE OF THE DEFINITIONS AND MODELS OF LEARNING DISABILITY

Introduction

In this chapter the de jure definition of 'learning disability' will be criticized along with the de facto definition commonly used by practitioners in the field of special education. Finally, three competing models of explanation for learning disability will be examined and will be evaluated on the basis of their efficacy in remediating the problem of learning disability.

The De Jure Definition

In the Education for All Handicapped Children Act, Congress defined 'children with learning disability' as follows:

Those children who have a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, which disorder may manifest itself in imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. Such disorders include such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. Such term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of emotional disturbance, or environmental, cultural, or economic disadvantage.¹

¹Federal Register 41 (November 29, 1976):52404.

As it stands, the federal definition is a tangle of conceptual confusion arising from defects in its extensionality, consistency, and operational translatability.

Extensional problems exist in the definition because its language creates uncertainty as to whether a given child is a member of the set of children designated by the definition. For example, "imperfect ability" is a description which admits every member of the human race into the extension of the definition. Furthermore, many of the component descriptors defy exact definition. For example, there are now over twenty different definitions of the term 'dyslexia', thirty-eight different terms used synonymously with 'learning disability', and over one hundred symptoms attributed to children given the label "learning disabled."¹

Consistency problems exist in the definition because some parts of the definition qualify certain subjects as learning disabled while other parts of the definition disqualify these same subjects. For example, the definition includes "perceptual handicaps" at the same time as it excludes "visual" and "hearing" handicaps. Also, when the definition includes perceptual handicaps but excludes mental retardation, the implication is that mentally retarded children could not have perceptual problems (learning disabilities) in addition to their "IQ problem."

¹Terry West and Carol Millsom, "Learning Disabilities Funding," Educational Leadership Journal of the Association for Supervision and Curriculum Development 32 (May 1975):507.

The federal definition, at one moment includes children who have brain injury but at the next moment it excludes children with learning problems "primarily the result of . . . environmental or economic disadvantage." This implies that the two sets of children, thus designated, are disjoint. What is the status of a child who was brain damaged as a result of environmental factors or economic factors? Does the child qualify for the services of the learning disability program? How is the educator to determine whether a child's brain injury resulted from environmental or economic circumstances?

Operational problems exist in the definition because parts of the definition imply that the educator is to identify learning disabled children by etiological classification, for example, "brain injury . . . minimal brain dysfunction," and "not . . . the result of . . . environmental, cultural, or economic disadvantage." Definitions couched in terms of causes rather than publicly observable effects are difficult to operationalize.

Definition which prescribes identification through etiology rather than through syndrome is most appropriate for two audiences:

1. specialists who are searching for causation in order to remove or prevent those causes
2. specialists who have a treatment available for the identified cause of a malady

From the point of view of the educator, however, neither one of these circumstances prevails. Unfortunately, there is no etiological

"cure" for learning disability at the disposal of the educator. Further, the function of the educator is not to search for etiology since he does not have the scientific expertise for such a venture.

Furthermore, an etiological definition does not generate an educational prescription for remediation. For example, a child being "minimally brain damaged" operationalizes to a dysrhythmic EEG. Apart from the impracticalities involved in obtaining EEG's, verification of actual brain damage must wait until an autopsy reveals a cortical lesion. What should the educator do with the so-called "brain damaged child" until the postmortem? The entire mystique of the EEG in education can be discarded on the grounds that the EEG is educationally fruitless in relation to remediation.

Taking the view of the behaviorist would give clearer direction for remediation of learning disability because this view overcomes some of the operational difficulties by focusing on effect rather than cause. For example, knowing that a child has a specific problem with morphology is more useful to the educator in terms of educational prescription than knowing that the child exhibits evidence of "organicity."

The illogic of adopting the medical model of etiology in the field of learning disability consists in the fact that there is no known medical therapy for specific learning disability. Further, there is growing evidence that no neurophysiological disorder corresponds to this diagnosis. Until further medical research confirms a neurophysiological basis for learning disability, minimal brain dysfunction may be regarded

by educators as a fiction.

The many defects in the federal definition of learning disability are becoming more evident as practitioners struggle to interpret it. The Bureau for the Education of the Handicapped (BEH) now admits that "the state of the art in the field of learning disability . . . is such that it is not presently possible to specify exactly" what a learning disability is.¹

What are the consequences of confused definition? First, without clear definition, accurate identification is almost impossible. For example, the incidence of learning disability can range from one percent to as high as twenty percent, depending only on how the educator decides to define the term.² Therefore, the educator can never be reasonably certain which children are learning disabled, that is, which children need specialized assistance.

Secondly, confused definition leads to confused diagnosis and prescription. As a result, the educator is hampered in the development of intervention strategies and materials.

Finally, because of the enormous confusion that now exists in the profession concerning the meaning of 'learning disability',

¹Federal Register 41 (November 29, 1976):52404.

²Eleanor T. Kenney, "Learning Disability: What It Is and Is Not," Educational Leadership Journal of the Association for Supervision and Curriculum Development 32 (May 1975):507.

