Behavior and Long-Term Out-of-School Suspension – The Correlation to Low Sixth Grade Reading Scores

Gayle W. Keating

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BEHAVIOR and LONG-TERM OUT-OF-SCHOOL SUSPENSION --THE CORRELATION TO LOW SIXTH GRADE READING SCORES

By

Gayle W. Keating

A Thesis submitted to the Department of Education and Human Development in partial fulfillment of the requirements for the degree of Master of Science in Education

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BEHAVIOR and LONG-TERM OUT-OF-SCHOOL SUSPENSION --
The CORRELATION TO LOW SIXTH GRADE READING SCORES

Author: Gayle W. Keating
Abstract:

Thirty-three ninth and tenth grade regular education students were randomly selected from an alternative high school in Rochester, New York. Many of the subjects were repetitive long-term out-of-school suspended students. All of the students have a history of disruptive behaviors within a public school setting.

This qualitative study examines the correlation between long-term out-of-school suspended students to low standardized reading test scores. Therefore, disruptive behavior and low standardized test scores are connected. Additional issues discussed are, the rise in long-term out-of-school suspension and the possible causes for the rise.

Some factors contributing to the rise in long-term out-of-school suspensions are changing laws (such as PINS) and higher standards in public schools. The momentum to administer Regents exams to all students and to improve test scores at the same time may additionally contribute to the rise in long-term out-of-school suspensions. The pressure to test all students and improve scores is tremendous. As the demand for improved scores intensifies, it appears that long-term out-of-school suspension increase as well. This study contends that lower standardized reading test scores and long-term out-of-school suspension are connected.
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Purpose

The purpose of this study was to investigate a correlation between secondary high school students placed on out-of-school long-term suspension to reading achievement. Is the behavior that leads to long-term out-of-school suspension connected to reading achievement?

Introduction

School violence and suspension are causes of great concern in American schools. The media has placed great emphasis on this topic, highlighting the sociological affective to violent behavior within school buildings. However, for the purposes of this study disruptive behavior is the primary indicator for out-of-school long-term suspension. Disruptive behavior often manifests itself in long-term out-of-school suspension. Though, are low reading scores and disruptive behavior connected to
This study cannot answer the imperative question of which came first the behavior or the academic failure, chicken or the egg. However, it is important to note the possible correlation between behavior and academics. Behavior is emphasized in this study due to the fact that it is a crucial indicator for long-term out-of-school suspension, and is the cause of a great majority of school suspensions.

Additionally, long and short-term out-of-school suspensions are on the rise due not only to sociological changes, but higher standards and changing laws. For example, as academic standards tighten, behavioral standards tighten. Administrators are now feeling the pressure of higher test scores for their schools - as the academic bar is pushed higher by New York State. The outcome of this is an intentional streamlining of problem behavior students, who just so happen to be underachievers.

Thus, out-of-school long-term suspension is a tool for administrators to cherry pick the population to benefit the test scores of a given school.

Furthermore, the Clinton Avenue Learning Center (the focal point of this
study) suspension rates have escalated 35% in a twelve-month period, from March 2000 to March 2001. An additional 15% rise is expected for the center by June 2001, the remainder of this school year! What is the cause of this alarming rise of long and short-term out of school suspensions? The answer could very well lie in achievement test scores - reading in particular. What is the connection of test scores, and behavior to out of school long-term suspension?

Overview

The Rochester City School District's Short-term and long-term out-of-school suspended students pass through the Clinton Avenue Learning Center (CALC) at 107 North Clinton Avenue. The students at this alternative secondary school are the focal point of this study. Students at this facility are classified as permanent or temporary depending upon the infraction committed. District hearings are conducted at central office to determine the length of suspension.

Depending on the violation and hearing outcome, the suspended students will be placed in a variety of settings. Student may be placed back in their home schools, stay on out-of-school suspension, dropped from the
district (depending on age and violation), placed in residential facilities around the state, placed at BOCES, or be required to attend the Clinton Avenue Learning Center (CALC) which accommodates suspended students.

In pursuant to the needs of the suspended student and the violation committed a placement is determined. Note there are dozens of other placement possibilities for students. Placement is normally recommended by the district hearing, or by the Committee on Special Education, for special education students.

It is important to note that a majority of long-term out-of-school suspensions are associated with violent and disruptive behaviors. However, short-term out-of-school suspensions are a result of a wider set of relatively minor violations. Short-term out-of-school suspension, or after school suspension more frequently is a result of less serious infractions, often not involving violent behaviors associated with long-term out-of-school suspension. Students on short-term suspension should not be confused with long-term out-of-school suspended students, however both types are on the rise!

The rise in out-of-school suspension, the reason for it, and the
correlation of it to reading scores is of personal interest to me. I am a Home Hospital teacher assigned to work with long-term out-of-school suspended students. The Home Hospital Unit and the Clinton Avenue Learning Center (CALC) are located at 107 North Clinton Avenue Rochester, New York. Many of my assignments and lessons are conducted outside of the school building. I normally meet many of my students at the County Probation Center located at 217 West Main Street, Rochester, New York. The 107 North Clinton Avenue office (CALC) additionally assigns teachers to homes, hospitals, libraries, probation centers, correctional facilities, and group homes.

Working with long-term out-of-school suspended students, I observed patterns of reading difficulties. Obviously many of the long-term suspendees' had a poor image of self and a plethora of problems that could lead to possible reading and academic difficulties. I noticed that many of my students suffered problems with: family, substance abuses, homelessness, and established juvenile records. Clearly these problems in themselves contribute to academic failure and behavioral problems. Not surprisingly, defiant and obstinate attitudes were part of many initial lessons.
There are many reasons for defiance, both sociological and psychological. Defiance in some cases is an impressive act in front of peers, but whatever the reason it disguises academic weaknesses in a student. Many students labeled as violent, defiant, and disruptive in a school setting often reveal (in a one-on-one setting) another aspect to the rough image they Portray.

After working a short time, many of these same tough students seemed cooperative and even vulnerable. Many tough long-term suspended students are very cooperative in a one-on-one setting. Interestingly, many of the 150 teachers I work with in the Home Hospital Unit echo the same sentiments about the students they work with. This could be a result of the environment change, a change in the home environment, relationship of tutor/teacher to the student, the absence of distractions such as friends, or the absence of hurried activity in a large school. Whatever the reason for the change I noted two distinct factors 1) the change in behavior, and 2) deficient reading skills. Could these two factors be related?

In this study I did not encompass a multitude of variables to examine, simply to investigate the connection between long-term out-of-school,
behavior and reading levels. Other specific studies weave images of a complex series of factors that influence school suspension and disruptive behavior (Barrett 1981). However, could these factors of academic failure and disruptive behavior be linked? (Roeser, Eccles & Freedman 1999). One element that is difficult to ascertain is which came first academic failure or the disruptive behavior? How does one affect the other?

**Need for the study**

This study approaches that question, but cannot answer which comes first! More research must be done in order to answer the affective question of triggering factors regarding disruptive behavior and academics. There is a great need for research in the area of reading levels as a key indicator in long-term out-of-school suspensions. Unfortunately, research into indicators of long-term out-of-school suspension correlated to reading level together is sparse. There is a great need for research and study in this specific area.

Higher standards in New York schools will continue to increase the population of suspended students. Administrators under pressure to keep
test scores high will tighten standards for behavior in an effort to streamline and cherry pick the population. This effort would undoubtedly clear out the dead wood/underachievers, thus pulling the bottom line test scores higher for that given school. Out-of-school suspensions will rise as administrators’ eradicate a “troublemaker” and low scoring students in one swoop!

Thus, reiterating the point of underachievement in the area of reading and test scores to out-of-school suspension; they are connected and will be connected in the future!

However, the population make-up of long-term and short-term out-of-school suspension will undoubtedly change with the increasing standards. The numbers of short-term suspensions will increase and long-term suspension will become permanent. Administrators now have the discretion to deny reentry to school for many students on long-term suspensions. It is imperative that studies are done to investigate the increases in long and short-term suspension, and the various causes of those suspensions.

Furthermore, New York State has recently increased the age of Persons In Need of Supervision (PINS) from age sixteen to eighteen. Many
of these young people in the PINS program are underachievers for a multitude of reasons. In many cases these young people are forced by the courts to attend school. A great majority of these students also end up on long-term out-of-school suspension. Working with PINS students I have also observed the same reading difficulties as the other suspended students.

It is inevitable that the numbers long-term out-of-suspended students will increase due to higher academic standards and changing laws. As academic standards tighten behavioral standards will tighten in schools. Thus, administrators intentionally streamline the general population of underachievers and achievers into directions.

The drastic increase of 35% in long and short-term suspensions at the Clinton Avenue Center should send up red flags to educators. Recent numbers indicate there will be a fifty-percent increase in suspended students registered with Home Hospital Unit at Clinton Avenue by June 2001. School suspension is escalating at alarming levels -why? Could the answer lie in reading achievement, test scores, and behavior?
Limitations

The conclusion that long-term suspension is a result of violent or disruptive behaviors is a conclusion drawn from my experience working out of the Clinton Avenue Learning Center, and has not been empirically established. Additionally, standards for long-term out-of-school suspension vary from school district to another and from suburban to inner city schools. Moreover, sociological conditions vary from affluent to less affluent areas. Thus, the plethora of problems differs greatly from one school district to the next. This study is concentrated on the Rochester City School District and is not to be implicated with long-term out-of-school suspensions in other areas.

