

A CONCURRENT VALIDITY STUDY OF THE
EMERGENT READING LEVEL

BY

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A CONCURRENT VALIDITY STUDY OF
THE EMERGENT READING LEVEL

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This study investigated the concurrent validity of a new construct for placement, the Emergent (mediated) Reading Level. This construct, based upon the Soviet psychologist Vygotsky's concept of the zone of proximal development, focused on identifying the level of reading performance a child could achieve with adult support. The major intent of the study was to determine which method of placement, the traditional Informal Reading Inventory (IRI), or the mediated IRI better predicted an appropriate book level placement that would maximize benefit for reading instruction.

An ancillary purpose of the study investigated the IRI and two types of scoring criteria used to select Instructional Reading Level.

The 21 second graders who served as subjects were administered IRIs by two different methods. In the traditional method, subjects were tested without adult assistance. In the mediated method, subjects received instruction prior to testing.

Analysis included the Wilcoxon test and percentage of agreement matrixes. Differences between the book level placements predicted by each method were significant. The Emergent (mediated) Reading Level was found to place subjects two to three book levels higher than the traditional IRI. A follow-up analysis indicated subjects could sustain their higher Emergent Reading Levels during concurrent trial lessons.

A significant difference existed between the Betts and Powell IRI criteria in predicting appropriate reading placement. The Powell criteria resulted in higher placements. However, the Powell and Betts criteria substantially underestimated placement when compared to Emergent Reading Level.

Data from this study supported Emergent Reading Level as a valid and more accurate predictor of placement than the traditional IRI. Current procedures used to place children for reading instruction are likely to result in underplacement.

CHAPTER I
INTRODUCTION

The Informal Reading Inventory (IRI), an individually administered reading test, consists of a series of graded word lists and passages of increasing language complexity with accompanying comprehension questions to be read and answered by the child without any adult prompting or support. Using the IRI to establish instructional level, that is, to predict the highest level of book in which the child can profit from instruction is a useful and widespread practice. Introduced by Betts (1941, 1946), the method of establishing the instructional level using an IRI has changed little despite many unresolved issues concerning reliability, validity, and interpretation (Johns & Lunn, 1983; Pikulski, 1974).

One criticism of the traditional administration of the IRI is that it ignores the instructional dimension of a developmental reading context (Powell, 1982). Therefore, the term Instructional Reading Level is misleading because it is obtained without teacher guidance or instruction. The instructional level is obtained by students answering a pre-specified percentage of questions with a specified

criterion level of oral reading proficiency without assistance. Because the teacher does no teaching during the IRI administration, the instructional level obtained may underestimate what the student could sustain during actual instruction.

This study investigated an alternative construct for placement, the Emergent (mediated) Reading Level (Powell, 1982). This construct is based upon the Soviet psychologist Vygotsky's (1962, 1978) concept of emerging mental functions--the zone of proximal development, which focuses on the phase in development in which the child has only partially mastered a task but can participate in its execution with the assistance and supervision of an adult. For Vygotsky, in educational assessment it was important to distinguish between the child's actual development, measured by unaided performance on tests, and the child's level of potential development--performance achievable with aid. Vygotsky's zone of proximal development is based on the principle of cognitive operations in terms of emerging learning processes, (a) that designate the child's level of functioning in a mediated situation (i.e., under adult guidance or in collaboration with capable peers), and (b) that come to the surface for observation and diagnosis when the child is engaged in a highly difficult learning task.

Statement of the Problem

The purpose of this study was to investigate the concurrent validity of the Emergent (mediated) Reading Level, a construct for reading placement applied to the Informal Reading Inventory (IRI). This construct was based upon Vygotsky's concept of the zone of proximal development. The major question to be answered was which method of placement, the traditional IRI, or the mediated IRI was more predictive in assigning accurate functional reading levels for instruction? That was, would one method best predict an appropriate book level placement that would provide for more growth in reading instruction? The question was one of concurrent related validity. Was the Emergent Reading Level a valid predictor for reading placement? The criterion, proper placement, was measured by concurrent success on a trial reading lesson.

An ancillary purpose of the study investigated the appropriate numerical criteria for establishing a reader's instructional level through the administration of an IRI. The intent was to determine whether the traditional (Betts, 1941) criteria or the differential (Powell, 1978) criteria, applied to reader's performance in both word recognition and comprehension, was best for determining appropriate book level placement. In other words, which numerical criteria placed the reader at a level that was commensurate with the level that could actually be sustained during a trial reading lesson?

Hypotheses

Two hypotheses, stated in the null form, were tested in this study.

Hypothesis I

There is no difference between the Emergent Reading Level, as measured by a mediated IRI, and the traditional Instructional Reading Level, as measured by a non-mediated IRI, in predicting appropriate book level placement for reading instruction.

Hypothesis II

There is no difference between Betts' criteria or Powell's differentiated criteria in predicting appropriate book level placement for reading instruction.

Significance of the Problem

Despite over 40 years of using the Informal Reading Inventory (IRI) as a means of evaluating the reading performance of children, unresolved issues concerning reliability, validity, and interpretation remain (Johns & Lunn, 1983; Pikulski, 1974). Empirically validated evidence of designating the instructional reading level is sparse. Powell's (1978) research challenges Betts' (1941) traditionally accepted criteria for establishing an instructional level. Also, Powell (1982) has stated that all sets of existing criteria for interpreting errors and placement at the

Instructional Reading Level are likely to produce too low a placement level because it is not obtained under the conditions of instruction or adult mediation. According to Vygotsky (1978) instruction should occur within a student's zone of proximal development, that is, the distance between the actual development as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with capable peers. More recently, Dixon, Stanley, and Powell's (1984b) research which applied Vygotsky's concept of the zone of proximal development to diagnosis and placement using the IRI suggests that a new construct, Emergent Reading Level, may provide for more accurate placement.

Related to the issues of informal diagnosis is the concept of the trial lesson. Also known as "trial teaching," this method has been historically used to select an approach for teaching word-recognition skills or determining which beginning approach is more likely to succeed for which children (Harris & Roswell, 1953; Mills, 1955; Sullivan, 1951). Written reports of applying this method to comprehension or placement are unknown, suggesting it has not been done. The experimenter of the present study made a simple modification of the trial lesson concept for verifying that students could sustain their book level placements during actual instruction as predicted by their Emergent Reading Levels.

The present study may provide additional supporting evidence for the Emergent (mediated) Reading Level, thus seriously questioning existing placement practices using the IRI. The possibility that the traditional method of administering and interpreting the IRI may result in underplacement for reading instruction is a very important concern. Underplacement can be as frustrating as overplacement because the underplaced reader is not challenged.

This study may also help resolve the issue of which set of numerical criteria is best suited for placing readers in instructional materials in order to provide for maximum growth in reading instruction. That the different criteria applied to the traditional IRI can also result in underplacing the reader is again a very important concern.

Limitations

There are limitations concerning the sample population. For one, the sample used consisted of volunteers by parental permission and therefore was not randomly selected from the total population. Secondly, results will be generalizable only to populations similar to this sample population. That is, second grade students who are of average reading achievement and attend a small urban elementary school. Also, the sample size poses a limitation as the number of subjects was 21, and 5 of the total 21 for a latter part of the study.

There are limitations concerning the mediated IRI. Mediation consisted of the researcher providing a support system for the reader by building background, setting purposes, and defining unfamiliar vocabulary prior to the administration of a published IRI (Spache, 1981). Results will be applicable to testing situations which use similar mediation and similar IRIs. Furthermore, successful placement based upon the mediated IRI necessitates mediated instruction.

Definition of Terms

Concurrent Validity

Concurrent validity refers to the extent to which scores on a test are in agreement with some given criterion measure. No significant time interval elapses between administration of the test being validated and of the criterion measure. In the present study, the purpose was to determine if the Emergent (mediated) Reading Level was a valid placement predictor for the criterion--actual book level sustained during instruction.

Emergent Reading Level

Emergent or Mediated Reading Level refers to a construct for placement proposed by Powell (1982); it designates the student's level of functioning in a mediated

situation (i.e., under adult guidance and assistance) when engaged in a highly difficult reading task.

Functional Reading Levels

Functional reading levels include (a) the Independent Reading Level, the highest level at which the student can read with almost no errors in word recognition or comprehension; (b) the Instructional Reading Level, the highest level at which the student is able to read, with teacher guidance, challenging materials successfully; and (c) the Frustration Reading Level, that at which the reader is unable to cope with the material successfully.

IRI Criteria

IRI criteria refer to the quantitative analysis of a reader's performance in word recognition and comprehension on an IRI to determine functional reading levels. Different sets of criteria (Betts, 1941; Powell, 1978) can be applied to a reader's performance in word recognition and comprehension, and they appear to result in different placements. Whether the difference is statistically significant is unclear. Furthermore, it is unknown which criteria result in the most valid placement.

The Betts (1941) criteria for determining Instructional Reading Level are

<u>Book Level</u>	<u>Word Recognition</u>	<u>Comprehension</u>
All	95% to 98%	75% to 89%

The Powell (1978) differentiated criteria for determining Instructional Reading Level are

<u>Book Level</u>	<u>Word Recognition</u>	<u>Comprehension</u>
PP-1	87% to 93%	55% to 80%
3-5	92% to 95%	60% to 85%
6+	94% to 96%	65% to 90%

Informal Reading Inventory (IRI)

The IRI is an accepted means of establishing the Independent, Instructional, and Frustration Reading Levels for placement. The IRI is composed of graded word lists and passages generally 100 to 200 words in length, usually ranging in successive difficulty from a pre-primer to eighth grade reading level. The reader's performance on an IRI yields word recognition and comprehension percentage scores which are interpreted by applying various criteria (Betts, 1941; Powell, 1978). The IRI may be teacher constructed or commercially published.