In virtually every kind of setting . . . the LD teachers report that they and their colleagues are frequently plagued with considerable doubts about the meaning, or even the validity of their professional activities.¹

With great uncertainty, the school administrator is thus forced to defend to his clients the legitimacy of a vague, specialized service given to a nebulous group of children by often insecure and uncertain, specialist teachers.

Clearly, what is needed is a revision in the de jure definition. The arguments to be presented will attempt to establish the following revision as a better definition of 'children with learning disability' (or more accurately, as a better description of children with learning disability): those children who have a disorder in the process involved in understanding or in using language. This proposal will have the effect of taking 'learning disability' to mean semiotical disorder. The proposed definition is a natural consequence of adopting the linguistic turn.

The De Facto Definition

Because of the confusion surrounding the de jure definition of learning disability, educators have been forced to adopt a "common sense" definition of learning disability. From the educational practitioner's point of view, a child has a learning disability if, in spite of his apparent "ability," the child does not "achieve" well academically.

¹Gerald M. Senf, Anthony H. Luick, and Beverly P. Sawyer, "State Initiative in Learning Disabilities: Illinois' Project SCREEN," Journal of Learning Disabilities 8 (November 1975):588.

At the schoolhouse level, the following criterion has been generally adopted for identifying learning disability:

a significant discrepancy between a child's actual performance on standardized achievement tests and his expected performance based on IQ.

For example, we would expect a child with "normal" ability (IQ = 100) to score at an obtained grade level of 5.5 on an achievement test, if he were in the middle of the fifth grade. But let us suppose that his actual performance is only 1.5 (in terms of grade equivalent), then the percent discrepancy between his expected performance (EP) and his actual performance (AP) is:

$$\frac{EP - AP}{EP} \times 100 = \% \text{ discrepancy}$$

or

$$\frac{5.5 - 1.5}{5.5} \times 100 = 73\%$$

This criterion has become so popular among practitioners in the field of learning disability that one of its versions has become absorbed into HEW's proposed rules and regulations for implementing the Education for All Handicapped Children Act. The proposed regulations further stipulate that in order to be considered severe enough to qualify as learning disability, the discrepancy must be greater than or equal to fifty percent.¹

One of the problems with this kind of de facto, operational definition is that, regardless of the numerical threshold assigned to 'severe discrepancy', that critical assignment is arbitrary.

¹Federal Register 41 (November 29, 1976):52407.

Another difficulty with the de facto definition of learning disability is its inherent dependence on the disputed IQ measure. If, for example, IQ critics are correct in their claim that existing ability tests are merely achievement tests in disguise, then the discrepancy criterion is invalid because the so-called "ability-performance" discrepancy is not actually a discrepancy between ability (expected achievement based on IQ) and performance since IQ tests, by this criticism, do not really measure "ability."

In order to avoid the problems associated with the de facto definition of learning disability, most educational practitioners ultimately rely on "clinical judgment" as an additional, deciding criterion. Introducing subjectivity into the identification process, however, creates an additional difficulty: whether a child is determined to be learning disabled will now depend on the idiosyncracies of the evaluating team.¹

Because of the ultimate subjectivity of the referral and identification process, there is a danger that any child showing "unacceptable" behavior may be labelled "LD." Learning disability may thus become a verbal cloak (resulting, for example, from ego defense) under which lies the teachers' failures. Kirk and Elkins have revealed, for example, that children are commonly misidentified as learning disabled when, in fact, they are simply children who are failing in their school work due

¹Lloyd M. Dunn, "Special Education for the Mildly Retarded: Is Much of It Justifiable?," in An Empirical Basis for Change in Education, ed. Wesley C. Becker (Chicago: Science Research Associates, 1971), p. 45.

to causes other than learning disabilities.¹

Competing Models and Their Efficacy in Remediation

Underlying the definitional confusion related to the concept of learning disability is a proliferation of models of explanation for learning disability. The existing explanations for learning disability can be classified into three general types:

1. central nervous system disorder
2. perceptual handicap
3. input-output channel disorders

The neurological model explains that, in a learning disabled child, learning is blocked by a dysfunction of the brain. Speaking in the physicalist idiom, the neurological model can be described as follows:

Learning and memory are functions of patterns of neural connections in the central nervous system. Neurons (nerve cells) are physically separated. Brain activity involves a chemical-electrical activity among the neurons. These impulses are transmitted across the neural gaps by way of liquid hormonal bridges. These transmissions can be regarded as "information" much the same as modulated electrical impulses in telephone wires and in computer circuits can be regarded as information.²

Research during the last decade indicates that oversimplified neurological explanations of learning, such as the explanation that learning and memory are encoded onto large molecular structures in the brain,

¹Samuel A. Kirk and John Elkins, "Characteristics of Children Enrolled in the Child Service Demonstration Centers," Journal of Learning Disabilities 8 (November 1975):630-637.