It is important to recapitulate the fact that only regular education students are used in this study. Special education students were eliminated from this study due to a variety of separate educational and physical challenges, that in itself interfere with the ability to read. It should also be noted that special education classification varies from one school district to the next. Special education classification is subjective creating a host of problems in itself. Further studies are need in the area of subjectivity of special education placement in various school districts.
Moreover, many regular education students in the Rochester City School District might have otherwise been classified special education students in a more affluent school districts. In other words, more affluent communities are quicker to classify their students’ special education, then demographically poorer areas. Therefore, an observer of this study might view this as a limitation of the study suggesting that the sample population could be skewed with special education students not yet classified. There is a host of research correlating out-of-school suspension and special education students. However, there is little to no research correlating regular education students with long-term out-of-school suspension and reading levels.

Additionally, the focus of this study excludes sociological factors as indicators for violence, and out-of-school suspension. The emphasis of this study is narrowed to reading achievement and out of school suspension. However, it is important to recapitulate that behavior is ultimately linked to long-term out-of-school suspension. Moreover, the simple and probable correlation of reading achievement to out of school long-term suspension must be examined for the health of our schools!
CHAPTER TWO
Review of Literature

Out-of-school suspension is used as an authoritative action to address behavioral problems on the secondary and primary levels. This disciplinary action is administered to protect students and staff. Additionally, out-of-school suspension is a consequence of disruptive or violent behavior. Out-of-school suspension allows classrooms to function without the interruption of highly disruptive students. Furthermore, many school administrators choose to suspend disruptive students due to "liability issues regarding possible damage that could be caused to other students or to property" (Cohen, 1994). However, the public should question why the sharp and sudden increase in out-of-school suspension is occurring?

“At-Risk” Children and Behavioral Problems

Behavior problems in a school setting often have multiple causes, “creating a complex web of indicators” (Roeser, Eccles, & Freedman 1999).
The term "at-risk" is commonly used for behavior problem children. Moreover, the term can be useful to categorize young people whose potential is stifled by problems in school, their communities, or at home (McWhirter, McWhirter, McWhirter & McWhirter, 1993).

Profiling "at-risk" students is a convenient method for identifying suspendees, and potential suspendees. Personality and intellectual profiles of "at-risk" students suggest a connection of below average intelligence and out of school suspension (Shaughnessy, Parker & Davis, 1997). Furthermore, the term "at-risk" is often used in conjunction with, or in place of, out-of-school suspended students (Shaughnessy, Parker & Davis, 1997).

Children are labeled "at-risk" due to poverty, poor health, racial prejudice, illiteracy, and the escalation of violence in schools (Hamburg, 1994). The Hamburg study analyzes sociological changes in our country. It analyzes connections with rising divorce rates, poor nutrition, a rising tide of child neglect, illiteracy, and violence. Hamburg reviews various programs designed for intervention of at risk youth, and programs
that indicate signs of success. It is not surprising that students at-risk for failure, drugs and alcohol abuse, violence, and illiteracy are also at risk for out-of-school suspension. A common reason for school suspension is the lack of self-control, that often leads to physical aggression (Costenbader & Marson, 1997). Behavioral issues have long been associated with out of school suspension. Recent studies have linked behavioral problems with academic performance.

In a resent study involving foster children, correlations between school failure, academic skills, and behavioral problems in school was established. (Zima, Bussing, Freeman, Yang, Belin, & Forness, 2000). Moreover, deficits in academics and social skills (ie. behavioral difficulties) have a high incident rate of out of school suspensions (Morgan-D'Atrio, Northup, LaFleur, & Spera, 1996).

**Indicators of Achievement and Problem Behaviors**

While behavior and achievement can be correlated and linked to out-of-school suspension, few studies have examined and isolated reading levels to out-of-school suspension. However, numerous studies have examined
various achievement indicators at one time. These indicators are often used in an effort to explain low achievement and problem behaviors in a school environment. Different characteristics of educational and sociological difficulties are used to profile behavioral problem students. These characteristics have been correlated with lower academic achievement scores and out-of-school suspension rates (Smith, 1979).

Another study at Indiana University (Barrett, 1981) also examined different characteristics as indicators of out of school suspension. This study utilized various educational tests and measurements to investigate thirteen variables in high school suspensions. One of the thirteen variables included a high correlation of low reading levels to school suspension. However, ethnicity represented the highest correlation to school suspension in this study.

Moreover, in a 1996 study associated achievement gaps in reading and math with problem behavior and suspension rates. The Alspaugh study found that gaps with achievement and behavior were highly correlated. Additionally, "the gap was consistently a little larger for reading than for
mathematics." (Alspaugh, 1996, p. 139)

In a related study the Cleveland Public Schools conducted research that compared the achievement scores of minority and white students. This sizeable five-phased study identifies different characteristics of high versus low achieving students. The Cleveland study compares: white and minority reading scores, suspension rates, promotion ratios, poverty on achievement, and attendance, in an effort to predict academic achievement (Zafirau & Fleming, 1983). Phase-five of this study detected four variables for predicting reading comprehension on a secondary level: attendance rates, poverty rates, minority ratio, and out of school suspension; these factors had a high correlation to reading levels (Zafirau & Fleming, 1983).

One year earlier, in 1982, Zafirau published "Study of Attendance Issues in a Desegregating School District." Zafirau used a multiple regression analysis with different variables and determined that academic indicators relating to achievement are strong predictors of: attendance, teacher absenteeism, and school suspension. The academic indicators were stronger predictor’s then non-academic or school process indicators.
One study conducted in Great Britain suggests that "family stress, serious illness, and low intelligence" attribute to out-of-school suspension. Examining 58 suspended students in Great Britain this study suggested that reading levels are an indicator for out of school suspension. "At school they were also vulnerable by reason of their generally low intelligence and severe backwardness in reading." (Galloway, 1982, p. 27) Moreover, patterns of emotional and disruptive behavior highly correlate with academic performance (Roeser, Eccles, & Freedman, 1999).

In North Carolina 1999 an alternative school program for students with long-term suspension was evaluated in a study performed by the Wake County Public School System. The major conclusion ascertained from this study was that the basic skills of a majority of the students in this alternative program were "well below grade level" (Carruthers, 1999). Alternative schools for students with long-term suspension are generally suspended for behavioral reasons -this is the case with students enrolled at the Clinton Avenue Learning Center in Rochester, New York!
It cannot be argued that disruptive behavior is the main reason for out-of-school suspensions. Furthermore, based on a review of the literature there appears to be a correlation between underachievement and behavior. This is not the suggestion that one causes the other, but rather they are connected.

To substantiate this connection of behavior and underachievement a review of research regarding prison inmates further validates this premise. Moreover, many students that pass through the Clinton Avenue Learning center (used in this study) are on probation with the criminal justice system. The Clinton Avenue Learning Center (CALC) also staffs certified teachers at various correctional facilities.

**Incarceration and Illiteracy**

Behavioral problems are at the heart of out-of-school suspension, and behavioral issues are the reason many inmates are in prison. A review of literacy in prisons can promote the suggestion that behavior and illiteracy are somehow connected, but what is the status of literacy in American prisons? One study "Prison Literacy Programs" examines the findings of a
National Adult Literacy Survey NALS. The NALS survey interviewed 1,100 inmates from state and federal prisons. The survey measured literacy in the prison population using five levels as indicator for proficiency. The first level of the survey indicated functionally illiteracy, while the fifth level indicated literacy proficiency. The finding indicated that up to seventy percent of the inmates performed at the two bottom levels, performing below that of the general population (Kerka, 1995).

Other relevant prison studies suggesting a connection between behavior and illiteracy are *Silent Crisis* (Gonder, 1991) and *Behind Bars* (Mead, 1986). Gonder's study illustrated a connection between illiteracy and crime. The *Behind Bars* study examined other studies contending unusually high illiteracy rates with regards to prison inmates. *Behind Bars* (Mead, 1986) discovered over fifty percent illiteracy figure of inmates in prison. Additionally, the demographics of the illiterate population overwhelmingly is comprised of poor African Americans with a recidivism rate of seventy percent (Mead, 1986).

An Ohio study using 488 inmate in a medium security prison
examined if there was a connection between behavior, academic deficiencies, and functional illiteracy - a correlation was established (Moke & Holloway, 1986). As a result of the mentioned studies and numerous other studies, offender education programs have been established. The programs in place have also served as a pool of further research.

In another related study Adult Offender Education Programs the authors recapitulate the serious nature of crime and illiteracy in prisons and society. This study corroborates the multitude of research confirming educational deficits in prison inmates (Conrad & Cavros, 1981).

Likewise, in other industrialized nations, various research is conducted correlating illiteracy with crime and countless social problems. One study conducted in Australia connected inadequate literacy skills to a multitude of social problems, one of the interesting factors concluded by this study was the connection of illiteracy and crime (Hartly, 1989).

Disruptive behavior and academic deficiencies have been extensively examined in the field of psychology. Various studies have linked disruptive behavior, and even suicidal tendencies to academic deficiencies.
(Kosky, 1983). The Department of Health and Human Services launched a recent program Youth 2000, in an effort to reconnect detached youths back into society. The Department of Health and Human Services recognizes disconnected behaviors, which include violence and illiteracy (Elder, 2000).