Mediated (Dynamic) IRI

Mediated or dynamic (Budoff, 1972; Feuerstein, 1979) refers to a style of administering the IRI which is identical to the traditional (static) IRI, but includes the addition of the mediated situation prior to the reader reaching frustration. The examiner provides a support system for the reader in more difficult passages by building

background, setting purposes, and defining unfamiliar vocabulary.

Traditional (Static) IRI

Traditional or static (Budoff, 1972; Feuerstein, 1979) refers to a style of administering the IRI which involves having the student, unassisted, orally read passages of increasing difficulty while the examiner records errors on another copy of the material from which the student is reading. An assisted word calling or prompting during the asking of comprehension questions are counted as errors. Testing ceases when the reader reaches frustration.

Trial Reading Lesson

The concept of the trial reading lesson has historically referred to as a technique used to verify diagnostic findings related to teaching word recognition skills (Harris & Roswell, 1953; Mills, 1955; Sullivan, 1951). In the present study the concept trial reading lesson has been modified to mean a procedure for verifying children can sustain their book level placements as predicted from the administration of the mediated IRI.

Zone of Proximal Development

Vygotsky (1978) defined the zone of proximal development as "the distance between the actual developmental level

as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers" (p. 86).

CHAPTER II
REVIEW OF RELATED LITERATURE

Instructional Reading Level

The Informal Reading Inventory (IRI) has been used since 1941 as a means of evaluating the reading performance of children. Although Johns and Lunn (1983) traced the origin and development of informal assessment from the early 1900s, Emmett A. Betts (1941, 1946) is generally considered to be the originator of the IRI. Both Johns and Lunn (1983) and Pikulski (1974) have reviewed the unresolved issues which have evolved after nearly a half century inquiry into the IRI. Researchers have focused on such issues as reliability, validity, and the appropriate criteria for establishing instructional level.

The concept of Instructional Reading Level introduced by Betts (1941) signifies the hierarchical developmental level at which instruction is aimed. The Instructional Reading Level is based on the assumptions of Hullian psychological learning theory and taxonomic linguistics (Fodor, Bever, & Garrett, 1974). These assumptions include the following: (a) language is hierarchically organized; (b) the child's developmental reading behavior is characterized by a serial growth patterning; (c) learning to read

involves learning to process the lowest level followed by learning to process each successive level; and (d) as lower levels become more efficiently processed, more time may be spent processing higher levels (LaBerge & Samuels, 1974; Perfetti & Hogaboam, 1975), resulting in faster and more accurate word recognition and comprehension of text.

The traditional concept of Instructional Reading Level is measured by an Informal Reading Inventory (IRI) which consists of passages of increasing language complexity with accompanying comprehension questions to be read and answered by the child without adult prompting or support. It is assumed that the complexity in reading processing coincides with the levels of linguistic complexity inherent in the IRI passages. Grade norms signify the level of linguistic complexity of the passages, and mastery of the successively graded passages signifies the learner's level of hierarchical reading processing level.

The major standard teachers have used for interpreting error range of the IRI has been Betts' criteria (1941). Derivation of the instructional level is based on the word recognition in context score and the comprehension score. According to Betts, setting an instructional level requires that the reader make no more than five miscues per 100 words (95% accuracy) in oral reading and answer comprehension questions with a minimum of 75% accuracy regardless of passage level difficulty.

Powell (1970, 1971, 1978) has noted there is little experimental evidence to support the Betts' criteria and has suggested that different criteria are called for at various grade levels. Powell's differentiated criteria (1978) take into account passage level difficulty and permit the reader less accuracy in word recognition and comprehension to establish instructional level than do Betts' (1941) criteria. Powell's criteria usually place the student at higher functional reading levels than do Betts' criteria.

Homan (1978) conducted a study to find out whether students placed by the Betts (1941) and Powell (1978) criteria would result in similar placements. Results indicated that 51% of the time the criteria resulted in the same placements. However, 49% of the time different placements resulted. Of that 49%, Homan (1978) found that the Powell criteria always placed the students at a higher instructional reading level. Homan (1978) reported that 55% of the time the Powell criteria placed the students one grade level above the Betts criteria designated placement; 38% two levels above, and 7% three levels above the traditional criteria.

More recently, Powell (1982, 1984) has reformulated his position on the criteria issue. Powell (1982) contended that all sets of existing criteria may produce too low a level of placement due to the way the IRI is traditionally administered. The IRI estimates instructional level without providing an instructional dimension in the testing mode.

Instructional Reading Level really represents independent functioning, not what a student can do with supporting instruction. Powell (1982, 1984) has proposed an alternative construct for placement, the Emergent (mediated) Reading Level which is based on Vygotsky's (1962, 1978) concept, the zone of proximal development.

The Vygotskian Perspective

The Soviet psychologist Lev Seminovich Vygotsky (1896-1934) formulated the theoretical context for his concept of the zone of proximal development within his social-cultural theory of cognitive development. His writings were translated into English posthumously. The Vygotskian perspective has been well documented (Luria, 1978; Rogoff & Wertsch, 1984; Smith et al., 1976; Vygotsky, 1962, 1978; Wertsch, 1980, 1981). Some basic tenets of Vygotsky's cognitive developmental theory are highlighted here.

Committed to a psychology based on Marxist premises, Vygotsky stressed that the formation of higher mental functions have their origins in social interaction. Vygotsky believed that the verbal dialogue between adult and child was pivotal in the development of the child's thinking. Rogoff and Wertsch (1984) explained

Vygotsky (1981) . . . postulated that mental functioning occurs first between people in social interaction and then within the child on the psychological plane. This implies that mental functions, such as thinking, reasoning, problem solving, or logical memory, can be carried out in

collaboration by several people (on the interpsychological plane) as well as by an individual (on the intrapsychological plane). (Rogoff & Wertsch, 1984, pp. 1-2)

Vygotsky contended that adult language qualitatively restructured the mental functions of the developing child through a process he explained as "internalization." An adult's planning and directing function guides and regulates the child's activities, and this planning function gradually becomes the means by which the child is capable of moving from an other-regulated, interpsychological plane to the self-regulated, intrapsychological plane (Werstch, 1981).

The Vygotskian perspective which emphasizes the role of language in the creation of thought contrasts markedly with Piaget's view of cognitive development (Smith et al., 1976). Jean Piaget (1896-1980), the highly esteemed developmental stage theorist whose theories have greatly influenced educational practice, minimized the influence of adult language as well as instruction upon the child's developing thought processes. Piaget characterized development as an innate process of maturation plus experience that is a prerequisite for learning. He believed that instruction should be oriented toward stages of development already completed. Piaget viewed language and instruction as outside agents in the child's developing thought processes. Conversely, Vygotsky's basic premise was that the child's cognitive development is the direct result of social interaction and ultimately, instruction. For Piaget, development

precedes instruction, whereas for Vygotsky (1962) instruction precedes development and leads it; "it must be aimed not so much at the ripe as at the ripening function" (1962, p. 104). The contrasting Piagetian and Vygotskian perspectives on cognitive development were well characterized by Jerome Bruner:

Jean Piaget, set forth an image of human development as a lone venture for the child, in which others could not help unless the child had already figured things out on his own and in which not even language could provide useful hints about the conceptual matters to be mastered . . . (Vygotsky) set forth a view in which growth was a collective responsibility and language one of the major tools of that collectivity. (quoted in Rogoff & Werstch, 1984, p. 96)

For Vygotsky, to understand an individual's cognitive growth necessitates examining the child's patterns of participation in social dialogue with adults or capable peers. Vygotsky proposed his concept of the zone of proximal development as an approach to educational assessment.

The Zone of Proximal Development

Vygotsky addressed the issues of diagnosis and placement for instruction (1962, 1978) with the formation of his concept of the zone of proximal development. Vygotsky (1978) defined the zone of proximal development as

The difference between the actual development level as determined by independent problem solving and the higher level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. (Vygotsky, 1978, p. 86)

For Vygotsky, a child's range of potential development is best measured by examining the difference between the level of unassisted performance of a task and the level of assisted performance.

Vygotsky's concern with the relationship between a child's level of actual development and potential development led him to critique established methods of psychological testing. Vygotsky argued that static test procedures, measures of unaided performance such as standard ability and achievement tests, were indicators of already completed development and dramatically underestimate children's learning potential. Vygotsky (1978) stressed that test data which reveal actual functioning view development "retrospectively" while the zone of proximal development views development "prospectively" (pp. 86-87).

Vygotsky's zone of proximal development is based on a principle that redefines cognitive operations in terms of emerging learning processes instead of the presence of fixed, preordered thought structures. According to Vygotsky's (1978) principle these emerging learning processes (a) designate the child's level of functioning in a mediated situation as under adult guidance or in collaboration with capable peers, and (b) come to the surface for observation and diagnosis when the child is engaged in highly difficult learning tasks.