²Irving S. Bengelsdorf, "The Brain and Nervous System in Learning and Memory," The Education Digest (December 1975), pp. 19-22.

are unfounded. There is no empirical evidence for the engram--the Holy Grail of psychology--corresponding, for example, to neural patterns which house the multiplication tables in the brain.¹

The most remarkable result of the neurological model is not how much has been revealed by it, but how very little it has illuminated our understanding of the concept of learning as a function of neurophysiology. Bertrand Russell's quip, "If your head is cut off, it immensely diminishes your thinking power,"² is representative of the present yield of information from neurophysiology to educational practice. For example, although it is now suspected that hormones released during emotional states may influence long-term or short-term memory, it is uncertain whether this hormonal release enhances or impairs memory.³ Furthermore, applied research in this area has been mainly conducted on infrahuman subjects, making the promise of possible classroom application rather remote.

Among the many questions still to be answered are:

1. To what extent is the pattern of neural interconnections determined by genetics (for example, the "language acquisition device")?
2. To what extent is this pattern development determined by experience, environment, and nutrition?
3. What information is available from neural research that can be applied to educational practice?

Until these and related questions have been answered by science, the cen-

¹Ibid.

²Russell, Bertrand Russell Speaks His Mind, p. 155.

³Bengelsdorf, "The Brain and Nervous System," p. 22.

tral nervous system model will be of little use to educators. Further, since the neurological model has not yet yielded any educational prescription for learning disability, its current efficacy in educational remediation can be regarded as nonexistent.

According to the second, perceptual model as advanced by Frostig, Wepman, Maslow, and others, deficits in perceptual abilities, such as figure-ground differentiation and auditory discrimination, interfere with learning and, therefore, constitute learning disabilities.¹

Although this view of learning disability has much persuasiveness, there is no evidence correlating perceptual disability with poor achievement. In longitudinal studies comparing perceptual assessment scores of children with diagnosed perceptual disability to their scores on language arts achievement tests, no significant correlation was found. In other words, poor performance on perceptual tasks is not predictive of low academic achievement or of learning disability. Therefore, at the present time, it appears that the only diagnostic value of perceptual tests is in the area of acuity rather than in the area of reception.²

Studies have also been conducted which experimentally test the effects of perceptual remediation activities on learning disabled chil-

¹Janet W. Lerner, Theories, Diagnosis, Teaching Strategies: Children with Learning Disabilities, 2nd ed. (Boston: Houghton Mifflin Co., 1976), p. 154.

²Ronald P. Colarusso, Hannah Martin, and Joseph Hartung, "Specific Visual Perceptual Skills as Long-Term Predictors of Academic Success," Journal of Learning Disabilities 8 (December 1975):651-655.

dren. The results indicate that the development of "perceptual skills" merely helps a child perform better on subsequent perceptual tests but not better on academic achievement tests.¹ Unfortunately, this second model of learning disability also has not yielded an effective prescription for remediation.

The third model of learning disability is the most widely accepted view. According to Kirk, Cruickshank, Kephart, and others, deficits in "input-output" perceptual-memory-motor channels are the bases of learning disabilities. An example of such a channel might be: visual input--visual memory association--manual expression output. This channel would be utilized, for example, in the following sequence: seeing a hammer, recognizing it as a hammer, making an "internal association" with a nail, and then picking up a nail from a group of objects.²

Although most proponents of this explanatory model suppose that the "channels" are actually neurophysiological in nature, it is not necessary to regard them as such. One could argue, for example, that a channel is merely a hypothetical chain of events; a temporal analysis of an act of cognition.

Because of its presumed dependence on neurophysiology, and because of its early espousal by physicians, the channel model characteristically uses the medical idiom. For example, the term 'agnosia' means

¹Reported by Professor Harold M. Scholl, Department of Communication Sciences and Disorders, Montclair State College during a professional conference he conducted in Chicago on May 6, 1976.

²Lerner, Children with Learning Disabilities, pp. 136-198.

the inability to obtain information through an input sense organ even though that organ is not physiologically defective. Auditory agnosia, for example, is the inability to recognize sounds even though the sounds are heard. A person may thus hear a barking dog, that is, turn his head toward the stimulus, but not be able to recognize the sound as the bark of a dog. The prefix 'dys', meaning diseased, is commonly used to describe the various disabilities, for example:

dyslexia - inability to read

dysgraphia - inability to write legibly

dyscalculia - inability to arithmetically compute

dysfunctional channel - inability to effectively use an input-output channel

Terms such as 'dyslexia' in the federal definition thus reveal the biases of the select committee who formulated the de jure definition.

Some advocates of this view (especially Kephart) emphasize the motoric basis of all learning. Accordingly, abilities such as space-time orientation and figure-ground differentiation originate at the haptic and kinesthetic levels. Auditory and visual figure-ground differentiation, for example, rely on the child first being able to selectively attend to one somatic sensation to the exclusion of others. By this view, temporal orientation also arises from motoric learning. For example, the child learns to differentiate past, present, and future by differentiating his movements from a former position in space to a new position in space (as in walking a balance beam). The adherents of this view are the natural theoretic consorts of Piaget.

Dissatisfaction with the channel model arises mainly from two difficulties: misidentification and dissatisfaction with remediation results.