This study also examines illiteracy and disconnected behaviors. However, this subject is examined in a more refined venue of low sixth grade reading scores to long-term out-of-school suspension. It is also interesting to note that many of the students in my study have had an array of disconnected behaviors in school and some out of school.
CHAPTER THREE
Design of the Study

Purpose

The purpose of this study was to investigate a possible correlation between secondary high school students placed on out-of-school long-term suspension to their sixth grade reading achievement test scores. Is the behavior that leads to long-term out-of-school suspension connected to reading achievement?

Question

What is the correlation between reading achievement on the sixth grade level to ninth and tenth grade long term out of school suspension?

Do long-term out-of-school suspended students score lower then the general public school population?
Methodology

School records of thirty-three randomly selected students were used for this study. The subjects were solely from a population of long-term out-of-school suspended regular education students. Only ninth and tenth grade students were used in the sample.

Subjects

The population in this study consists of thirty-three Rochester inner-city secondary students that have been placed on long-term out-of-school suspension from public school. There are 14 females and 19 males in this study. The students are registered with Clinton Avenue Learning Center located at 107 North Clinton Avenue, Rochester, New York. This center also handles the Home Hospital students that are out of school due to illness, pregnancy, legal difficulties, and out-of-school suspensions.

The sample in this study consists entirely of long-term suspended students classified regular education that have displayed disruptive behaviors. Twenty-three of the thirty-three subjects are African American
and the remainder Hispanic and Caucasians. The students in this sample have been suspended for a variety of disruptive and violent behaviors ranging from fighting, drug possession, assault on a staff member, and weapons possession. All of the subjects in the study have exhibited behavioral difficulties.

Many of the students in this study had prior experience with the DRP's and the PEP test in earlier grades. All of the students are classified regular education and taught in an inclusive setting with special education students at the Clinton Avenue Learning Center. It is important to reiterate that only permanent (long-term) suspension students coded regular education will be included in the study. Special education students are not used in this sample due to a multitude of physical and neurological variables that can affect behavior and reading achievement.

In addition to the exclusion of special education students in this study, I excluded eleventh and twelfth grade students, due to the *drop out factor*. The reasoning behind this exclusion is that many suspended students drop out of high school before they reach grade eleven, therefore grades eleven and twelve are excluded.
The vast majority of students registered with the Clinton Avenue Learning Center and the Home Hospital Unit have been suspended from school. However, a portion of the population in the school is registered with the school due to other mental or physical health impairments, illness, or pregnancy. These students are not included in this study. Only regular education students that have exhibited behavioral problems within a public school setting are used in this sample of thirty-three.

**Instruments**

The educational records were examined and the latest reading scores were used; this in an effort to investigate possible correlations between reading achievement to out-of-school long-term suspension and behavior. The latest and most consistent standardized reading test scores obtainable for this study were the sixth grade Degrees of Reading Power (DRP) and the sixth grade PEP test. Unfortunately, other standardized tests were not available for the subjects in this study.

The Degrees of Reading Power (DRP) and the PEP test were implemented by the Rochester City School District in 1991 replacing the California Achievement Reading (CAT) test. The PEP test measures and
evaluates reading, writing, social studies knowledge, and mathematics. The reading section of the PEP test follows the same format and style of the Degrees of Reading Power (DRP).

**Procedure**

After working with long-term out-of-school suspended students I noticed a pattern of severe reading difficulties in students that had been suspended for highly disruptive behaviors. The idea that there might be a correlation between disruptive behaviors/school suspensions and low reading levels was a good possibility. However, what would be the most tangible scenario to examine my contention? What sample would honestly represent this contention that low reading scores and long-term out-of-school suspension are connected in some way?

* First, I excluded all special education students due to a variety of possible variables that would interfere with the sample population; variables such as severe processing difficulties, and a multitude of physical handicaps that can impede a student’s ability to read. Additionally, students with severe mental health issues such as psychosis or schizophrenia were also
excluded.

* Secondly, as time past it became evident to me that many of the students that score low and exhibit disruptive behavior drop out by eleventh and twelfth grade. Therefore to include eleventh and twelfth grade subjects, would be to exclude an important part of the school population.

* The next step was to randomly selected ninth and tenth grade students from the pool of regular education students that have been placed on long-term out-of-school suspension. Thirty-three students were selected from the files of the Clinton Avenue Learning Center; all were originally placed with the Home Hospital Unit. Therefore behavior was an issue for all of the students in the sample.

* Examining educational records was the next step, this in order to exclude students with educational gaps in their schooling.

* The next problem in procedure was tracking consistent standardized tests for all the subjects. This was difficult due to the transient nature of the students. After much sifting the most consistent and obtainable standardized
test was the sixth grade PEP and the sixth grade DRP’s.

* The New York State sixth grade PEP and DRP’s were categorize using Rochester City School District guidelines (see Appendix).

* Later bar graphs, frequency distributions, and probability distributions were used to investigate a possible correlation between reading scores and long-term out-of-school suspension.

* Lastly, interviews were conducted with the Home Hospital and Clinton Avenue Learning Center teachers. Many of my colleagues are, or have taught the students in this study. Anecdotal evidence was exchanged between the teachers and myself.
CHAPTER FOUR
Analysis of Data

Information on the DRP's and PEP Test

The Degrees of Reading Power test are published by Touchstone Applied Science Associates (TASA). The Rochester City School District adopted this measure in an effort to determine how well students read with real life material. Both of these standardized tests were used until 1999, when they were replaced with the English Language Arts examination.

The Degrees of Reading Power (DRP) are separated into units that form a scale ranging from 15 to 100 units. Unit 15 represents the easiest readability and unit 100 represents the most difficult readability within this test. For example, a DRP unit of 53 represents the common reading ability in a childrens’ magazines; and a 70 DRP unit represents first year collage text (see Appendix for DRP unit examples).

During the 1991 to 1999 timeframe the school district implemented anchoring points for the use of DRP's in the various grades (see Appendix).
All of the anchoring points were connected to a P value of .75. The "P" value is the probability that a student will understand the text that is given. The sixth grade DRP values used were 53 for the school district. This study concentrates on the DRP scores for sixth grade, therefore 53 is the DRP reference point in much of this study.

The school district follows state guidelines regarding test result recommendations. For example, the state of New York recommends that students falling below the 25 percentile on the DRP's are need of support. Furthermore, students that receive a raw score below 15 should be screened for possible handicap conditions. New York State additionally requires that remediation must be provided for students who score below a 48 on the PEP form E.

The following table lists raw scores that correspond to percentile/NCE values. The values are listed in wide percentile ranges and do not necessarily correspond to the reference point cutoffs.
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Assessment

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Note: Cutoff values for Stages have not yet been developed.
**PEP Test**

The sixth grade reading PEP test raw scores were corresponded to New York State percentiles. A majority of the thirty-three students (21 students) fell between the 4th and 25th percentile (see Appendix), averaging and hovering just above the 15th percentile. This is far below what was expected.

The PEP test data on the Xbar chart gives a mean of 49.03 for the sample population of thirty-three students (see Appendix). The minimum score was 10 and the maximum was 72 on the PEP test. A two-sample T-test split on the PEP scores of all thirty-three students was more interesting. The two T-test illustrated a wider deviation within the lower scores, in addition to the wide gap between high and low scoring students.

An example of the gap and deviation is as follows: twenty-one student's scores below the mean of 49 in the two T-test sample. The mean of the twenty-one students out of the thirty-three is only 41.8 with a standard deviation of 13.5. The remaining twelve students on the higher end of the raw score scale for the PEP test had a mean of 61.67 with a standard deviation of only 5.45.
This two sample T-test illustrates wild swings in the lower end PEP scores. In contradiction, the higher scoring students in the sample had a similar distance to one another; their scores were tighter together. When the PEP test scores were run in a one-sample test with all thirty-three students the mean was 49.03 with a standard deviation of 14.75.

In conclusion 69.3% of the sample had a mean of only 41.8%. This mean of 41.8% falls well below the Normal Curve Equivalency (NCE) of 45% to 50%, and the percentile cut off of 40% to 50%. The majority of the PEP test scores fell into only the third stanine, on the NCE 13-36, and between 4-25 percentile. The remaining 31.7% scored slightly above the acceptable cutoff values, with a mean of 61.7% raw score on the PEP test, and in the 6th stanine.

This is a poor showing by any standards. It is also important to remember that all of the students have had previous experience with the PEP test in third or fifth grade. Furthermore, that all of the students have a history of disruptive behavior and have been place on long-term out-of-school suspension on at least one occasion. The PEP test in this case illustrates the correlation of low sixth grade reading PEP scores to long-term
out-of-school suspension.

**DRP' Evaluations**

The sixth grade DRP evaluations are set by anchoring points, or cutoff points for each grade. The anchoring point for the sixth grade DRP score was 53. This represented an approximate 50 percentile. The Rochester City School District in the years 1991 to 1999 used a range of scores for placement purposes. The range scores for the city school district follows the State Reference Points (SRP).

**Ranges and DRP cutoff points**

The range of sixth grade Degrees of Reading Power DRP scores are as follows:

- **54 or above**  Considered well above the State Reference Point with writing tasks that challenge the student's ability.
- **49-53**  Considered above the State Reference Point using writing and reading tasks of increasing demand, but with standard
instruction units.