Vygotsky's concept of the zone of proximal development has stimulated a considerable body of research in a variety of areas and has been reviewed by Rogoff and Werstch (1984). The next section reports on the pertinent research on reading and the zone of proximal development.

The Emergent Reading Level

Vygotsky's concept of the zone of proximal development has been applied to diagnosis and placement for reading instruction by Powell's (1982, 1984) formulation of the construct, Emergent (mediated) Reading Level. William Powell, particularly prominent for challenging the numerical criteria for setting the Instructional Reading Level, contended that the present method of assigning students to functional reading levels is likely to result in underplacement. Powell pointed out that the traditional administration of the Informal Reading Inventory (IRI) ignores the instructional dimension of a developmental reading lesson. Instructional Reading Level is obtained by students answering a pre-specified percentage of questions with a specified criterion level of oral reading proficiency without assistance; therefore, it is a measure of independent performance, not the potential to profit from guided instruction.

Powell (1982, 1984) maintained that to measure a child's growth potential for reading instruction, a dynamic testing versus a static testing style (Budoff, 1972; Feuerstein, 1979) should be used. A dynamic testing method

measures the student's reading performance when given adult support. It investigates the child's response to instruction via teacher/student interaction. A static testing procedure such as the traditional IRI measures unassisted reading performance.

The construct, Emergent (mediated) Reading Level, a dynamic method of assessment proposed by Powell (1982, 1984), examines potential for growth in reading instruction by measuring the level of highest performance within the zone of proximal development. Powell (1982, 1984) recommended a procedure for determining Emergent Reading Level consistent with Vygotsky's concept of the zone of proximal development. First, establish an Independent Reading Level of performance. (This Powell contended is synonymous with the instructional level in the traditional IRI format.) Next, the examiner provides reading passages of increasing difficulty and fosters a mediated situation prior to the reader reaching frustration. The examiner mediates by providing a support system for the reader by building background, setting purposes, and defining unfamiliar vocabulary. The Emergent Reading Level is designated as the highest level of reading performance the student can sustain with adult assistance. Powell (1982) emphasized that his construct of Emergent (mediated) Reading Level is consistent with the Vygotskian perspective on learning:

. . . the notion of mediation is such that the child should become less dependent upon an adult and begin to plan, monitor, and control his or her own processing for information gain. There should

be a gradual movement from the inter-psychological plane to the intra-psychological plane, from the other regulated behavior to self-regulated behavior. (Powell, 1982, p. 4)

Two experimental studies by Dixon, Stanley, and Powell (1984a, 1984b) challenged the traditional concept of Instructional Reading Level by exploring the construct of Emergent Reading Level. The researchers investigated the reading levels a pupil can sustain under adult mediation, using expository and narrative materials. The results of both studies confirmed the effectiveness of the Emergent Reading Level as a viable alternative to Instructional Reading Level in placement for classroom reading instruction. In addition, the authors concluded that all sets of existing criteria for assigning Instructional Reading Level produced too low a level of placement because it was not obtained under the conditions of adult mediation.

Each experiment (Dixon et al., 1984b) followed that recommended by Vygotsky for investigating the child's zone of proximal development. An adult assisted reading task, two to three levels above the measured pupil reading achievement, was used to uncover the child's emerging level of cognitive functioning. The first experiment involved a sample of 52 subjects, 26 third graders and 26 sixth graders, of average reading ability as measured by the Gates-MacGinitie Reading Achievement Test. Subjects were randomly assigned to experimental and control groups. All subjects were administered cloze pretest science passages

two readability levels above their actual developmental reading levels (i.e., third graders tested at level five and sixth graders tested at level eight). Prior to posttesting, half of the third graders and half of the sixth graders were engaged in a mediated situation. The other half served as a control group and received no mediation. The mediation included discussion and explanation of unfamiliar vocabulary and concepts contained in the passages, collaboration with capable peers in verbalizing previously acquired vocabulary and concepts, and adult guidance in organizing and inter-relating these concepts in relation to adult cognitive structures. When incorporating an instructional dimension during diagnosis to determine Emergent Reading Levels, subjects' placements for reading instruction were generally estimated to be two levels upward from the traditional Instructional Reading Level.

The second experiment (Dixon et al., 1984b) involved 24 end-of-the-year fifth graders of average reading ability. Subjects were randomly assigned to an experimental or control group and administered a sixth grade, silent narrative IRI to establish baseline reading performance. All subjects silently read passages from unfamiliar fables at the seventh and eighth grade readability levels in a pretest-posttest IRI format. Half of the students were assigned the experimental group and received mediation prior to posttesting. The other half served as a control group and received no mediation prior to posttesting. Mediation

consisted of an interactive dialogue on pertinent vocabulary and literary concepts in the fable passages. The results showed that the group receiving mediation performed significantly higher than the control group. The mediated group's mean comprehension performance on seventh and eighth grade passages were 94% and 85%, respectively. The non-mediated group's mean comprehension on the same level passages were 80% and 65%, respectively. Applying the Betts (1943) criteria to the results, the researchers concluded that using the traditional concept of Instructional Reading Level of the IRI, the subjects would have been underplaced at their actual developmental reading in sixth or seventh grade materials. Emergent (mediated) Reading Levels indicated subjects would profit from instruction at eighth grade level and beyond. The researchers further concluded that all sets of existing criteria for determining placement produced too low a level of placement because instructional reading level was not obtained under the conditions of adult mediation.

In a separate pilot study, Newman (now Kragler) and Powell (1985) investigated the usefulness of the Emergent Reading construct for low achieving students. The 19 fourth graders who served as subjects were enrolled in Chapter I classrooms and below average readers. In the experiment, students answered a 20 multiple-choice question pretest and posttest prior to reading a fifth grade level, fable passage. Students were randomly assigned to an experimental

group, receiving mediation prior to posttesting, or control group receiving no mediation prior to posttesting. Mediation consisted of an interactive dialogue concerning concepts about fables and selected vocabulary. Results indicated that the mediated group on the average answered correctly 2.5 more questions on the posttest than did the control group. The evidence suggested that an application of the Emergent Reading Level construct with low achieving students would place students higher than traditional methods.

Recently two separate dissertations (Dixon, 1985; Kragler, 1986) provided additional evidence of the effectiveness of the Emergent Reading Level construct. Dixon's (1985) major finding was that the traditional IRI could be modified by adding a mediated situation to measure students' Emergent Reading Levels which were found to be more accurate estimates of placement than Instructional Reading Levels. Findings from this study also indicated the best type of mediation for evaluating students' Emergent Reading Levels focused on a story schema plus vocabulary approach. Kragler's (1986) findings, based on a sample of low achievers, also support the dynamic assessment model (Budoff, 1972; Feuerstein, 1979) of Emergent Reading Levels as a better predictor of placement than static methods such as the traditional IRI. Kragler's (1986) results also support a vocabulary development approach via social

dialogue for mediation prior to IRI passage reading when measuring Emergent Reading Levels.

Dixon's (1985) study involved a sample of 24 third graders of average to high average reading ability randomly assigned to experimental and control groups. All subjects were administered a static (non-mediated) and Dynamic (mediated) Quick Test, a verbal intelligence measure, and a static, silent IRI pretest. All subjects were administered two silent IRI posttests at each successive grade level, four through seven. The experimental group engaged in one of two kinds of mediation prior to posttesting and the control group received no mediation prior to posttesting. One mediation consisted of a story schema development approach (i.e., the story setting, problem, and goal) through social dialogue. The other mediation was a story schema approach plus direct instruction of vocabulary. Dixon (1985) summarized the findings of the study with five conclusions about the Emergent Reading Level construct:

1. The dynamic testing model which used a mediated IRI was effective in exposing students' zones of proximal development for reading functioning. Third graders operating in a mediated IRI had Emergent Reading Levels at fourth through seventh grade level. Subjects operating in a static IRI had Instructional Reading Levels at grade three and were frustrated at levels four through seven.

2. The data reconfirmed that existing sets of criteria such as Betts' (1941) and Powell's (1978) failed to identify the upper threshold of students' zones of proximal development for reading. Dixon recommended an adjusted comprehension error range criteria for setting Emergent Reading Levels (i.e., 50% to 85% accuracy at passage levels four and five, and 55% to 90% accuracy at passage levels six and seven).
3. The most effective mediation in exposing students' Emergent Reading Levels was the story schema plus vocabulary development approach; next effective, vocabulary development approach; and ineffective, was the story schema development approach.
4. Students who received mediation prior to the administration of a verbal intelligence test scored significantly higher than students not receiving mediation, suggesting that standard verbal measures may underestimate learning potential.
5. There was not a significant relationship between students' mediated verbal zones and Emergent Reading Levels.

In a more recent dissertation, Kragler (1986) reconfirmed the effectiveness of the dynamic assessment model (Budoff, 1972; Feuerstein, 1979) of Emergent Reading Level with underachievers in reading. The study involved 21 third graders enrolled in Chapter I classrooms, ranging six months to two years behind in reading achievement. Students'

silent comprehension of third through fifth grade level IRI passages was assessed by their ability to recall a possible total of 20 story events. Reading performance was evaluated by using Kenneth Goodman's category of an effective reader criteria (i.e., Instructional Reading Level ascertained as 40 to 55 percent accurate recall of a given passage). Students were randomly assigned to an experimental group which received mediation prior to the tests of story recall or a control group which received no mediation. Mediation consisted of a social dialogue in which selected vocabulary was defined through use of context. Results of the experiment indicated that the mediation was effective at all passage levels in increasing the percentage of recalled story events. Students were generally estimated to have reading placements nine months to one year higher than students tested by the traditional, static IRI.