1. misidentification - Poor performance on a perceptual-motor-memory test is insufficient evidence of a learning disability. Further confirmation is required in the form of "clinical judgment" (introducing the undesirable element of subjectivity into the identification process). Kirk, for example, warns that low scores on his ITPA merely enable one to establish a tentative "diagnostic hypothesis" (on somewhat tenuous grounds).¹
2. efficacy of channel remediation activities - There is no evidence that channel remediation exercises result in improved academic achievement. Channel remediation studies indicate that such training procedures do not "significantly improve" readiness skills, intelligence, academic achievement, or even perceptual-motor performance.²

Summary

The field of learning disability is laden with definitional confusion and competing models of explanation. As a result, there is chaos at the schoolhouse level manifesting itself as misidentification, ineffectual remediation techniques, and professional anxiety and insecurity.

The task at hand, therefore, is to propose an explanatory model which generates an operational definition of learning disability and

¹Samuel A. Kirk and Winifred D. Kirk, Psycholinguistic Learning Disabilities: Diagnosis and Remediation (Urbana: University of Illinois Press, 1971), p. 73.

²Janet W. Lerner, Theories, Diagnosis, Teaching Strategies: Children with Learning Disabilities, 2nd ed. (Boston: Houghton Mifflin Co., 1976), p. 154.

which produces the following results:

1. unites or eliminates competing models
2. provides a method which increases the probability of correct identification (over the present methods)
3. generates effective remediation strategies

CHAPTER IV

FORMULATING A PREDICTIVE HYPOTHESIS:

THE SEMIOTICAL MODEL OF

LANGUAGE DISABILITY

In this chapter it will be argued that the three models of learning disability discussed in the previous chapter can be reduced to a single model. Also a fourth, language model will be introduced which displaces the other models by providing better identification criteria and more effective remediation strategies. Finally, a testable hypothesis will be advanced which is based on the language model.

In the previous chapter the following three models were explored:

1. the neurological model
2. the perceptual model
3. the input-output channel model

It is theoretically possible to reduce the second and third explanatory models to the first model by defining the crucial terms of the second and third models (for example, 'auditory discrimination' and 'perceptual-motor-memory channel') to the basic terms of the first model (for example, 'neuron' and 'interneural hormone'). The resulting reduction would merely explain perception and channel input-output in terms of neurophysiology.

Until the science of neurology completes the reduction, educators are left with the original three sets of identification criteria and remediation strategies.

Is there an identification criterion of learning disability which is more predictive of learning disability than the criteria associated with the three existing explanations?

In the previous chapter, the following definition of learning disability was tentatively proposed: a disorder in the process involved in understanding or in using language. As previously noted, this proposal has the effect of taking 'learning disability' to mean semiotical disorder. If we hypothesize that language disorder (sign process deficiency) is a sufficient identification criterion for learning disability, a companion hypothesis is also suggested: remediation of learning disability should occur at the language level rather than, for example, at the perceptual-memory-motor level.

Since science is beginning to explain language disorder and language acquisition in terms of neurophysiology, we could also hypothesize that the semiotical model of learning disability is also reducible to the neurological model. However, the neurophysiological investigation of language is in an infant stage of development and, therefore, science is yet unable to completely explain language disorder in neurophysiological terms.

As a result of cortical mapping, it is believed that the language

function resides within the left hemisphere of the brain.¹ One of the fundamental principles of biology is that function is related to structure. Therefore, since in the human organism a unique structural characteristic has developed: the hemispherical brain (the "two brain phenomenon"), it can be assumed that some specialized functions may correspond to this specialized structure. One of these functions is believed to be language (and, moreover, thought).²

When science is able to explain the relationship between language and neurophysiology, the transformational grammarians may at last be able to point to an organic structure or process which corresponds to their now hypothetical "language acquisition device." The hemisphericity of the human brain may also suggest the specialized biological structure which underlies the species specific, self-other dichotomy (Mead's "internalized conversation of gestures").

There is evidence that lack of hemispheric dominance is related to language disorder. In 1975 Marin and Saffran demonstrated, for example, that sensory deficits cannot account for agnosic behavior. Their findings indicate that pathologies in cortical, hemispheric specialization account for agnosia.³

¹Robert D. Nebes, "Brain: Right Hemisphere, Man's So-called Minor Hemisphere," Journal of Learning Disabilities 8 (December 1975):626-628.

²Ibid.

³Oscar S. M. Marin and Eleanor M. Saffran, "Anomia: Pathological Verbal Dominance," Journal of Learning Disabilities 8 (December 1975): 624-625.

Several questions are suggested by this initial research. For example, do verbal tasks mainly involve the left hemisphere, whereas the so-called nonverbal tasks (such as the tasks that are presented on non-verbal IQ tests) mainly involve the right hemisphere? Robert Nebes has already submitted evidence that the right hemisphere is a more important factor in "intelligence" than the left hemisphere.¹ Here we may at last find a physicalist basis for the ability-performance dichotomy.

At this point, however, there is not sufficient empirical evidence of correlation between learning disability and cerebral dominance pathology to infer a causal relationship.² Correlational evidence has thus far been generally limited to specific language disorders such as phonematic perceptual dysfunction and specific, motoric output dysfunction.³

Although the semiotical model of learning disability suggests a neurological basis, it still may be left as an open question whether the "cause" of language disability is, wholly or in part, a neurological pathology.