**47-48** Considered just below the State Reference Point SRP, and will need remediation in the standard instruction unit.

**46 and below** Considered well below the State Reference Point SRP, remediation is recommended beyond the standard instructional unit.

The State Reference Points SRP cutoff value for raw scores is 49 or more. However, the Rochester City School District's anchoring points to work from is 53 using a P factor of .75.

The score of the sample of thirty-three students in this study had a raw mean of only 39.27 (see Appendix) with a standard deviation of 10.14. The lowest raw score was 14 and the highest 60. A two sample T-test also indicated scores at the higher end were tighter together; the box plot on Appendix illustrates adjacent scores at a visual glance.

The DRP data clearly show that the long-term out-of-school suspended students scored well below what was expected of the average regular education student at the sixth grade level. These students on average scored (39.27 raw score) a full ten points below the expected State
Reference Point of 49 for the DRP's. Furthermore, the students in this study scored 13.73 points on the raw scale below the city school district's cutoff point of 53, remember that the city school district at this time was using a P factor of .75 (see Appendix).

It is clear from the data analysis that the students in this study scored well below their counterparts on both sixth grade-reading tests. Sample scores on the DRP and the PEP test also illustrated wide gaps between the high and the low scoring students. Furthermore, this random study of regular education suspendees demonstrated severe deficiencies in reading on both tests.

A majority, 69.3% of the PEP Test sample scores from the thirty-three students fell into only the 3rd stanine, or from 4%-25%. Furthermore, a considerable 90.9% of the students in this study scored well below the DRP raw score district cutoff of 53. Moreover, 58.6% of the thirty-three students score were at the bottom of the State Reference Point raw score of 46. This 58.6% were in the range for remediation beyond the regular instruction program.

Both the DRP test scores of the thirty-three students and the PEP test
illustrates severe inadequacies in reading for the majority of students on both tests. The random sample of students in this study all had previous experience with the DRP's and the PEP tests, and had no wide educational gaps in their schooling. All of the random sample students are regular education students with history of disruption within a public school setting, and have been placed on long-term out-of-school suspension on at least one occasion. The study and the analysis of data broadcasts a correlation between low sixth grade reading PEP test and DRP raw scores to long-term out-of-school suspension in ninth and tenth grades.
CHAPTER FIVE
Conclusions and Implications

Conclusion

Is there a correlation between ninth and tenth grade high school students placed on long-term suspension, to their standardized sixth grade reading test scores? The answer to that question is yes! An analysis of the data indicates that there is a correlation between low reading scores and out-of-school long-term suspension. This is not to say that one causes the other, but that they are merely connected in some way.

Moreover, long-term out-of-school suspended students are more likely to have lower reading scores than general public school students. The evidence indicates that a majority of students in this random sample overwhelmingly scored lower than that of the general population. A majority (69.3%) of the thirty-three students in the PEP test (21 students) averaged just above the 15th percentile, or the 3rd stanine. This is far below what was expected. Furthermore, a sizeable 90.9% of the students in this
study scored well below the DRP raw score district cutoff of 53. Moreover, 58.6% of the thirty-three students scores were under the State Reference Point raw score of 46 on the DRP's. The students that fell into the 58.6% were in the range for intensive reading remediation.

The purpose of this study was to examine the past reading levels of long-term out-of-school suspended students. It was crucial to use ninth and tenth grade students due to the drop out factor. I reasoned that ninth and tenth grade students better represented the entire student population for sampling purposes. Sampling grades eleven and twelve would not allow for that part of the student population that drops out. Furthermore, students that have histories of low scores and out-of-school suspension are more likely then the general population to drop out of high school.

Implications for Schools

Underachievement in the area of reading test scores to out-of-school long-term suspension and behavior are connected, and will be connected in the future. However, the population make-up of long-term out-of-school suspension will undoubtedly change with the increasing standards. The
numbers of short-term suspensions will increase and long-standards, long-term suspension will be come permanent.

Administrators are under increasing pressure from the state to increase standardized test scores in conjunction with higher standards, thus leaving many anxious administrators. It is also important to remember that administrators have the discretion to suspend and deny reentry to school for many students on long-term suspension. Further investigation is needed regarding causes of suspensions and why out-of-school suspension is on the rise.

Critical examination of student population patterns will undoubtedly uncover intentional “streamlining” of public school students. It is common knowledge among Home Hospital teachers that many of their underachieving students are not permitted back in public schools for two reasons, not just one. One reason students may not be permitted back into the school building is behavior, but the second reason is political -they usually score near the bottom of standardized tests.

This study highlights the fact that many disruptive students are also low academic scoring students. It should be no surprise that many
administrators can eradicate the "troublemakers" while pulling up their test score spreadsheets at the same time. There is evidence to suggest that streamlining and cherry picking the student population is well under way. Higher standards and the demand for higher test scores in New York schools are flooding our Home Hospital Unit and the Clinton Avenue Learning Center with new students. Moreover, the general consensus of many alternative high school teachers and Home Hospital teachers I speak with believe "cherry picking" is the outcome for our increased in suspension rate of a projected 50% by June 2001.

Additionally, New York State has now increased the age of Persons In Need of Supervision (PINS) from age sixteen to eighteen. Many of these young people in the PINS program are underachievers for a variety of reasons. A vast majority of these young people have severe gaps in their education and turbulent family lives. The courts in many cases force these young people back into the school district. Obviously, a great majority of these students are troubled and end up on long-term out-of-school suspension. It is inevitable that the numbers long-term out-of-school suspended students will increase due to higher academic standards and
changing laws.

Furthermore, the implications for schools regarding behavior, out-of-school suspension, and low standardized test score are far-reaching. If educators understand how one affects the other reading remediation could be more effective. Additionally, primary grades should take a proactive approach regarding low standardized tests and disruptive behavior.

**Implications for Further Research**

Further studies are needed to understand the relationship between disruptive behavior and low standardized tests. To better educate students it is imperative to understand which comes first, disruptive behavior or poor academic performance?

Additional studies concerning out-of-school suspension and underachievement in reading are needed. Moreover, future studies may uncover a link with increasing standardized testing to the rise in out-of-school suspension. There are a variety of complex causes that can explain the rise in out-of-school suspension, which include sociological, psychological, and changing laws (such as PINS). However, many studies
fail to examine the political factors that contribute to out-of-school suspension such as administration spreadsheet scores for regents testing.

Furthermore, how many of these repeat long-term out-of-school suspended students end up incarcerated? This question is another avenue for further research. Future studies examining behavior and underachievement in the area of reading will certainly highlight the importance of reading remediation. Further research will surely ascertain a relationship between disruption, lower standardized reading test scores, and long-term out-of-school suspension.
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Raw scores of 33 students
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To: Test Liaisons  
From: Ann Brown  
Re: Cutoffs  
Date: May 6, 1994

To facilitate initial identification for organization and for placement in a number of programs, the District recommends percentile or NCE cutoffs. The tables below show raw score values that correspond to frequently used percentile/NCE values. Be aware that in most cases these values are approximate and do not necessarily correspond to reference point cutoffs. It is hoped that use of these cutoffs will reduce the laborious process of converting scores at the building level. Please remember that Research and Evaluation recommends that schools wait for the computer converted scores and manually convert only in the most necessary situations.

### READING RAW SCORES

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<td>30</td>
<td>36</td>
<td>41</td>
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<td>58</td>
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</tbody>
</table>

Note: Cutoff values for Stages have not yet been developed.
Boxplots of DRP Low and DRP High
(means are indicated by solid circles)
Histogram of DRP

DRP

Frequency

15 20 25 30 35 40 45 50 55 60
Degrees of Reading Power

- (29, 46.8%)

35 (2, 3.2%)
36 (2, 3.2%)
37 (2, 3.2%)
41 (2, 3.2%)
42 (2, 3.2%)
43 (4, 6.5%)
48 (2, 3.2%)
Others (15, 24.2%)
Boxplots of C4 and C5
(means are indicated by solid circles)
Pie Chart of PEP

58 (2, 6.1%)
61 (2, 6.1%)
56 (2, 6.1%)
54 (4, 12.1%)
52 (3, 9.1%)
Others (20, 60.6%)
Xbar/S Chart for PEP

UCL=56.79
Mean=49.03
LCL=41.27

UCL=20.30
S=14.75
LCL=9.196
Xbar/S Chart for DRP

UCL = 54.34
Mean = 49
LCL = 43.66

UCL = 13.95
S = 10.14
LCL = 6.321
Interpreting Pupil Evaluation Program Test Results
May 1998

This publication contains information which can be used to interpret test scores from the May 1998 administration of the Pupil Evaluation Program tests. Tables containing data for the grade 3 and grade 6 mathematics tests begin on this page, tables containing data for the grade 3 and grade 6 reading tests begin on page 3, and a table containing data for the grade 5 writing test is given on page 7. Additional information concerning the use of the data presented in this publication can be found in the manuals for administrators and teachers provided for the tests.

MATHEMATICS

The State Reference Points (SRP) for the grades 3 and 6 mathematics tests for New York State elementary schools are given in Table 1.