In addition, Kragler (1986) investigated whether underachievers could sustain their predicted higher, Emergent Reading Level placements during actual instruction. The experimental group, 11 subjects, were pre-instructed (mediated) and posttested on story events of a 4.3 readability level basal story which a traditional IRI had previously indicated was at the students' frustration level. A control group, 9 subjects, received no mediation prior to posttesting but silently read the basal story twice. Results of the experiment indicated that 10 students in the experimental group and 2 in the control group could be placed in an

instructional/independent range of 40-70% comprehension on a 4.3 level story. Kragler (1986) concluded that under-achievers were able to read and comprehend more difficult material than as predicted by an administration of a traditional, static IRI. Emergent Reading Levels more accurately predict what students can sustain during actual instruction.

In concluding, the research studies cited (Dixon, 1985; Dixon et al., 1984a, 1984b; Kragler, 1986; Newman & Powell, 1985) support the Emergent Reading Level construct as a viable alternative to the traditional IRI for diagnosing and placing students for reading instruction. However, reviewers of some of the studies cited here criticized the research methodology used. Reviewers pointed out that while Emergent Reading Level may predict higher placements for students than the Instructional Reading Level of the traditional IRI, it has not been clearly demonstrated that those higher placements can be sustained during actual instruction. In other words, critics argue that the Emergent Reading Level construct has not been proven valid. The Kragler (1986) dissertation has been the only study thus far to provide limited evidence of validity. The present study attempts to provide additional evidence for the Emergent Reading Level as a valid predictor of the actual book level sustained during instruction. The use of the trial reading procedure will help accomplish this.

Trial Reading Lesson

The concept of trial lessons, also known as "trial teaching," historically has been suggested and occasionally used to verify diagnostic findings related to teaching word recognition skill and to determine which beginning reading approach is more likely to succeed for which children (Harris & Roswell, 1953; Mills, 1955; Sullivan, 1951). For example, diagnosis might reveal that a particular child learns to read faster when instructed by a whole-word method as opposed to a phonic method. Verifying this possibility could be accomplished by trial teaching the child by each method. Using the trial lesson in this manner has been developed by Mills (1955) into a standardized technique.

In the literature the trial lesson concept has never, so far as is known, been formally applied to the areas of reading comprehension or placement. The experimenter made a simple modification of the trial lesson concept for verifying students could sustain their book level placements during actual instruction as predicted by their Emergent Reading Levels.

Summary of Research

The traditional concept of instructional reading level is measured by an Informal Reading Inventory (IRI) which consists of passages of increasing language complexity with accompanying comprehension questions to be read and answered by the child without adult prompting or support. The major

standard teachers have used for interpreting the IRI has been the Betts (1941) criteria. There are many unresolved issues concerning the IRI's reliability and validity (Johns & Lunn, 1983; Pikulski, 1974). Homan (1978) found that the Powell (1971) criteria place students at higher functional reading levels than do Betts' (1941) criteria. Powell (1982, 1984) argued that all sets of existing criteria will underestimate Instructional Reading Level because the traditional IRI does not include an instructional dimension in its administration. Powell (1982, 1984) proposed an alternative construct for placement, the Emergent (mediated) Reading Level, based on Vygotsky's (1962, 1978) concept, the zone of proximal development.

Vygotsky (1896-1934), a Soviet psychologist prominent for his social cultural theory of cognitive development, addressed the issues of diagnosis and placement for instruction (1962, 1978) with the formation of his concept of emerging mental function--the zone of proximal development--which focuses on the phase in development in which the child has only partially mastered a task but can participate in its execution with the assistance and supervision of an adult. Vygotsky (1962, 1978) stressed the importance of distinguishing between a child's actual (unassisted) development and potential (assisted) development. Vygotsky's (1962, 1978) zone of proximal development designates the child's level of functioning in a mediated situation (i.e., under adult guidance or in collaboration with capable peers)

and comes to the surface when the child is engaged in a highly difficult learning task.

Powell (1982, 1984) maintained that to measure a child's growth potential for reading instruction, a dynamic testing versus a static testing style (Budoff, 1972; Feuerstein, 1979) should be used. Powell (1982, 1984) outlined the rationale and procedure for measuring Emergent (mediated) Reading Level which is consistent with Vygotsky's (1962, 1978) zone of proximal development.

A growing body of research (Dixon, 1985; Dixon et al., 1984a, 1984b; Kragler, 1986; Newman & Powell, 1985) has supported the construct of Emergent (mediated) Level as a viable alternative to the traditional IRI for diagnosing and placing students for reading instruction. The Emergent Reading Level has been found to place students higher than the traditional IRI, but more evidence is needed to establish validity. The concept of the trial reading lesson (Harris & Roswell, 1953; Mills, 1955; Sullivan, 1951) modified and applied to the area of reading placement may help determine if the Emergent Reading Level is a valid predictor of placement for classroom reading instruction.

CHAPTER III
PROCEDURES AND METHODOLOGY

Sample

The 21 second grade students who served as subjects were volunteers per parental permission and selected from two classrooms of one urban north Florida elementary school. The classroom teacher of each student reported the book level in the Ginn Reading Program (1982) from which the pupil was placed for reading instruction. The average current reading placement for the subjects was a grade equivalent of 2.8, or the latter half of the second grade book level. The majority of students would be considered on grade level as the study was conducted in April, the eighth month of the school year. (See Appendix A for complete baseline data.)

Instrumentation

I. Static Informal Reading Inventory (IRI)

The Diagnostic Reading Scales (Spache, 1981), a published IRI, was administered to determine subjects' Instructional Reading Levels. This test is representative of the many IRIs currently used for determining book level

placement for classroom reading instruction. It estimates Instructional Reading Level by determining the subjects' oral performance on successive passages of increasing difficulty in terms of both word recognition and comprehension. Applying the numerical IRI criteria to the results sets the functional reading levels and determines book level placement. The administration of the traditional IRI is described as static or non-mediated because the subject is tested without adult assistance.

Subjects' Instructional Reading Levels were determined by the administrative procedures prescribed by the Diagnostic Reading Scales Examiner's Manual (Spache, 1981). However, the researcher rephrased and restated certain comprehension questions on this test because of the criticism (Tuinman, 1971) that they are not always passage dependent. The researcher scored correct only those comprehension questions judged to be answered on the basis of reference to information contained in the selections read. To do otherwise would result in inflated comprehension scores. In addition, the Spache criteria were not used. Two Instructional Reading Levels were derived for each subject by applying different sets of criteria (Betts, 1941; Powell, 1978) to word recognition and comprehension performance. (See Appendix A for complete data.)

II. Mediated Dynamic IRI

The Diagnostic Reading Scales was also administered to determine subjects' Emergent Reading Levels, but modifications in the administration and interpretation were made by the researcher. Using alternative forms provided in this test, a mediated situation was added. That is, prior to subjects' reading of each successive passage during administration of the dynamic IRI, the researcher provided assistance. Mediation consisted of instruction similar to that used in the teaching of a directed reading lesson: building background, vocabulary recognition, and setting overall goals for comprehension. The rationale for providing mediation was to tap students' zones of proximal development in order to find the level of functioning they could sustain with adult mediation. (See Appendix B for an example of the mediated IRI procedure.)

III. Basal Reader with Trial Teaching

Selected expository selections of various difficulty levels from the Harper and Row Basic Reading Program (1966) were used as trial teaching lessons. Selections ranged in length from 450 to 600 words. Subjects silently read from actual books, not reprints. Subjects were book level placed for trial reading instruction based upon their Emergent Reading Levels determined by the administration of the mediated IRI. Subjects assigned the same Emergent Reading Level were grouped for trial instruction. For example, all

subjects designated at the third grade book level on the Emergent Reading Level were grouped and instructed in a trial reading lesson using a third grade basal selection. Trial reading lessons for all groups simulated the type of instruction predominant in American elementary schools. The Harper and Row Teacher's Manual (1966) guided the lesson plan for the trial teaching as is the standard classroom practice. That is, the directed reading activity (i.e., building background, vocabulary recognition, and setting purposes for reading) was used.

IV. Trial Reading Lesson Posttest IRI

In order to determine if subjects could sustain their Emergent Reading Levels during actual instruction, a post-test IRI was administered 24 hours after the trial reading lesson. The posttest IRIs were constructed from the basal passages used in the trial reading lessons. However, the researcher made the posttest IRI consistent with the published IRI, Diagnostic Reading Scales (Spache, 1981) used previously in the experiment. That is, passage length, number, and type of accompanying comprehension questions were made consistent for all IRI testing. The well established procedures of Johnson and Kress (1965) were generally followed in the construction of the posttest IRIs.

Procedure

Each of the 21 second grade subjects was individually administered the Diagnostic Reading Scales (Spache, 1981), a published IRI, in the traditional static procedure. Scoring utilized two differing sets of criteria (Betts, 1941; Powell, 1978) to determine subjects' Instructional Reading Levels based upon word recognition and comprehension performance.

Two weeks later, each subject was individually administered the dynamic, mediated IRI to determine subjects' Emergent Reading Levels. This procedure involved using alternate forms of the aforementioned test with the addition of the mediated situation prior to subjects reading.