¹Robert D. Nebes, "Brain: Right Hemisphere, Man's So-called Minor Hemisphere," Journal of Learning Disabilities 8 (December 1975):626-628.

²Manuel R. Gomez, "Neurological Approach to Specific Language Disability," paper presented at the meeting of the Capital Area Branch of the Orton Society, Washington, D. C., May 2, 1970 and published in the Orton Society Reprint Series, no. 30 (Pomfret, Conn.: Orton Society, 1970), p. 27.

³Richard L. Masland, "Brain Mechanisms Underlying the Language Function," address given at the Seventeenth Annual Meeting of the Orton Society, October 28, 1966, Rockefeller University, New York and published in the Orton Society Reprint Series, no. 18 (Towson, Md.: Orton Society, 1967), pp. 1-30.

Empirical evidence for the relationship between learning disability and language disorder is indirectly derived from remediation, efficacy studies and from comparative studies of the language repertoires of learning disabled children and normal children rather than from neurological investigations.

For example, efficacy studies have shown that learning disabled students are most effectively remediated by improving their language ability. Harold Scholl reported that in such a recent study, four groups of learning disabled students were treated as follows:

1. control group - given no special remediation
2. channel group - given perceptual-memory-motor training
3. perceptual group - given perceptual training
4. language group - given intensive language training

At the end of the experiment, only the language group showed significant growth in academic achievement.¹

In November, 1975, Elisabeth Wiig and Eleanor Semel of Boston University conducted similar research concerning the relationship between learning disability and language. They found more expressive language deficits in learning disabled children than were exhibited by the normal peer group.²

¹Reported by Professor Harold M. Scholl, Department of Communication Sciences and Disorders, Montclair State College during a professional conference he conducted in Chicago on May 6, 1976.

²Elisabeth H. Wiig and Eleanor M. Semel, "Productive Language Abilities in Learning Disabled Adolescents," Journal of Learning Disabilities 8 (November 1975):578.

Their research was limited to adolescent expressive language production and did not attempt to measure receptive, nonverbal, or pragmatic aspects of semiotic. Their study must be praised, however, for including the prosodic characteristics of language (musical aspects).

One of their observations is especially noteworthy:

There remains . . . a paucity of investigations which further explore the nature and extent of the reported deficits . . . no single, standardized test incorporated tasks sensitive to all . . . language abilities.¹

Suppose, however, that we were able to construct an exhaustive language test which measured all aspects of language repertory. The resulting raw scores would probably distribute themselves normally (in the normal curve sense). We might subsequently classify learning disabled children in one of two ways:

1. as all children in a specified age range who obtain a score lower than a particular raw score on the test
2. as all children in a specified age range who fall below a particular percentile

Accepting either of these operational definitions of 'learning disability' would have the advantage of implying remediation. The first definition has the advantage of eventually allowing educators to eradicate learning disability from a group. Accepting the second definition, however, has the effect of forever having learning disabled children with us.

¹Ibid., pp. 578-579.

Both definitions allow a new perspective of learning disability, remediation, exceptionality, and general education. Accordingly, from the point of view of the linguistic turn, the only difference between LD children and non-LD children is a difference of degree in their semi-otical competence. Adopting the linguistic ontology suggests a similar distinction between all exceptional children and their normal peers. From this point of view, labels lose much of their significance and the task of education becomes: increasing the semiotical competence of all students.

The preceding analysis suggests the following hypothesis: learning disabled children generally exhibit a lower level of language proficiency than their normal peers. There are at least two ways of formulating this hypothesis in the form of a test-conditions-test-results conditional:

1. If a set of children has been partitioned into two groups, LD and non-LD, according to traditional methods (such as IQ-achievement discrepancy; low performance on identification tests such as the VMI, ITPA, and Bender; and professional consensus) then the incidence of language disorders in the LD group will be greater than the incidence of language disorders in the non-LD group.
2. If a set of children has been partitioned as designated above then low performance on language tests will be a better discriminator of the LD trait than low performance on traditional identification tests.

The hypothesis can be tested in at least one of two ways:

1. An ex post facto analysis of performance on tests which are considered to be "language-free" compared with performance on tests which are judged to be relatively language dependent. Since no test is truly language-free, there is an ever present problem of contamination using this method.
2. A comparative study of the performance of LD and non-LD students on an objective test which is designed to assess semiotical repertory. Unfortunately, no test presently exists which comprehensively measures all semiotical aspects, including nonverbal and pragmatic aspects.

The role of philosophy in solving the problem of learning disability has now been demonstrated. The definitions and theories of learning disability have been philosophically analyzed. Also, a linguistic ontology has been postulated which promises to be productive in terms of identification and remediation. In short, the problem of learning disability should thus be in a more science-acceptable form. Therefore, the question of learning disability can now be handed over to empirical science.

CHAPTER V

TESTING A HYPOTHESIS:

AN EXPLORATORY STUDY OF LANGUAGE COMPETENCE IN NORMAL AND LEARNING DISABLED CHILDREN

Introduction

The following exploratory study was conducted to verify (confirm or disconfirm) the hypothesis that language competence is a better differentiator between learning disabled children and normal children than perceptual-motor-memory competence.