Table 1
State Reference Points
Mathematics Tests for New York State Elementary Schools
Grades 3 and 6 — May 1998

<table>
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<tr>
<th>Grade</th>
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<tr>
<td>3</td>
<td>Raw scores (number correct) of 26 or more</td>
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<tr>
<td>6</td>
<td>Raw scores (number correct) of 25 or more</td>
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The classification of questions according to content area for the grades 3 and 6 mathematics tests for New York State elementary schools is given in Table 2.

Table 2
Classification of Questions According to Content Area
Mathematics Tests for New York State Elementary Schools
Grades 3 and 6 — May 1998

<table>
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<tr>
<th>Content Area</th>
<th>Grade 3 Question Numbers</th>
<th>Grade 6 Question Numbers</th>
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<td>Operations with Whole Numbers</td>
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<td>Operations with Fractions</td>
<td>39-44, 46, 49</td>
<td>6-7, 25-43</td>
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<td>Probability and Statistics</td>
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<td>Geometry and Measurement</td>
<td>54-65</td>
<td>52, 54-65</td>
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</table>
The item difficulties for the grades 3 and 6 mathematics tests for New York State elementary schools are given in Table 3.

### Table 3

**Item Difficulties**

**Mathematics Tests for New York State Elementary Schools**

**Grades 3 and 6 — May 1998**

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### Determining Item Difficulties

The item difficulties in Table 3 are based on May 1997 field test results. The difficulty of each question is reported in terms of the percent of students that answered the question correctly. Useful information on class performance can be gained by determining the difficulty of a question for a class and comparing that difficulty to the difficulty reported above. Additional information concerning item difficulties is contained in the manual for administrators and teachers.
Information concerning remediation placement groups constituted in relation to the State Reference (SRP's) for the grades 3 and 6 reading tests for New York State elementary schools is given in Table 5.

Table 5
Remediation Placement Groups
Reading Tests for New York State Elementary Schools
Grades 3 and 6 — May 1998

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<th>Number Correct</th>
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<td>47 or above</td>
<td><strong>Well above SRP:</strong> assign reading and writing tasks that challenge the student's ability</td>
</tr>
<tr>
<td></td>
<td>28-46</td>
<td><strong>Above SRP:</strong> increase demands of reading and writing tasks in the regular instructional program</td>
</tr>
<tr>
<td></td>
<td>25-27</td>
<td><strong>Just below SRP:</strong> provide remediation in the regular instructional program</td>
</tr>
<tr>
<td></td>
<td>24 or below</td>
<td><strong>Far below SRP:</strong> provide remediation beyond that included in the regular instructional program</td>
</tr>
<tr>
<td>Grade 6 Reading</td>
<td>54 or above</td>
<td><strong>Well above SRP:</strong> assign reading and writing tasks that challenge the student's ability</td>
</tr>
<tr>
<td></td>
<td>49-53</td>
<td><strong>Above SRP:</strong> increase demands of reading and writing tasks in the regular instructional program</td>
</tr>
<tr>
<td></td>
<td>47-48</td>
<td><strong>Just below SRP:</strong> provide remediation in the regular instructional program</td>
</tr>
<tr>
<td></td>
<td>46 and below</td>
<td><strong>Far below SRP:</strong> provide remediation beyond that included in the regular instructional program</td>
</tr>
</tbody>
</table>

Prediction tables for the grades 3 and 6 reading tests for New York State elementary schools from pres to the readability of prose in DRP units are given on pages 4 and 5 in Tables 6 and 7.
Table 6
Predictions From DRP Raw Scores to the Readability of Prose (in DRP Units) That Can Be Read at Different Comprehension Levels
Reading Test for New York State Elementary Schools
Grade 3 — May 1998

<table>
<thead>
<tr>
<th>Total Items Right</th>
<th>Independent Level (p=.90)</th>
<th>Instructional Levels (p=.80)</th>
<th>Frustration Level (p=.70)</th>
<th>Instructional Levels (p=.75)</th>
<th>Frustration Level (p=.50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>56</td>
<td>70+</td>
<td>78+</td>
<td>81+</td>
<td>84+</td>
<td>92+</td>
</tr>
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<td>55</td>
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<td>91</td>
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</table>

**All values below 15**
Table 7
Predictions From DRP Raw Scores to the Readability of Prose (in DRP Units) That Can Be Read at Different Comprehension Levels

Reading Test for New York State Elementary Schools
Grade 6 — May 1998

<table>
<thead>
<tr>
<th>Total</th>
<th>Independent</th>
<th>Instructional Levels</th>
<th>Frustration Level</th>
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<tbody>
<tr>
<td>Items</td>
<td>Right (p=.90)</td>
<td>(p=.80)</td>
<td>(p=.75)</td>
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<td>35</td>
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<tr>
<td>10</td>
<td>15–17</td>
<td>20</td>
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<td>9</td>
<td>15–16</td>
<td>19</td>
<td>22</td>
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<tr>
<td>8</td>
<td>15–15–15</td>
<td>17</td>
<td>20</td>
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<td>7</td>
<td>15–15–15–15</td>
<td>16</td>
<td>19</td>
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<tr>
<td>5</td>
<td>15–15–15–15</td>
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<td>17</td>
</tr>
<tr>
<td>3</td>
<td>15–15–15–15</td>
<td>15</td>
<td>17</td>
</tr>
<tr>
<td>Below 3</td>
<td>*** ALL VALUES BELOW 15 ***</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Converting Raw Scores to Reading Ability Levels

The raw scores on the reading tests for elementary schools do not by themselves provide information concerning what materials students can read with a given likelihood of success. To give meaning to the raw scores they must be converted to DRP units. Tables 6 and 7 are used for this purpose. In these tables, raw scores are translated into predictions concerning students' ability to read prose materials that have different readability values.

The first column at the left of Tables 6 and 7 gives the raw score, that is, the total number of questions answered correctly on the reading tests for New York State elementary schools. The entries in the remaining columns are expressed in DRP units. For any given raw score, the column labeled "Independent Level (p=.90)" gives the readability of materials in DRP units for which a student with that raw score has a .90 likelihood of success. Since such a student would also be expected to answer correctly at least 90% of questions based on any easier materials, the tabled entry defines the most difficult prose suitable for the independent level. Any easier prose would also fall within the student's independent level.

The set of columns labeled "Instructional Levels" gives the readability of materials in DRP units for which students have a p=.80, p=.75, and p=.70 likelihood of success. Materials whose difficulty in DRP units falls within the values tabled for p=.80 and p=.70 are generally the best ones to use in making assignments.

The extreme right-hand column entry labeled "Frustration Level (p=.50)" identifies the readability of materials on which students have a 50-50 chance of responding correctly. This level of performance traditionally has been defined as the frustration level for the student. Such materials would be too difficult for most students to use profitably. However, strong readers may want to attack these materials, and they should not be prohibited from doing so. The entry shown in the extreme right-hand column defines the point at which the frustration level begins.

As an example, Table 6 indicates that a student who achieves a raw score of 50 on the grade 3 test can read and comprehend at the independent level prose materials with a readability of 47 DRP units or below. The middle value of the instructional level for the same student falls at 58 DRP units. The upper and lower bounds for the instructional range are 61 and 55 DRP units, respectively. Therefore, the instructional level of materials for this student can be as easy as 55 DRP units or as difficult as 61 DRP units. This student may be expected to comprehend material within this range of readability, with instructional support. The final column entry for this same student indicates that materials with DRP unit values of 69 and above will be at the frustration level.

Note that in some columns there are no entries for the very low raw scores. At the high end of the table, a student with a raw score of 55 can read independently materials with a DRP unit value of 67. At the easy end of the table, cells are left empty when there are no materials easy enough to fill them. For example, a student with a raw score of 5 is a poor reader. The tabled values show that there are no materials easy enough for this student to use.

The DRP unit values in the row for a perfect raw score of 56 are followed by a +. This occurs because the statistical procedures used for making predictions do not apply to a student who answers all the items on the test correctly. In effect, since such a student has not been given any questions that he or she could not answer, the limit of this student's ability is unknown. Hence, specific predictions cannot be made concerning which materials are suitable for which purposes for students scoring 56 on the grade 3 test.

Additional information on converting raw scores to DRP units is contained in the manual for administrators and teachers.
The State Reference Point (SRP) for the grade 5 writing test for New York State elementary schools is a raw score of 8. All students whose total test raw score is less than 8 must receive appropriate remedial instruction.

Information concerning remediation placement groups for the grade 5 writing test is given in Table 8.

### Table 8
Remediation Placement Groups
Writing Test for New York State Elementary Schools
Grade 5 — May 1998

<table>
<thead>
<tr>
<th>Total Test Score</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>14–16</td>
<td>Well above SRP: increase sophistication of writing tasks in regular instructional program, assign writing tasks that challenge the student’s ability and encourage the student to become an independent writer.</td>
</tr>
<tr>
<td>8–13</td>
<td>At or above SRP: emphasize writing and increase demands of writing tasks in the regular instructional program.</td>
</tr>
<tr>
<td>5–7</td>
<td>Below SRP: provide remediation within the regular instructional program.</td>
</tr>
<tr>
<td>0, 2–4</td>
<td>Far below SRP: provide intense individualized or small-group remediation within the regular instructional program.</td>
</tr>
</tbody>
</table>
LINKING DRP STRATEGIES TO CLASSROOM INSTRUCTION

INTEGRATED LANGUAGE ARTS PROGRAM

Language Arts  Year-End Outcomes - Expectations

Teaching Strategies

Basal Reading Program

Classroom Libraries/Trade Books

Formal and informal Assessment (program tests, DRP and PEP tests, portfolios, writing samples, student self-assessment, observations, anecdotal records, checklists)

Student Needs

Content Area Reading

Reading/Writing/Listening/Speaking
LINKING DRP STRATEGIES TO CLASSROOM INSTRUCTION

Most primary basals have an article or unit about sea animals. Using whales as a theme, the following unit was developed to show how DRP strategies can be utilized to address students' needs in an integrated language arts program. This unit shows a method for teaching content area material at the primary level utilizing basals, trade books, and content texts. It was designed to meet the needs of the students shown in the class profile below.