Two weeks later, all subjects (n=21) were placed and grouped for a subsequent trial lesson based on their Emergent Reading Levels. Reading groups consisted of two to seven students with identical predicted placements. Trial lessons, 20 to 35 minutes in length, were conducted by the researcher and simulated typical instruction advocated by the basal teacher's manual. A second subsequent trial reading lesson was conducted a week later by a research assistant with a smaller sample (n=5).

Subjects' performances on the trial lessons were assessed by the researcher 24 hours later using individually administered posttest IRIs constructed from passages read in the trial lessons.

Administration

All IRIs (i.e., static, dynamic, and post) were administered by the researcher to insure uniformity. One trial lesson (n=21) was taught by the researcher. A second trial lesson (n=5) was taught by a trained research assistant. The assistant was a certified substitute teacher in the school where the study was conducted.

Data Analysis

The data collected in this experiment were interpreted at three levels of analysis: (a) at the reading functioning level, (b) at the statistical analysis level, and (c) at the percentage of agreement level. The intent of the analysis was to determine if the construct, Emergent (mediated) Reading Level, was a valid placement predictor for the criterion--actual book level sustained during trial instruction.

The reading functioning level involved determining instructional reading levels by applying two sets of numerical criteria (Betts, 1941; Powell, 1978) to subjects' word recognition and comprehension percentage performances on successive passages during the administration of a static IRI. Emergent Reading Levels were determined based on the performance on a dynamic, mediated IRI.

The statistical analysis level involved the nonparametric Wilcoxon matched-pairs signed-ranks test (Huck, Cormier, & Bounds, 1974; Siegel, 1956). The researcher

chose the use of nonparametric statistics because the data in the present study did not meet the assumptions of parametric statistics. Parametric statistics, such as the commonly used related sample t-test, assume that the data are an interval scale of measurement. That is, scaler units are of equal units whose zero point is arbitrary. In an interval level of measurement, such as an inch, values are equal gradation and this standard level can be used as a basis for comparison. For example, a two-inch line and a six-inch line are both equally two inches different than a four-inch line. An inch is an inch regardless. However, the data in the present study are not interval level but ordinal level and requires nonparametric statistics. Ordinal level data are quantified in terms of rank order. Units are not equal distant. For example, level of education, elementary, secondary, and college, is at the ordinal level. The scale of measurement used in the present study is also ordinal. Grade level placements for reading instruction are at an ordinal level of measurement. Reading grade levels are not equal distant values. A difference between a 4.0 and 5.0 grade level placement is not the same as the difference between 2.0 and 1.0 grade placements. In the example, the 1.0 grade level reader would be considered more deficient in reading than the 4.0 grade level reader.

The Wilcoxon Test, a nonparametric statistic, was used to compare the difference between each subject's Instructional Reading Level (non-mediated IRI predicted placement)

and Emergent Reading Level (mediated IRI predicted placement). A second analysis, using the Wilcoxon test, compared the difference in placement between the two sets of criteria (Betts, 1941; Powell, 1978).

The third level of analysis involved percentage of agreement matrixes which showed a variety of comparisons. The percentage of agreement between the predicted book level placement derived from the administration of the mediated IRI and the actual level sustained during a trial reading lesson was shown. The various predictors of reading placement were compared to show the degree to which similar book level placements for instruction agreed (i.e., exact same, within one book level, within two book levels, etc.).

The research hypotheses, stated in the null form, and a brief explanation of the analysis follow.

Hypothesis I

There is no difference between the Emergent Reading Level, as measured by a mediated IRI, and the traditional Instructional Reading Level, as measured by a non-mediated IRI, in predicting appropriate book level placement for reading instruction.

The Wilcoxon matched-pairs signed ranks test was used to test hypothesis I at a significance level of $=.05$. The Wilcoxon test was applied to determine if there was a statistically significant difference between predicted book

level placement derived from a mediated versus non-mediated IRI.

In addition, a percentage of agreement matrix was used as a follow-up test of hypothesis I. The Wilcoxon test, having shown that the mediated IRI resulted in significantly higher placements, a follow up comparison was made to show if the higher placement could actually be sustained.

Hypothesis II

There is no difference between Betts' criteria or Powell's criteria in predicting appropriate book level placement for reading instruction.

The Wilcoxon matched-pairs signed ranks test was used to test hypothesis II at a significance level of $\alpha = .05$. The Wilcoxon test was applied to determine if there was a statistically significant difference between predicted book level placement derived from a non-mediated IRI applying Betts' criteria versus Powell's criteria. A percentage of agreement matrix was used as a follow up test of hypothesis II. The Wilcoxon test, having shown that the Powell criteria placed subjects significantly higher than the Betts' criteria, a follow up comparison was made to determine if the higher placements could actually be sustained.

CHAPTER IV
RESULTS AND DISCUSSION

This study investigated the concurrent validity of the Emergent (mediated) Reading Level, a construct for reading placement based upon Vygotsky's concept of the zone of proximal development applied to the Informal Reading Inventory (IRI). The study attempted to determine which method of placement, the traditional IRI or the mediated IRI, better predicted an appropriate book level placement that would maximize benefit from reading instruction.

An ancillary purpose of the study investigated the IRI and two types of scoring criteria, Betts (1941) and Powell (1978), used to select Instructional Reading Levels.

Hypothesis I

Hypothesis I is that there is no difference between the Emergent Reading Level, as measured by a mediated IRI, and the traditional Instructional Reading Level, as measured by a non-mediated IRI, in predicting appropriate book level placement for reading instruction.

The Wilcoxon matched-pairs signed ranks test was used to test the first hypothesis. The results of the sign test are reported in Table 1. In the first column of Table 1 are the identification numbers of the 21 second graders involved in the study. The next two columns list the book level placements derived from the administration of the mediated and traditional, non-mediated IRIs--Emergent Reading Level and Betts' Instructional Reading Level. These placements are based upon the quantitative analysis of a reader's performance in word recognition and comprehension. (See Appendix A for complete student protocols.)

The fourth column, *d*, is the difference between the book level placements assigned as the Emergent Reading Level and the Instructional Reading Level. As can be seen, for all but two cases or 90% of the time, Emergent Reading Levels place subjects at higher book levels than do Instructional Reading Levels.

The next-to-last column (rank of *d*) are the ranks of differences. For example, subject #21 showed the least difference between Emergent Reading Level and Betts' Instructional Reading Level so is assigned the lowest rank of one. Conversely, subject #8 showed the largest difference between Emergent Reading Level and Betts' Instructional Reading Level and therefore received the highest rank different of 19. Two subjects, #7 and #19, showed no difference between Emergent Reading Level and Betts'

Table 1. Comparison of Emergent Reading Level and Betts' Instructional Reading Level.

Subject	ERL*	IRL*	d	Rank of d	Rank with less frequent sign
1	5.5	3.5	2.0	17	
2	4.5	3.5	1.0	5.8	
3	4.5	2.8	1.7	14	
4	4.5	3.5	1.0	5.8	
5	3.5	2.8	.7	3.5	
6	5.5	3.5	2.0	17	
7	3.5	3.5	0.0		
8	5.5	2.8	2.7	19	
9	3.5	3.5	0.0		
10	4.5	2.8	1.7	14	
11	3.5	2.4	1.1	10	
12	5.5	3.5	2.0	17	
13	4.5	2.8	1.7	14	
14	4.5	3.5	1.0	5.8	
15	2.4	1.8	.6	2.0	
16	3.5	2.2	1.3	11.5	
17	4.5	3.5	1.0	5.8	
18	3.5	2.2	1.3	11.5	
19	4.5	3.5	1.0	5.8	
20	3.5	2.8	.7	3.5	
21	2.2	1.8	.4	1.0	

* ERL = Emergent Reading Level

**IRL = Instructional Reading Level

Note: Wilcoxon T = 0.0*
p < .001

Instructional Reading level ($d=0$) and therefore are dropped from the analysis.

The last column, rank with less frequent sign, showed that there were no differences in the opposite direction. That is, in no case was a subject's Instructional Reading Level higher than his or her Emergent Reading Level. The symbol T is the sum of the smaller like-signed ranks. There was a statistically significant difference between the Emergent Reading Level as measured by a mediated IRI and the traditional instruction reading level as measured by a non-mediated IRI in assigning book level placement ($T=0.00$ $p\frac{1}{2}.001$, $n=21$), therefore, hypothesis I was rejected.

In showing that Emergent Reading Level resulted in higher book level placements than Betts' Instructional Reading Level only partially addressed hypothesis I. It does not indicate if those higher book level placements are appropriate for instruction. That is, it does not indicate if the students can sustain the higher placements during actual reading instruction.

Table 2 displays the percentage of agreement between Emergent Reading Level and the actual level sustained during a concurrent trial reading lesson. Performance on the trial reading lesson was assessed by a posttest IRI constructed and administered in the traditional manner (Johnson & Kress, 1965). Each student's trial lesson posttest IRI resulted in a percentage score for both word recognition and comprehension. (See Appendix A for complete student protocols.)

Table 2. Percentage of Agreement Between Emergent Reading Level and Two Trial Reading Lessons.

Emergent Reading Level		
	<u>Trial Reading Lesson 1</u> (Betts)	<u>Trial Reading Lesson 1</u> (Powell)
Exact	71%	95%
±1 level	100%	100%
	<u>Trial Reading Lesson 2</u> (Betts)	<u>Trial Reading Lesson 2</u> (Powell)
Exact	80%	80%
±1 level	100%	100%

Two different sets of criteria (Betts, 1941; Powell, 1978) were applied to each subject's performance in word recognition and comprehension to evaluate success in sustaining his or her emergent reading level during a trial lesson.