As pointed out in the previous chapters, many schools are faced with the problem of inaccurate identification of learning disabled children.¹ Traditional methods have differentiated between normal and learning disabled children by the use of perceptual-motor-memory tests (for example, the Frostig Test) and have attempted to remediate the identified learning disabled children through the implementation of perceptual-motor-memory training activities such as Frostig exercises. However, these traditional methods of identification and remediation

¹Samuel A. Kirk and John Elkins, "Characteristics of Children Enrolled in the Child Service Demonstration Centers," Journal of Learning Disabilities 8 (November 1975):630-637.

appear unsatisfactory because efficacy studies have revealed the ineffectiveness of such methods.¹

Recently, researchers such as Elisabeth Wiig have found evidence that learning disability generally manifests itself as a language deficiency.² These researchers maintain that remediation of learning disability should focus on improving language competence.

In the present investigation it is expected that if a group of learning disabled children and a group of normal children were both given a language test and a perceptual-motor-memory test, the language test would be a better differentiator between the two groups than the perceptual-motor-memory test. The purpose of the present exploratory study is to tentatively establish that the language model (that is, the semiotical model) of learning disability is effective in identifying learning disabled children. If learning disabled children do, in fact, exhibit language deficiencies then an apparent remediation prescription is to improve the language competence of such children. The general hypothesis to be tested is that language competence is a better differentiator between learning disabled children and normal

¹Ronald P. Colarusso, Hannah Martin, and Joseph Hartung, "Specific Visual Perceptual Skills as Long-Term Predictors of Academic Success," Journal of Learning Disabilities 8 (December 1975):651-655; and Stephen C. Larsen, Dorothy Rogers, and Virginia Sowell, "The Use of Selected Perceptual Tests in Differentiating between Normal and Learning Disabled Children," Journal of Learning Disabilities 9 (February 1976):85-89.

²Elisabeth H. Wiig and Eleanor M. Semel, "Productive Language Abilities in Learning Disabled Adolescents," Journal of Learning Disabilities 8 (November 1975):578.

children than perceptual-motor-memory competence.

METHOD

Hypotheses Tested

The principal purpose of this study was to test the following hypotheses:

Given a group of normal subjects and a matched group of learning disabled subjects:

1. The mean score of the normal subjects on a language test (the Preschool Language Scale) will be significantly greater than the mean score of the learning disabled subjects.
2. The normal subjects will obtain a significantly higher mean vocabulary age on a standardized vocabulary test (the Peabody Picture Vocabulary Test) than the learning disabled subjects.
3. The label "learning disabled" will correlate significantly more highly to low scores on the language test (Preschool Language Scale) than to low scores on perceptual-motor-memory tests (such as the Purdue Perceptual-Motor Survey).

Subjects

Three hundred and ninety-seven subjects were selected from fourteen first grade classrooms in an upper middle class suburban school district. Mentally retarded, physically impaired, emotionally disturbed, bilingual, non-English speaking, hearing impaired, and visually handicapped subjects were excluded from the sample. Less than five percent of the subjects were from minority groups. The mean IQ score of the subjects was 115 (ranging from 84 to 165) as measured by the Otis-Lennon Mental Ability Test. The learning disabled subjects had been previously diagnosed or were in the process of being referred as

potentially learning disabled. The ITPA, WISC, Wepman, Bender, professional judgment, and IQ-achievement discrepancy were utilized as criteria for learning disability diagnosis. Normal subjects had no previous history of learning disabilities. Utilizing the above selection criteria, 25 subjects were identified as learning disabled and 372 were classified as normal.

Procedure

All subjects were individually given three tests: the Peabody Picture Vocabulary Test, the Purdue Perceptual-Motor Survey, and the Preschool Language Scale. The first two tests are commonly used and have professionally accepted levels of reliability and validity.¹

Instruments

The Purdue Perceptual-Motor Survey measures body image, manual dexterity, body movement, and eye-motor coordination. The test thus assesses channels of perceptual-motor functioning. The Peabody Picture Vocabulary Test, inter alia, is regarded as an assessment of a child's vocabulary competence.

The Preschool Language Scale contains five subtests: the first four mainly assess language competence (syntax, following directions, vocabulary, and vocal integration). However, the fifth subtest assesses auditory-visual-sequential memory. The Preschool Language Scale was produced in 1969 by Luceille Werner, Director of a Title III

¹Oscar Krisen Buros, ed. The Seventh Mental Measurements Yearbook (Highland Park, New Jersey: Gryphon Press, 1972), pp. 417 and 874.

ESEA project entitled "Early Prevention of School Failure." The test was validated as follows. The Pearson correlation coefficient comparing pre- and post-test scores resulted in a reliability correlation of .773 at a .001 level of significance. Since the Stanford-Binet Intelligence Test predominantly measures intellectual language functions, it was selected for a concurrent validity check. A close similarity exists between the content of the language inventory and the content of the Stanford-Binet. The Pearson correlation coefficient comparing the language inventory raw scores with the Binet MA was .776 which was significant at the .001 level.¹

Results

The results of the study are presented in Tables 1, 2, and 3. In Table 1 we see that, as anticipated, the mean language score of the normal group was greater than the mean language score of the learning disabled group.