Sample Primary Class Profile

<table>
<thead>
<tr>
<th>*DRP Score</th>
<th>Number of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>3</td>
</tr>
<tr>
<td>20</td>
<td>3</td>
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<td>23</td>
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<tr>
<td>25</td>
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<td>26</td>
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<td>28</td>
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<td>41</td>
<td>1</td>
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<tr>
<td>49</td>
<td>1</td>
</tr>
</tbody>
</table>

* Excerpt from a 1991 Second Grade Test Printout
** District-Wide Reference Point
WHALES

Activities

- **Preparation**
  Assemble pictures, trade books, filmstrips, and realia (sea objects, music, sand, aquarium, etc.).

- **Building Background Knowledge**
  1. Map Skills
     Using the social studies text, globe, wall maps, or transparencies, teach the concept of oceans and identify the oceans by name.
  2. Using the Science Text
     (Additional information can be found in the 1979 Child Craft Annual.)
     a. Teach properties of ocean water. Compare the properties of ocean water to drinking water.
     b. Make a T-chart to use with experiment on page 57 in the science book. (See example below.)
     c. Do experiment to learn differences between ocean and drinking water.
     d. Have children record findings in their science journals.

    **HOW OCEAN WATER IS DIFFERENT**

<table>
<thead>
<tr>
<th>What We Thought</th>
<th>What We Found Out</th>
</tr>
</thead>
</table>

DRP Strategies

- Recognizing the range of DRP instructional levels in the class
- Predicting
- Evaluating
**Procedures**

- **Sharing Prior Knowledge**
  1. Divide students into cooperative groups.
  2. Have children discuss what they know about whales. A single sheet of paper and a pencil is passed around the group for student responses.
  3. Bring the whole group together to develop a semantic map from student responses.

![Semantic Map](image)

4. Using the information on the map, prepare a whale chart.

<table>
<thead>
<tr>
<th>What We Know</th>
<th>What We Want to Find Out</th>
<th>What We Have Learned</th>
</tr>
</thead>
</table>

5. Fill in the first column on the chart.

**DRP Strategies**

- Using DRP instructional levels to divide students in multi-level groups
Procedures

- **Introducing Vocabulary**
  1. Introduce vocabulary through context.
  2. Reinforce vocabulary by rereading the sentences and giving reasons for choices.
  3. Phonics and structural analysis instruction should be given at this time.

- **Predicting**
  Complete part two of the whale chart ("What We Want to Find Out").

- **Surveying the Article**
  Help students to become aware of the types of clues found in content reading--pictures, charts, boldface type, labels, etc. Encourage students to read the beginning and ending sentences of each part of the article and skim for information. The teacher should model these techniques.

- **Reading Articles (Basals, Trade Books, Content Area Texts)**
  Suggestions for first reading:
  1. Reading in cooperative groups.
  2. Reading in pairs.
  3. Divide class into groups. Teacher reads to one group, the others read silently.
  4. Teacher reads orally to whole group (modeling good reading behavior).

DRP Strategies

- Using context clues
- Finding likenesses and differences
- Confirming

- Predicting

- Focusing on topic

- Recognizing DRP instructional levels of students
Procedures

5. Teacher reads parts of story orally. Students give main idea and supporting details for each part.

- **Reviewing Vocabulary**
  1. Present the original vocabulary sentences but leave blank spaces for the new words.
  2. Have students tell the correct word for each blank.
  3. Children should record new vocabulary in their vocabulary books.

- **Bringing Closure to Article**
  1. Complete part 3 of the whale chart ("What We Have Learned"). Children verify responses by going back to the article. Children may have additional questions or unanswered questions on the chart. (See below, Integrating Content Area, number 3.)
  2. Suggestions for second reading:
     a. **Choral Reading**
        Example: Show article on overhead and students read in unison.
     b. **Riddle** Given riddle, children search passage for answer.

- **DRP Strategies**
  - Confirming
  - Rewording Ideas
  - Using context clues
  - Confirming
Integrating Content Area
Trade Books
1. Select a passage from a trade book on whales. Reproduce and omit some words (see Teacher-Made Cloze Information Packet). Make a chart or transparency of the passage. Ask children to choose the correct word for each blank, and give their reasons for their choices.

2. Provide an opportunity for students to read trade books either cooperatively or independently.

3. After children have read the trade books, the class should add any new information to the whale chart.

Writing Activities
These activities may be used throughout the unit.
1. Use the whale chart to write a summary of what was learned (either whole class, small group, or individually).

2. Make a whale-shaped book. Students should write a few sentences each day about what they have learned.

3. Have students write to the following places for additional information.
   a. Buffalo Aquarium
   b. Toronto Science Center
Procedures

c. Marineland
d. State of Maine Chamber of Commerce for whale watching information

4. Record predictions, hypotheses, and summaries of the experiment.

5. Write pattern poems, whale limericks, etc.

• Art Activities

(These may be done with the art teacher.)


2. Make a diorama of the ocean floor (using shoebox or wall).

• Evaluation

Prepare a cloze activity about whales. This may be in the form of three-sentence paragraphs or longer passages. Have students use DRP strategies to complete the activity.

Reminder: Confirm the students' choices through discussion (DRP Information Booklet p. 11, item 3.)
CLOZE EVALUATION OF WHALE UNIT

1. Whales do not live on land. They live in ( ) They swim.
   - dirt
   - air
   - oceans
   - houses

2. Whales breathe through a ( ). It is on the top of their heads. They blow out water.
   - nose
   - tube
   - mask
   - hole

3. Whales are not small. They are very ( ). They are as long as three cars.
   - large
   - small
   - short
   - tiny

4. Most whales do not need teeth. They ( ) very small animals called krill. They do not chew their food.
   - hear
   - eat
   - love
   - bite

5. Whales make a clicking sound to find food. They listen for the sound to come back. This is called an ( ).
   - apple
   - echo
   - ear
   - eye

6. Whales are not fish. They are ( ). They breathe air and give milk.
   - bird
   - mammals
   - snakes
   - sharks

   Whales swim in warm waters in winter. The baby whales are born there. In ( ), they go to cold water.
   - summer
   - January
   - autumn
   - days

   Whales are hunted for blubber and meat. Each year there are ( ) whales. Soon there may be no whales at all.
   - more
   - bigger
   - younger
   - fewer
LIST OF CONCEPT BOOKS RELATED TO THEMATIC UNIT "WHALES"

Animals -- whales

Anderson, J.L. I Can Read About Whales and Dolphins.
Applebaum, Neil. Is There a Hole in Your Head?
Behrens, June. Whalewatch!
Bulla, Clyde Robert. Jonah and the Great Fish.
Clark, Harry. The First Story of the Whale.
Climo, Shirley. The Adventure of Walter.
Duvoisin, Roger Antoine. The Christmas Whale.
Engle, Joanna. Cap'n Kid Goes to the South Pole.
Hudson, Eleanor. A Whale of a Rescue.
Hurd, Edith Thatcher. The Mother Whale (2-3). Illus. by Clement Hurd. 1973, Little. This simple informative description of the life cycle of the sperm whale begins with the birth of a calf and its gradual growth to independence; attractively illustrated with block prints.
Hurd, Edith Thatcher. What Whale? Where?
Hutton, Warwick. Jonah and the Great Fish.
Johnston, Johanna. Whale's Way.
King, Patricia. Mable the Whale.
Lilly, Kenneth. Animals of the Ocean.
Maestro, Giulio. The Tortoise's Tug of War.


Mochè, Dinah. *What's Down There*.

Phleger, Fred. B. *The Whales Go By*.

Pluckrose, Henry. *Whales*.

Posell, Elsa. *Whales and Other Sea Mammals*.

Postgate, Oliver. *Noggin and the Whale*.

Ricciuti, Edward R. *Catch a Whale by the Tail*.

Roy, Ronald. *A Thousand Pails of Water*.

Selsam, Millicent E. *A First Look at Whales*.


Watanabe, Yuichi. *Wally the Whale Who Loved Balloons*.

Wolcott, Patty. *Pirates, Pirates Over the Salt, Salt Sea*.

**TEACHER RESOURCES**


HOW TO USE
THE
DRP

Authors
Marion Arlauckas
Ann Pinnella
Student Data, Testing and Records
HOW TO USE THE DRP*

By now, FALL, 1991, you should be aware that - -

1. The District has adopted a new reading test series - - the DRP (Degrees of Reading Power) test published by TASA (Touchstone Applied Science Associates.) TASA is also responsible for the preparation of the PEP, PCT, and RCT tests which are part to the New York State Competency Program.