First, Table 2 shows the application of the Betts' criteria to students' performances on the first trial lesson post test IRIs. Percentage of exact agreement between emergent reading levels and concurrent trial reading lessons was 71% and within one book level was 100%. In other words, 71% or 16 out of 21 students could sustain their exact emergent reading levels during a concurrent trial reading lesson. Only 5 of the 21 students could not sustain their exact emergent reading level during a trial reading lesson. However, these 5 students' emergent reading levels are an overestimate of placement by only one book level.

Next, the Powell criteria for instructional level was used to evaluate students' performances on the trial lesson posttest IRIs. Percentage of exact agreement between emergent reading levels and concurrent trial reading lessons as 95% and within one book level was 100%. Essentially, when using the Powell criteria which sets a lower criterion percentage for comprehension than does the Betts criteria, almost all of the subjects could sustain their emergent reading levels during a concurrent trial reading lesson.

Table 2 also shows the percentage of agreement between Emergent Reading Level and a second concurrent trial reading lesson. The purpose here was to determine if subjects could sustain their Emergent Reading Levels over time. This second trial lesson occurred two weeks after the first one. Although the sample size was smaller the second time, reduced from the original 21 to 5 subjects, the results are in general agreement with the first trial lesson. That is, 80% of the subjects could sustain their Emergent Reading Levels during a second trial reading lesson. There was no difference this time whether the Betts or Powell criteria was used in evaluating the trial reading lesson posttest IRIs.

Hypothesis II

Hypothesis II is that there is no difference between the Betts or Powell criteria in predicting appropriate book level placement for reading instruction. A Wilcoxon matched-pairs signed ranks test was used to test this hypothesis. The results of this test are reported in Table 3.

In the first column of Table 3 are the identification numbers of the 21 second grade subjects. The next two columns list the Instructional Reading Levels based on the Powell and Betts criteria.

The fourth column, d , is the difference between the Instructional Reading Levels based on the Powell and Betts

Table 3. Comparison of Powell and Betts Criteria.

Subject	Powell	Betts	d	Rank of d	Rank with less frequent sign
1	3.5	3.5	0		
2	3.5	3.5	0		
3	2.8	2.8	0		
4	3.5	3.5	0		
5	2.8	2.8	0		
6	3.5	3.5	0		
7	3.5	3.5	0		
8	3.5	2.8	.7	5	
9	3.5	3.5	0		
10	3.5	2.8	.7	5	
11	2.8	2.4	.4	2.5	
12	3.5	3.5	0		
13	3.5	2.8	.7	5	
14	3.5	3.5	0		
15	2.2	1.8	.4	2.5	
16	2.4	2.2	.2	1	
17	4.5	3.5	1.0	7	
18	2.2	2.2	0		
19	3.5	3.5	0		
20	2.8	2.8	0		
21	1.8	1.8	0		

Wilcoxon T = 0*
p < .02

criteria. The majority of the time (71%) either criteria results in the same book level placement. However, 29% of the time or for 6 students the Powell criteria placed students at higher instructional levels.

The next-to-last column (rank of d) are the ranks of differences. Subject number 17 was ranked 7th, the highest, for showing the largest difference in instructional level. For this student, the Powell criteria resulted in a book placement one grade level above the Betts instructional level. Subject number 16 was ranked 1st for showing the least difference ($d=.2$) between Powell and Betts Instructional Reading Levels and was not viewed as a significant difference in placement.

The last column, rank with less frequent sign, showed that there were no differences in the opposite direction. That is, in no case did the Powell criteria result in a lower instructional level than the Betts criteria. The symbol T is the sum of the ranks of differences in the opposite direction. There was a statistically significant difference between the Powell and Betts criteria in assigning book level placement for instruction ($T=0.00$ $p \leq .02$, $N=21$), therefore, hypothesis II was rejected.

The Wilcoxon test showed that the Powell criteria placed students at a higher instructional level than the Betts criteria 29% of the time. However, this does not indicate if Powell's higher book level placements are appropriate for instruction. That is, can the higher

instructional levels based on the Powell criteria be sustained during actual instruction in a concurrent trial reading lesson?

Table 4 displays the percentage of agreement between estimates of Instructional Reading Levels determined by the Powell and Betts criteria with the actual book levels sustained during a trial reading lesson. Success on the trial reading lesson was evaluated by a post test IRI using the Powell criteria. As previously stated, the Powell criteria placed students one book level higher than the Betts criteria 29% of the time. On Table 4, a comparison between the Betts and Powell criteria with the trial reading lesson showed that the Powell criteria closer coincided (24% exact agreement) the trial lesson. That is, the comparisons supported that the higher instructional levels based on the Powell criteria can be sustained during actual instruction during a trial lesson. However, when compared to the Emergent Reading Level, the Powell criteria is still an underestimate of what can be sustained during actual instruction.

The Emergent Reading Level showed the most agreement with the trial reading lesson (95% exact agreement). The Emergent Reading Level predicted a book level placement that is commensurate with the level that can actually be sustained during a concurrent trial reading lesson. Results

Table 4. Percentage of Agreement Among Betts, Powell Criteria, and Emergent Reading Level with Trial Reading Lesson.

Range of Agreement	Betts and TRL*	Powell and TRL*	Emergent and TRL*
Exact	19%	24%	95%
Within ± 1 level	52%	67%	100%
Within ± 2 levels	95%	100%	
Within ± 3 levels	100%		

* TRL = Trial Reading Lesson.

indicated that Emergent Reading Level is a valid measure for predicting book level placement for reading instruction.

Discussion

Table 5 shows the frequency distribution of the various predictors of reading placement for the 21 second graders involved in the study. Book level placements determined by the non-mediated IRIs scored by the Betts and Powell criteria had instructional level means of 3.0 and 3.2, respectively. Predicted placements using the non-mediated IRI ranged from a low of 1.8 to a high of 4.5 with the majority of the students placed at the 3.5 instructional level. Emergent Reading Levels determined from the mediated IRI had a mean of 4.1. Predicted placements ranged from a low of 2.2 to a high of 5.5. The current mean placement was 2.8. Most of the students were currently placed in the second book of the second grade level Ginn (1982) basal reading series. The group would be considered as reading on grade level because the study was conducted in April, the eighth month of the school year. However, the Emergent Reading Levels indicated that the students should have been placed at higher levels. On the average, Emergent Reading Levels placed students one year higher than their current book level placements. Moreover, eight students with Emergent Reading Levels of 4.5, and four students with 5.5 demonstrated that more than half of the students could read

Table 5. Frequency Distribution of Various Reading Placement Predictors.

Book Level	(Non-Mediated)		(Mediated)	Current
	Betts	Powell	Emergent	
5.5	0	0	4	0
4.5	0	1	8	0
3.5	10	12	7	6
2.8	6	4	0	12
2.4	1	1	1	0
2.2	2	2	1	1
1.8	2	1	0	2
Mean =	3.0	3.2	4.1	2.8

two to three book levels above their current placements. Furthermore, concurrent trial reading lessons at those higher levels indicated that students could sustain the higher levels. The results of the present study support Emergent Reading Level as a valid construct for reading diagnosis and placement.

Findings from the present study also reconfirmed results of previous investigations of the Emergent Reading Level (Dixon, 1985; Dixon et al., 1984a, 1984b; Kragler, 1986; Newman & Powell, 1985) as a viable placement construct. Dixon, et al. (1984b) in a study involving third, fifth, and sixth graders using expository and narrative materials found that students given mediation could read and comprehend materials two grade levels above their current grade placements. Dixon (1985) in a recent study involving third graders replicated previous findings. Newman and Powell (1985) investigated the usefulness of the Emergent Reading construct for fourth grade, Chapter One, low SES students. Their results showed that the students given mediation could on the average maintain 70% comprehension of narrative passages that were mainly one to two grade levels above current placement.

The present study showed evidence for the concurrent validity of the construct Emergent Reading Level. It was shown that children's predicted placements, two grade levels (and above) their current placements could be sustained during actual instruction. This finding reconfirmed

Kragler's (1986) initial attempt at concurrently validating Emergent Reading Level. Kragler (1986) provided concurrent validity evidence by demonstrating even underachievers could sustain their predicted higher Emergent Reading Level placements during actual instruction.

Mediation, in the present study, which emphasized vocabulary development, building background, and setting purposes for reading proved effective in tapping students' zones of proximal development. Recent studies (Dixon, 1985; Kragler, 1986) corroborate vocabulary development and building background as effective mediation.

An ancillary intent of the present study addressed two types of scoring criteria (Betts, 1941; Powell, 1978). Results showed that the Powell criteria placed students at a higher Instructional Reading Level than the Betts criteria 29% of the time. Homan (1978), in a previous study, found that Powell's criteria resulted in higher Instructional Reading Levels 49% of the time. That Homan (1978) found the Powell criteria resulted in higher placements more of the time than in the present study may be due to differences in the samples and procedures used in each of the studies. The present study involved a sample of 21 second graders. Homan's (1978) study involved a larger, more diverse sample of 107 students in grades two through six. The present study used a different IRI which consisted of seven comprehension questions following each successive passage. Homan

(1978) used an IRI consisting of five comprehension questions.