Table 2 presents the average result of computing the discrepancy in months between the chronological age and the "vocabulary age" (Peabody Picture Vocabulary Test mental age) for each subject. For example, if a subject has a chronological age of 71 months and the subject has a raw score on the Peabody Test which corresponds to a mental age equivalent of 87 months, his chronological/mental age discrepancy would be +16 months. The +16 indicates that his vocabulary age is 16

¹"Preschool Language Scale Manual," (Mimeographed.) Available from Peotone School District 207-U, 114 N. Second Street, Peotone, Illinois 60468.

months greater than his chronological age. As expected, we see that the normal group exhibited a greater vocabulary competence (+15.02 months above their chronological age) than the learning disabled group (+3.76 months above their chronological age). The significance of this finding is the magnitude of the difference between the learning disabled group's performance and the normal group's performance. The fact that the learning disabled group scored above their chronological age (+3.76) would not be surprising to those who work with learning disabled children. One of the characteristics of such children is that, while they often score above the fiftieth percentile (because of high IQ or socio-economic status), they often perform significantly lower than their normal peer group on the same test.

In Table 3, the correlations that were found between low score on various tests and the learning disabilities attribute are presented. As anticipated, it was found that poor performance on the language test was better correlated to learning disability than poor performance on the memory or perceptual-motor tests. Therefore, language competence appears to be a better predictor of learning disability than perceptual-motor-memory competence.

TABLE 1
Results of Language Test

Group	N	Language Inventory Mean Score	Standard Deviation	Variance
LD	25	27.68	7.04	49.56
Normal	372	34.79	5.32	28.30

TABLE 2

Mean Discrepancy between Chronological Age and Vocabulary Age

Group	N	Mean Discrepancy in Months between CA and MA	Standard Deviation	Variance
LD	25	+3.76	15.67	245.55
Normal	372	+15.02	11.93	142.32

TABLE 3

Correlations between LD and Low Test Performance

	Low Score on Language Subtests	Low Score on Memory Subtest	Low Score on Perceptual-Motor Survey
LD	.35	.19	.16

The first null hypothesis tested (represented in Table 1) was that the two mean language scores were the same. The null hypothesis was rejected at the .05 level of significance. The following t-test was used because the variances were unequal and the learning disabled group was small (less than 30).

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{N_1} + \frac{s_2^2}{N_2}}} \quad \text{and} \quad t_{.05} = \frac{t_1 \frac{s_1^2}{N_1} + t_2 \frac{s_2^2}{N_2}}{\frac{s_1^2}{N_1} + \frac{s_2^2}{N_2}}$$

The second null hypothesis tested (represented in Table 2) was that the two mean discrepancies were the same. The null hypothesis was rejected at the .05 level of significance by using the t-test described above.

The third null hypothesis tested (represented in Table 3) was that there was no difference among the correlation coefficients yielded by the point-biserial Pearson product-moment correlation formula. Using a two-tailed test of normal distribution, the null hypothesis was rejected at the .05 level of significance. The language correlation of .35 is considered to be a "moderate" correlation whereas the memory and perceptual-motor correlations of .19 and .16 respectively, are considered to be "low" correlations.

In order to display the results in an additional form, Figures 1 and 2 are presented.

FIGURE 1

Mean Score on Language Survey of Each Group

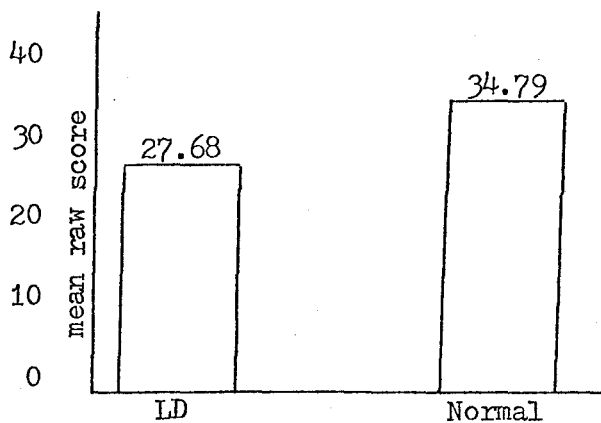
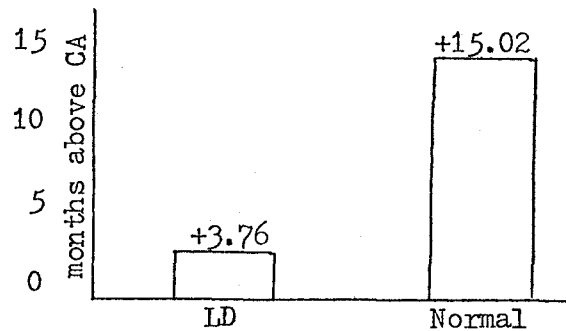


FIGURE 2

Mean Discrepancy between CA and Vocabulary-MA of Each Group



Summarizing the obtained results, we find that: learning disabled children generally do not achieve as well as normal students on language tasks, learning disabled children generally do not have as good a vocabulary repertory as normal children, and performance on language tests yields a better correlation to learning disability than performance on perceptual-motor-memory tests.