2. The adoption of this test reflects a national trend toward the selection of performance-based assessment which compares the achievement of students against district standards rather than against one another as was the practice with norm-referenced tests such as the CAT.

3. The DRP test links assessment to instruction in ways which are quite different from the past relationships. The DRP scores from the test can be directly related to instructional materials. The strategies for doing well on the test are the same strategies that lead to being better readers.

4. This reform is more likely to succeed than past efforts, because it is actively advocated by industrial leaders who realize that the number of American workers is shrinking and further that all workers will need higher levels of skills in reading than were needed in the past.

The reading and cadre teachers have been identified as the groups who will provide the training needed by classroom teachers to utilize the information from the DRP and, more importantly, to incorporate the strategies associated with the performance measured by these tests into classroom practice.

In order for anyone to use the DRP, it is necessary to know a number of things.

1. The logic behind the construction of the DRP.
2. The vocabulary terms, jargon, etc., associated with the test.
3. The goals which have been identified for the tests, including the logic behind the selection of those goals as they relate to the workplace needs of the next century.
4. The reports which are available from DRP testing and a working knowledge of how to read those reports.
5. The methods to incorporate the strategies suggested by the DRP into the instructional program.

*Preliminary information on the DRP is found in a previous document "Introduction to the DRP".
The tests of the Degrees of Reading Power program are holistic measures of how well the messages within text are understood. As much as is possible in a testing situation, DRP tests determine how well a student reads under "real life" conditions in and out of school. Because people usually do not have specific questions in mind when they read a selection for the first time, DRP tests focus measurement on determining how well students process or construct meaning from paragraphs, as they read through a selection.

DRP tests are genuine criterion-referenced measures. The interpretation of an individual DRP score does not depend on comparisons with the performance of students in a norming sample, although national norms are available. The test measure student reading ability on an absolute scale. Just as height and weight can be measured accurately without reference to how tall or heavy other people are, so can reading ability be measured, on a prose difficulty scale, by determining the hardest text that can be read with a given level of comprehension.

Degrees of Reading Power (DRP) tests measure a student's ability to understand nonfiction English prose - - simple paragraphs and passages at different levels of difficulty or readability. DRP test results can be used for several purposes:

- Assess the current level of reading achievement.
- Determine the most difficult prose text a student can read with a specific degree or level of comprehension.
- Match the difficulty of materials with student ability, relative to the purposes of instruction.
- Set appropriate standards for achievement.
- Document growth in the ability to read with comprehension.
- Indicate the extent of support, if any, that a student may need in order to achieve various personal goals, or to satisfy school-determined expectations in reading.

Each DRP test consists of a number of paragraphs on a variety of topics. To ensure generalizability of the test results, the topics selected use the Encyclopedia Britannica as a convenient taxonomy. Each paragraph contains a sentence with a blank space, and each passage has seven sentences that contain a blank space, to indicate that a word is missing. For each blank, four or five single-word response options are provided. Students must select the most appropriate response to complete the sentence. It is not possible to answer DRP test items correctly by relying only on the information in the sentence containing the blank. A paragraph, or at least several sentences, must be understood to respond successfully.

All of the content information that is needed to select the correct response is contained within the DRP paragraph or passage. No prior familiarity with the subject matter is required to answer the embedded items correctly. If the student has knowledge of syntax, semantics and other basic linguistic skills to process prose for meaning, right answers should be unambiguously right and all other options unambiguously wrong. This feature in test design means that only the ability to understand prose is required for success on DRP tests.

Regardless of the difficulty of the prose paragraph or passage, all response options are common words - - that is, they occur with extremely high frequency in written materials. Since students should be able to recognize and understand the response options, failure to respond correctly to test items can be attributed unambiguously to a failure to comprehend the text in which they appear.
DRP is the acronym for Degrees of Reading Power.

DRP Units represents a measure of readability which can describe 1) the student's ability to comprehend written material or the level of difficulty (readability) of the written material itself. The DRP scale goes from 1 to 100. In typical English text, passages run from 30 to 85 DRP units. Children's magazines average about 53 units. First year college texts average about 70 DRP units. (See Figure 1 showing passages of various difficulty. See Figure 2 showing passage of the same DRP value but of obviously different reading difficulty.)

"Reading Level" Test results are stated in terms of 3 types of levels:

Independent: The level at which a student can read material with maximum comprehension without assistance. This level is the appropriate level for recreational reading and homework material.

Instructional: This is the level at which a student can comprehend the majority of the reading material. This level provides some challenges to the reader and may require teacher assistance. This level is appropriate for classroom materials.

Frustration: This is the level at which a student can comprehend no more than one-half of the reading material. Materials at this level should be avoided as too difficult for the reader.

The reading level has associated with it a "P" value. This "P" value is the probability that a student will understand material of a given difficulty. In interpreting test printouts, it is important to be sure that the "P" value or reading level is clearly understood in order to use the information. In RCSD Independent is associated with a "P" value of .90; Instructional with a "P" value of .75; Frustration with a "P" value of .50.

Measures against which to compare test results in RCSD are stated in terms of the DWRP and the District goal. The DWRP is an acronym for DistrictWide Reference Point and corresponds to the Statewide Reference Point used for PEP. It represents a level of performance; performance below this score indicates a student who probably needs support in order to meet the State standards for graduation. This is a relatively low standard and corresponds approximately to the 25th %ile on a standardized test. By contrast, there is also a District goal. This goal stipulates a somewhat higher level of performance, somewhat akin to the 50th %ile.

The DRP tests also have traditional metrics such as raw score, percentile, normal curve equivalent, and stanine. There are no grade equivalents associated with this test and the traditional metrics are used only to meet the requirements for evaluation of the categorically funded programs such as Chapter 1.
By 1900, "homeless carriages" were disappearing on the roads. At first the automobile was an expensive toy for wealthy people. Mass production soon lowered costs, however, bringing the automobile within reach of people with modest incomes. Whereas in 1900 there were only 8,000 automobiles in the United States, by 1910 there were 8 million passenger cars and 1 million trucks.

Excerpt from: Grade 11 Social Studies text
DRP units = 74

INISHAK, Iraq - U.S., British, French and Dutch forces plunged 15 miles deeper into northern Iraq yesterday, taking control of a zone that includes a bombed airfield and four of Saddam Hussein's largest oil fields. The push eastward, which the Iraqi government has notified about Wednesday, created a 70-mile strip along the Turkish-Iraqi border where the Kurds who have fled to the mountains can return without fear, U.S. Lt. Gen. John Shaiken said.

The zone extends 10 miles from the Turkish border up to 30 miles. Iraqi forces were withdrawing as allied troops advanced, Shaiken said. "Everything is going very, very well," he said.

Excerpt from: Rochester Democrat and Chronicle
DRP units = 70

On the morning of March 5, Patricia and Kech were both out at work despite the storm, so they instructed Cameron to go next door for the day, to the home of Trudy and Richard Ratti and their six children. The Ratti's and Ratti's parents were not especially close, but Cameron and eighty-year-old Chris Ratti were best friends. Cameron spent a great deal of time at the Ratti's on weekends and after school. In contrast with the neatly, spotless, polished exterior of his own home, the Ratti's -- with its pet turkey, "Tugtug," its array of snowmobiles and trail bikes strewn about, and its lack of restrictions on rough-and-tumble play -- was a wonderland place to Cameron.

So late that morning he gladly went there, hiking 100 yards up through the snow.

Excerpt from: Redbook Magazine
DRP units = 68

FORT SUMTER NATIONAL MONUMENT, on an island in the harbor of Charleston, S.C., is a former U.S. military fortification that was the scene of the bombardment that began the Civil War. It became a national monument in 1968. Excerpt from: Encyclopedia Britannica
DRP units = 68

As trade increased and towns grew larger and wealthier, medieval merchants began to unite in associations. Because of the dangers of travel, traders often assembled convoys -- groups that travel together for safety. Arranging such convoys, however, took much planning and money. Gradually merchants founded associations called guilds. Excerpt from: World History People and Nations, grade 10
DRP units = 64

In 1765 Carlos III, King of Spain, wanted an investigation of the conditions on Puerto Rico. He sent Field Marshal Alejandro O'Reilly to make a report. O'Reilly reported on the misery of the people, the condition of the military, the economy, and the smuggling between settlers and foreign traders. He took a census which showed that enslaved Africans were 13% of the population. Free Africans and Criollos were over 60% of the population and the Taono population was almost completely gone.

Excerpt from: College Text
DRP units = 63
When using DRP values to select texts, you should be aware of constraints stated below.

DRP is a measure of comprehension at a literal text-specific level. It is intended to be a measure of how well students understand the surface meaning of what they read. It does not tap higher order cognitive skills associated with mature reading. The reader is never required via DRP to recognize the author's motivation or to distinguish between fact and opinion.

Below are two sample passages. The second has a slightly higher DRP level than the first. Although the passage with the lower DRP value uses simple words and sentences, the message being communicated requires that the reader draw on higher order thinking skills. The passage with the higher DRP value, on the other hand, can be taken quite literally. It requires no knowledge of content or higher order thinking skills.

PASSAGE ONE:

We have seen two methods of constructing probability functions. A series of experiments may lead us to the conclusion that we are dealing with a situation involving uncertainty. We would then assign probabilities to the various observed outcomes in accordance with the experimental evidence. On the other hand, we may be able to assign a priori probabilities having in mind some "model." Our urn problems have illustrated this second approach.