In respect to the criteria issue, the present study showed that both Betts' (1941) and Powell's (1978) criteria compared to Emergent Reading Level drastically underestimate reading placement. Dixon (1985) corroborated this finding and previously indicated that both sets of criteria (Betts, 1941; Powell, 1978) failed to identify the upper threshold of students' zones of proximal development for reading. Dixon's (1985) recommendation of using an adjusted comprehension error range criteria (i.e., 50% to 85% accuracy at passage levels four and five and 55% to 90% accuracy at passage levels six and seven) for setting Emergent Reading Levels was supported by findings of the present study.

In summary, the present study was in agreement with a growing body of research supporting the validity of the construct, Emergent (mediated) Reading Level as a viable method of diagnosis and placement for reading instruction.

CHAPTER V
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The Informal Reading Inventory (IRI), introduced by Betts (1941), has traditionally been widely recommended as a method to establish Instructional Reading Level, that is; to predict the highest level of book in which a child can profit from instruction. This study's purpose was to investigate the concurrent validity of a new construct for placement proposed by Powell (1982, 1984)--the Emergent (mediated) Reading Level. This construct is an alternative method of administering and interpreting the IRI which focuses on identifying the level of reading performance a child can achieve with adult support and is based upon the Soviet psychologist, L. S. Vygotsky's (1962, 1978) concept of the zone of proximal development.

This study was an attempt to determine which method of placement, the traditional IRI or the newly proposed, mediated IRI better predicted an appropriate book level placement that would maximize benefit from reading instruction. An ancillary purpose of the study involved the IRI and two types of scoring criteria (Betts, 1941; Powell, 1978) used to select Instructional Reading Levels.

The 21 second graders who served as subjects for the study had an average grade level reading placement of 2.8 and were drawn from two classrooms of an urban north Florida elementary school. The majority of students were currently (April, 1985) placed in the latter half of the second grade book level in the Ginn Reading Program (1982).

Each student's Instructional Reading Level was determined by the administration of an IRI, Diagnostic Reading Scales (Spache, 1981) in the traditional static method of testing. Students answered a pre-specified percentage of questions with a specified criterion level of oral reading proficiency without any adult assistance. Scoring utilized two differing sets of criteria (Betts, 1941; Powell, 1978).

Each student's Emergent (mediated) Reading Level was determined by the administration of an IRI in the dynamic method of testing. Students were administered alternate forms of the Diagnostic Reading Scale (Spache, 1981) with the addition of the mediated situation. Mediation consisted of the researcher building background, defining unfamiliar vocabulary, and setting overall goals for comprehension prior to students reading and answering questions on each IRI passage.

All subjects (n=21) were placed and grouped for subsequent trial lessons in the Harper and Row Basic Reading Program (1966) at their Emergent Reading Levels as predicted from the administration of the mediated IRI. A second trial reading lesson was conducted with a smaller sample (n=5).

Trial lessons simulated typical classroom reading instruction. Subjects' performances on the trial lessons were assessed by posttest IRIs constructed from the selections used for the trial lessons.

Data were analyzed to determine if the construct, Emergent (mediated) Reading Level was a valid placement predictor for the book level that was actually sustained during a concurrent trial lesson. Two hypotheses were tested at the .05 level of significance in the study.

1. Hypothesis I stated that there would be no difference between the Emergent Reading Level, as measured by a mediated IRI, and the traditional Instructional Reading Level, as measured by a non-mediated IRI, in predicting appropriate book level placement for reading instruction. The nonparametric Wilcoxon matched-pairs signed-ranks test was used to compare the difference between each subject's Instructional Reading Level and Emergent Reading Level. Hypothesis I was rejected and differences were shown to be statistically significant. Ninety percent of the time, Emergent Reading Levels placed subjects at substantially higher book levels than did Instructional Reading Levels. On the average, Emergent Reading Levels predicted placements for students one year higher than the traditional Instructional Reading Levels. Moreover, of the total 21 second graders involved in the study, eight students had Emergent Reading Levels of 4.5, and four students at 5.5, demonstrating that more than half of the students could read two to

three book levels above their current placements. A follow up analysis was conducted to determine if subjects could sustain their higher predicted book level placements (i.e., Emergent Reading Levels) during actual reading instruction. Percentage of agreement between Emergent Reading Level and level sustained during a concurrent trial reading lesson as measured by a posttest IRI was found to be high. Exact agreement between Emergent Reading Level and level sustained on a trial lesson was 71% or 95%, depending on which respective criteria (Betts, 1941; Powell, 1978) was applied to the trial lesson posttest IRI. An 80% exact agreement between Emergent Reading Level and a second subsequent trial lesson with a smaller sample (n=5) showed that the higher predicted placements could be sustained over time.

2. Hypothesis II stated that there would be no difference between the Betts (1941) or Powell (1978) criteria in predicting appropriate book level placement for reading instruction. A Wilcoxon matched-pairs signed ranks test was used to test this hypothesis. Hypothesis II was rejected and differences were shown to be statistically significant. Twenty-nine percent of the time, or for 6 out of the 21 total subjects, the Powell (1978) criteria placed students one book level higher than the Betts' (1941) criteria. The majority of the time either criteria resulted in the same placement.

A follow up percentage of agreement analysis showed that the higher instructional levels based on the Powell

criteria could be sustained during actual instruction during a trial lesson. However, Powell's criteria compared to the Emergent Reading Level was an underestimate of placement. The Emergent Reading Level showed the most agreement with the trial reading lesson (95% exact agreement).

Conclusions

Data from this study provided evidence for the concurrent validity of the Emergent (mediated) Reading Level, a new construct for placement proposed by Powell (1982, 1984). The major question addressed in the study was which method of placement, the traditional IRI or the mediated IRI, better predicted an appropriate book level placement that will maximize benefit from reading instruction? The data indicated that Emergent Reading Level as measured by a mediated IRI better predicted placement than did the traditional IRI. Emergent (mediated) Levels predicted that second graders would profit from instruction to the fourth grade book level and beyond. In fact, for more than half of the students, Emergent Reading Levels predicted placements two to three book levels above their current placements. The students' successful performance on concurrent trial reading lessons at their Emergent Reading Levels verified the accuracy of their predicted placements. Successful performances of students on a second trial reading lesson suggested that the levels can be sustained over time. Instructional Reading Levels as measured by the traditional

IRI underestimated reading placements by as much as three book levels. Students' Instructional Reading Levels did not closely coincide with the levels they demonstrated they could sustain concurrently on trial reading lessons.

A second question addressed in this study was which numerical criteria (Betts, 1941; Powell, 1978) for establishing a reader's instructional level through the administration of an IRI is best for determining appropriate book level placement? The data indicated that the Powell criteria were a more accurate predictor of placement. The Powell criteria resulted in higher placements than the Betts' criteria. However, the Powell criteria, as well as the Betts criteria, substantially underestimated placement when compared to the Emergent Reading Level.

Recommendations

Placement of children into reading materials that will insure optimum progress should be a vital concern. Children underplaced for classroom reading instruction are likely to be robbed intellectually. Failure to challenge students and engage them in materials that "grab their minds" could be regarded by some as educational malpractice.

The present study, along with a growing body of reading research (Dixon, 1985; Dixon et al., 1984a, 1984b; Kragler, 1986; Newman & Powell, 1985), as well as extensive psychological research as reviewed by Rogoff and Wertsch (1984), support the effectiveness of Vygotsky's perspective on

educational diagnosis based on the concept of the zone of proximal development. Diagnosis and placement by Emergent Reading Levels insure optimum reading growth by teaching upward to the child's developing cognitive processes. Instructional Reading Level as determined by administration of the traditional IRI results in underplacement because it ignores the instructional dimension of a developmental reading context.

Theory once established should lead to practice. Current procedures now used to place children for reading instruction are likely to result in underplacement and therefore should be seriously questioned, if not abandoned. A dynamic assessment model such as Emergent (mediated) Reading Level should be implemented. In addition, classroom teachers are encouraged to question their pupils' current placements for reading instruction. Teachers can verify the validity of designated placements by actually trial teaching pupils upward on successive levels of reading materials and assessing performance. Adjustment in students' book level placements should be made to insure optimum progress.