Discussion

The results of this study offer support for the general hypothesis that language competence is a good predictor of learning disability and a better predictor than the traditional criterion of perceptual-motor-memory competence.

It should be noted that although the evidence produced by this study supports the semiotical theory of learning disability, confirmation of the semiotical theory is limited by at least three verification difficulties. First, the tests used do not comprehensively measure semiotical functioning (including semantic, syntactic, pragmatic, pro-

sodic, and nonverbal factors). Secondly, there is an inherent contamination problem in language and nonlanguage tests. The perceptual-motor-memory tests depend on language, if only in the establishment of the directions. Also, the language tests clearly depend on memory, perception, and motor components. Thirdly, partitioning a group of students into learning disabled and normal subgroups is an uncertain process at best, often resulting in the identification of false positives and false negatives. Therefore, any attempt to accurately correlate learning disability to test performance is limited by the accuracy of the given partitioning process.

It is recognized that additional statistical testing (for example, partial correlation analyses) could have been conducted. However, due to the limitations of the exploratory nature of this study, such analyses were not conducted. Based on the exploratory data reported here, however, it appears that further statistical testing is warranted.

Conclusion

The verification of the semiotical theory of learning disability now rests upon weak empirical evidence. As further positive evidence is collected, the probability in favor of the truth of the semiotical hypothesis will increase. The scientist and philosopher will err, however, the moment that they delude themselves or others into unconditional or final acceptance of this or any other hypothesis.

Bertrand Russell, a philosopher who spent much of his life exploring the foundations of mathematics (supposedly the most certain of all knowledge), once observed:

No one should be certain of anything. If you are certain, you are certainly wrong, because nothing deserves certainty.¹

This problem of certainty thus brings us to the limits of philosophy in general and to the limits of philosophy in education.

¹Russell, Bertrand Russell Speaks His Mind, p. 14.

We must do away with all explanation and description alone must take its place.

Investigations (109)

CHAPTER VI

REFLECTING ON THE LANDSCAPE:

THE LIMITS OF PHILOSOPHY IN EDUCATION .

This work will be concluded by reviewing what has been presented in the previous chapters and by reflecting upon the inherent limitations of philosophy in education.

A new role for philosophy in education was explored through a partial reconstruction of philosophy, the history of philosophy, and various educational disciplines on the basis of "the linguistic turn" which was described as: the ontological attitude that language is the basis for all reality.

It was shown how taking the linguistic turn suggests a new criterion of meaning which displaces the empiricist criterion of meaning. It was further shown how adopting the linguistic turn can result in postulating: a new definition of 'man'; a new distinction between science and the humanities; and a reinterpretation of the value and meaning of metaphysics, theology, and religion.

In the process of exploring "metaphysical semantics" a neuro-physiological basis was suggested for Mead's internalized self-other

dichotomy and a confirmation-falsification reduction was proposed for 'God exists'.

A paradigm application of the linguistic turn in education was presented. The example field was special education and learning disability in particular. The analysis included a critique of the current federal de jure definition of learning disability as well as the de facto definition of learning disability presently used by the practitioners in the field.

Three competing theories of learning disability were examined and a fourth was proposed: that learning disability can be described as an "unacceptable" level of semiotical proficiency with respect to the continuum of semiotical proficiencies exhibited by a reference population.

Finally, a predictive hypothesis was proposed concerning the relationship between language and learning disability. The problem of learning disability was then handed over to empirical science. Handing over the problem to science brings us to the limit of philosophy. What is the limit of philosophy in education?

An art critic might point out that baroque painting typically has a diagonal organization of its elements extending into the background of the painting. The art critic is not thereby pointing out something that was literally hidden from us previously. The philosopher is much like this art critic because:

The aspects of things that are most important for us are hidden because of their simplicity and familiarity. Philosophy simply puts everything before us, and neither explains nor deduces anything. Since everything lies open to view there is nothing to explain. For what is hidden . . . is of no interest to us.¹

When philosophy places everything before us, it does so from a new perspective. Only the perspective is new, not the elements of what is seen. The new perspective is a description of things already before us.

Wittgenstein's metaphor suggests the limit of philosophy in education. The descriptive function of philosophy is also its limit. Metaphysical "explanation" is not explanation in the empirical sense (prediction and postdiction). Metaphysical description is a metaphorical representation of those things that transcend public experience.

Since it was the intent of this study to propose for education a description of a linguistic ontology, a system of metaphysical semantics, and the limits of language and thought then everything said which was of value in realizing this goal was said metaphorically and not designatively (empirically).

¹Ludwig Wittgenstein, Philosophical Investigations, trans. G. E. M. Anscombe (New York: Macmillan Co., 1953), p. 50e.

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APPROVAL SHEET

The dissertation submitted by Robert John Clinkert has been read and approved by the following committee:

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The final copies have been examined by the director of the dissertation and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the dissertation is now given final approval by the Committee with reference to content and form.

The dissertation is therefore accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy.

May 9, 1977
Date

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