APPENDIX A

STUDENT PROTOCOLS: NON-MEDIATED IRI, MEDIATED IRI,
TRIAL LESSON POST-TEST IRI, BETTS' AND POWELL'S
CRITERIA APPLIED, EMERGENT READING LEVEL, AND
BASELINE DATA

Case 1

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.4	97.56	88						
2.8	96.63	100						
3.5	97.53	94						
4.5	93.95	50	4.5	97.81	63			
			5.5	92.78	50	5.5	96.35	93
<hr/>			<hr/>					
<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>						
3.5	3.5	3.5						
<hr/>			<hr/>					
<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>					
106	3	2-2	3.2					
<hr style="border-top: 1px dashed black;"/>								

Case 2

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.8	100	100						
3.5	96.91	75						
4.5	94.41	31	4.5	98.49	88	4.5	98.33	63
5.5	94.61	56	5.5	94.23	19	4.5	98.23	88
6.5	91.74	12						

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
3.5	3.5	4.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
111	3	3-1	2.8

Case 3

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.8	97.47	100						
3.5	97.53	38						
4.5	96.74	25	4.5	97.81	50	4.5	98.31	100
						4.5	98.75	94

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
2.8	2.8	4.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
124	3	3-1	3.9

Case 4

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
3.5	100	100						
4.5	96.74	38	4.5	99.27	100	4.5	97.08	88
5.5	92.33	44	5.5	97.59	25	4.5	97.34	75
6.5	93.11	13						

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
3.5	3.5	4.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
114	4	4	4.9

Case 5

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.2	100	88						
2.4	100	75						
2.8	100	75						
3.5	96.91	50	3.5	100	100	3.5	100	88
4.5	98.60	44	4.5	100	13			
5.5	99.02	38						

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
2.8	2.8	3.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
119	3	2-2	3.7

Case 6

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.4	100	75						
2.8	99.15	75						
3.5	96.91	75						
4.5	96.74	31	4.5	98.54	69			
5.5	97.57	50	5.5	98.55	50	5.5	98.43	63
6.5	94.95	25						

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
3.5	3.5	5.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
136	3	3-1	3.1

Case 7

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.8	94.95	88						
3.5	95.06	81				3.5	98.97	100
4.5	93.95	50	4.5	95.62	25			
			5.5	91.82	31			

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
3.5	3.5	3.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
196	3	2-2	3.7

Case 8

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.8	99.15	100						
3.5	98.14	63						
4.5	97.20	50	4.5	97.98	63			
5.5	95.63	25	5.5	96.63	63	5.5	97.91	63

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
2.8	3.5	5.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
108	3	3-1	3.1

Case 9

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.2	100	86						
2.4	99.18	75						
2.8	98.31	75						
3.5	98.14	81				3.5	99.39	88
4.5	96.74	38	4.5	99.27	25			
5.5	95.63	38	5.5	99.24	44			

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
3.5	3.5	3.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
132	5	2-2	11.2

Case 10

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.8	100	88						
3.5	98.14	62						
4.5	97.20	0	4.5	98.99	63	4.5	100	75
5.5	96.68	38	5.5	99.03	38	4.5	99.17	75
6.5	96.78	13						

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
2.8	3.5	4.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
106	4	3-1	5.5

Case 11

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.2	98.76	75						
2.4	98.37	88						
2.8	99.15	63						
3.5	95.67	56	3.5	98.14	56	3.5	98.79	79
4.5	97.20	13	4.5	97.48	13			

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
2.4	2.8	3.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
90	4	2-2	4.4

Case 12

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.4	100	100						
2.8	97.47	100						
3.5	98.76	88						
4.5	94.41	38	4.5	97.08	88			
			5.5	96.15	69	5.5	98.95	100

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
3.5	3.5	5.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
123	5	3-1	8.9

Case 13

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.4	98	100						
2.8	98.31	100						
3.5	95.02	60	3.5	98.14	100			
4.5	95.34	25	4.5	95.47	60	4.5	98.67	100

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
2.8	3.5	4.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
121	4	2-2	6.3

Case 14

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.4	100	100						
2.8	100	75						
3.5	100	88						
4.5	98.60	31	4.5	98.49	75	4.5	100	63
5.5	96.68	38	5.5	99.03	31			
<u>Betts' Instructional Level</u>			<u>Emergent Reading Level</u>			<u>Metropolitan Reading Grade Level</u>		
3.5			4.5			6.3		
<u>Otis-Lennon School Ability Index</u>			<u>Metropolitan Instructional Level</u>			<u>Current Placement Level</u>		
103			4			2-2		

Case 15

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
1.6	100	88						
1.8	98.75	86						
2.2	96.29	71						
2.4	91.86	38	2.4	96.14	75	2.4	96.22	88
<u>Betts' Instructional Level</u>			<u>Emergent Reading Level</u>			<u>Metropolitan Reading Grade Level</u>		
1.8			2.4			2.2		
<u>Otis-Lennon School Ability Index</u>			<u>Metropolitan Instructional Level</u>			<u>Current Placement Level</u>		
110			2			1-2		

Case 16

Non-Mediated IRI			Mediated IRI			Trial Lesson Post-Test		
Level	W.R.%	Comp.%	Level	W.R.%	Comp.%	Level	W.R.%	Comp.%
2.2	87.53	86						
2.4	93.49	63						
2.8	88.23	56	2.8	100	88			
			3.5	98.14	100	3.5	95.18	100
			4.5	95.62	6			
<hr/>			<hr/>					
<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>		<u>Emergent Reading Level</u>					
2.2	2.4		3.5					
<hr/>			<hr/>					
<u>Otis-Lennon School Ability Index</u>		<u>Metropolitan Instructional Level</u>		<u>Current Placement Level</u>		<u>Metropolitan Reading Grade Level</u>		
112		3		1-2		3.1		

Case 17

Non-Mediated IRI			Mediated IRI			Trial Lesson Post-Test		
Level	W.R.%	Comp.%	Level	W.R.%	Comp.%	Level	W.R.%	Comp.%
2.2	98.76	100						
2.4	99.18	100						
2.8	96.63	100						
3.5	93.82	100						
4.5	93.48	63	4.5	97.08	75	4.5	97.08	88
			5.5	--	--			
<hr/>			<hr/>					
<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>		<u>Emergent Reading Level</u>					
3.5	4.5		4.5					
<hr/>			<hr/>					
<u>Otis-Lennon School Ability Index</u>		<u>Metropolitan Instructional Level</u>		<u>Current Placement Level</u>		<u>Metropolitan Reading Grade Level</u>		
117		5		2-2		8.9		

Case 18

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.2	97.53	63						
2.4	100	50	2.4	99.21	100			
2.8	99.15	38	2.8	98.21	63			
3.5	96.29	50	3.5	98.53	88	3.5	98.19	81
			4.5	99.27	38			

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
2.2	2.2	3.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
91	3	2-2	3.0

Case 19

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.2	96	86						
2.4	95.93	75						
2.8	97.47	88						
3.5	92.59	88	3.5	95.06	81			
4.5	--	--	4.5	94.97	63	4.5	93.33	50
						4.5	95.57	56

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
3.5	3.5	4.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
94	3	2-2	3.4

Case 20

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
2.4	99.18	75						
2.8	97.47	75						
3.5	97.53	50	3.5	97.53	100	3.5	98.19	63
4.5	93.95	25	4.5	98.54	38			

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
2.8	2.8	3.5

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
84	3	2-2	2.9

Case 21

<u>Non-Mediated IRI</u>			<u>Mediated IRI</u>			<u>Trial Lesson Post-Test</u>		
<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>	<u>Level</u>	<u>W.R.%</u>	<u>Comp.%</u>
1.4	100	86						
1.6	91	100						
1.8	93.75	100						
2.2	85.18	71	2.2	87.17	86	2.2	94.33	86
			2.4	--	--			

<u>Betts' Instructional Level</u>	<u>Powell Instructional Level</u>	<u>Emergent Reading Level</u>
1.8	1.8	2.2

<u>Otis-Lennon School Ability Index</u>	<u>Metropolitan Instructional Level</u>	<u>Current Placement Level</u>	<u>Metropolitan Reading Grade Level</u>
103	1	2-1	2.2

APPENDIX B

MEDIATED IRI PROCEDURE FOR PASSAGE 5B OF Diagnostic Reading Scales (Spache, 1981, pg. 23)

Summary of IRI Passage: This expository passage at the 5.5 grade level, 202 words in length, describes how and why flowers produce seeds. Various examples from nature are cited: poppy and grass flowers, pine, and cottonwood, and willow trees. For example, the pine tree's seeds are produced in cones. Grasses produce their seeds in tiny flowers.

Introduce Vocabulary: Using a readability word list, select the five most difficult words from the passage. Before the child orally reads the passage the examiner introduces the vocabulary.

Write the words on the board: Poppies produce seeds
cottonwood bright-colored

The examiner writes and reads the following sentences. The child orally reads too and then underlines the selected

vocabulary: Poppies are beautiful flowers.

Trees produce small flowers too.

Flowers may produce seeds.

Cottonwood trees have flowers.

Not all flowers are bight-colored.

Build Background and Set Purpose: Prior to the child orally reading the passage the examiner discusses background concepts contained in the selection and then sets a purpose:

Have you ever worked in a garden?

What things can you plant?

What tools do you use in the garden?

Read this passage to find out where flowers come from.

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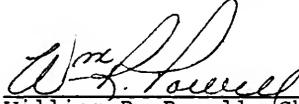
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BIOGRAPHICAL SKETCH

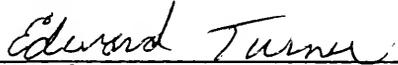
Nile Stanley was born in Charleston, West Virginia, on September 9, 1954. He grew up in West Virginia, South Carolina, New York, and Delaware. He graduated from Mount Pleasant High School in Wilmington, Delaware in 1972. Nile received his Bachelor of Science in English education in 1977, and Master of Education degree in reading in 1979 from the University of Delaware. Nile was active in broadcasting and did a jazz radio show for five years on WXDR, 91.3 FM at the University of Delaware. He taught English and reading for two years at Middletown High School in Delaware. He has worked privately as a reading specialist for a number of years. In 1986, Nile completed a Ph.D. in Instruction and Curriculum with a specialization in reading at the University of Florida. Currently, Nile and his wife Laurel live in Gainesville, Florida.

I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



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I certify that I have read this study and that in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate, in scope and quality, as a dissertation for the degree of Doctor of Philosophy.



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