In assigning a priori probabilities, we begin with a certain set, S, of possible outcomes. Since any event, A, is a subset of S, we cannot determine P(A) unless S is specified. Consider this problem: An urn contains three colored marbles. One marble is to be drawn at random. Let R be the event "a red marble is drawn." Is it possible to assign a meaningful a priori probability to R? The answer is "No, not without knowing how many of the marbles are red."

Excerpt from: Introductory College Math text
DRP units = 58

PASSAGE TWO:

Having a full time job has also made Neil Patrick more mature and sophisticated. There is a lot of discipline and responsibility that comes with being an actor as popular as Neil Patrick. He has to decide not only what acting roles he wants to take on, but also what events he wants to attend and what charities he wants to support. It really takes a lot of courage, compassion and thought to support a cause. But Neil Patrick is not afraid. He understands that since he's in the public eye and because he has so many fans, his every move is watched. For instance, does he want to attend a performance supporting the preservation of Brazilian rain forests one Saturday evening or does he want to give a speech at a local child abuse clinic? Whatever Neil Patrick decides to put his energy and time into, you can bet that it's really a good cause.

Excerpt from: Teen Magazine
DRP units = 60
FIGURE 3
SUGGESTED DRP STANDARDS

Based on PEP, PCT, RCT Reference Points

Based on Average Scores 89 PEP Test

Suggested Goals

GRADE
Goals, Standards, Reference Points and such...

With the adoption of the DRP test, came a change in perspective from norm-referenced to criterion-referenced measures. The purpose of test changed from distinguishing the relative status of students to one of ensuring that students had the appropriate skills to function in the workforce of the 21st century. This paralleled the structure established by the Regents in the adoption of the RCT program of which PEP is a component. Adoption of the DRP led to a need to identify the test results so that the results of the PEP tests could be incorporated into the continuum of assessment.

The first step was relatively easy: establish district reference points for all grades. (The only difficulty was that the acronym DRP was too easily confused with Degrees of Reading Power acronym, hence, DWRP.) The information at hand showed that the State reference could serve as anchors at grades 3, 6, 8 and 11:

<table>
<thead>
<tr>
<th>Grade</th>
<th>DRP VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>33</td>
</tr>
<tr>
<td>6</td>
<td>53</td>
</tr>
<tr>
<td>8</td>
<td>56</td>
</tr>
<tr>
<td>11</td>
<td>67</td>
</tr>
</tbody>
</table>

The anchoring points were DRP values $(P = .75)^*$

Using this, DWRP (District Wide Reference Points) were established at the other grade levels:

<table>
<thead>
<tr>
<th>Grade</th>
<th>DRP VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
</tr>
<tr>
<td>5</td>
<td>47</td>
</tr>
<tr>
<td>7</td>
<td>54</td>
</tr>
<tr>
<td>9</td>
<td>60</td>
</tr>
<tr>
<td>10</td>
<td>63</td>
</tr>
<tr>
<td>12</td>
<td>70</td>
</tr>
</tbody>
</table>

*for an explanation of $P = .75$, see page 8 of this handout.

These values are shown as the dotted line on the attached chart (Figure 3). When these goals were reviewed by a committee of central office and building staff, it became clear that the DWRP was a very conservative goal. It corresponds to about the 25th %ile. In the district plan to achieve excellence, a need was identified to establish a higher goal toward which buildings could aim in setting objectives for their school based plan. The criteria used to establish the "goals" for the district were the average scores achieved statewide on the 1989 administration of the PEP 3 and 6 Reading tests. The values were plotted on a graph and the solid line established. Discussion among the committee led to the conclusion that it was natural to have the goal level out as students approached graduation. The goal and the DWRP converge at that point to 70; 70 is the degree of difficulty normally associated with college textbook.

Is a goal associated with college textbooks an appropriate one to use for all students? Yes, further research into the difficulty of documents (see Table 1) used in
entry level positions show that students who go directly to work are expected to possess the same level of reading skills necessary to process college texts.

Table 1

<table>
<thead>
<tr>
<th>Job Category</th>
<th>Average DRP Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claims Examiners</td>
<td>71</td>
</tr>
<tr>
<td>Pension Technicians</td>
<td>69</td>
</tr>
<tr>
<td>Secretaries-Typists</td>
<td>63</td>
</tr>
<tr>
<td>Check Control Clerks</td>
<td>69</td>
</tr>
<tr>
<td>Reconciliation Clerks</td>
<td>72</td>
</tr>
<tr>
<td>Office machine operators</td>
<td>64</td>
</tr>
<tr>
<td>Real Estate Assistants</td>
<td>70</td>
</tr>
<tr>
<td>Administrative Assistants</td>
<td>70</td>
</tr>
<tr>
<td>Mail Service Coordinators</td>
<td>68</td>
</tr>
<tr>
<td>Calculation Clerks</td>
<td>69</td>
</tr>
<tr>
<td>Premium Acceptance Clerks</td>
<td>64</td>
</tr>
<tr>
<td>Weighted Average</td>
<td>69</td>
</tr>
</tbody>
</table>

This then, was the means by which values were developed for the table below:

<table>
<thead>
<tr>
<th>Grade Level</th>
<th>DWRP</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>26</td>
<td>38</td>
</tr>
<tr>
<td>3</td>
<td>33</td>
<td>45</td>
</tr>
<tr>
<td>4</td>
<td>40</td>
<td>50</td>
</tr>
<tr>
<td>5</td>
<td>47</td>
<td>56</td>
</tr>
<tr>
<td>6</td>
<td>53</td>
<td>62</td>
</tr>
<tr>
<td>7</td>
<td>54</td>
<td>63</td>
</tr>
<tr>
<td>8</td>
<td>56</td>
<td>65</td>
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<tr>
<td>9</td>
<td>60</td>
<td>67</td>
</tr>
<tr>
<td>10</td>
<td>63</td>
<td>68</td>
</tr>
<tr>
<td>11</td>
<td>67</td>
<td>69</td>
</tr>
<tr>
<td>12</td>
<td>70</td>
<td>70</td>
</tr>
</tbody>
</table>
REPORTS AVAILABLE FROM THE DRP TESTS

Here are 3 basic types of reports printed from the DRP tests:

1. cumulative folder label
2. detailed list of student results
3. school grade summary

Available upon request are the following reports:

- Lists of students currently enrolled in a school by categories:
  a) No test data available
  b) below SRP or DWRP
  c) between SRP (DWRP) and goal
  d) at or above the district goal

Figures 1, 2, 3, on the following pages are explanation of the 3 major types of reports.
to interpret this label. This 2nd grade student is basically a non reader. His instructional reading level is 15 and shows that without intensive support he is likely to fall below the SRP at grade 3. There are no library books available at the 15 DRP level.
## List of Test Results for RD Power

<table>
<thead>
<tr>
<th>Student No.</th>
<th>Student Name</th>
<th>Sch</th>
<th>Grd</th>
<th>Room</th>
<th>Date of Birth</th>
<th>PL CD</th>
<th>Test</th>
<th>FM</th>
<th>Date</th>
<th>Sch</th>
<th>Grd</th>
<th>Room</th>
<th>Norm</th>
<th>Sub test</th>
<th>raw</th>
<th>scal</th>
<th>pctl</th>
<th>stn</th>
<th>nce</th>
<th>g-e</th>
</tr>
</thead>
<tbody>
<tr>
<td>7219301</td>
<td>Ames, Johanna</td>
<td>35</td>
<td>P3</td>
<td>0111</td>
<td>12/01/83</td>
<td>ES</td>
<td>DRP</td>
<td>E9</td>
<td>05/91</td>
<td>35</td>
<td>P2</td>
<td>01222</td>
<td>02 E</td>
<td>RD</td>
<td>34</td>
<td>45</td>
<td>86</td>
<td>7</td>
<td>73.0</td>
<td></td>
</tr>
<tr>
<td>719497</td>
<td>Anity, Hall</td>
<td>67</td>
<td>09</td>
<td>0300</td>
<td>7/20/76</td>
<td>NS</td>
<td>DRP</td>
<td>F5</td>
<td>03/91</td>
<td>71</td>
<td>08</td>
<td>0333</td>
<td>08 E</td>
<td>RD</td>
<td>44</td>
<td>61</td>
<td>34</td>
<td>4</td>
<td>41.0</td>
<td></td>
</tr>
<tr>
<td>1093333</td>
<td>Attendo, Sadie</td>
<td>66</td>
<td>N3</td>
<td>0122</td>
<td>1/29/79</td>
<td>01</td>
<td>DRP</td>
<td>F7</td>
<td>05/91</td>
<td>12</td>
<td>N2</td>
<td>C140</td>
<td>N2 E</td>
<td>RD</td>
<td>38</td>
<td>49</td>
<td>35</td>
<td>4</td>
<td>42.0</td>
<td></td>
</tr>
<tr>
<td>1499110</td>
<td>Burbur, Sam</td>
<td>62</td>
<td>09</td>
<td>A144</td>
<td>9/15/77</td>
<td>DM</td>
<td>DRP</td>
<td>F5</td>
<td>03/91</td>
<td>72</td>
<td>08</td>
<td>F208</td>
<td>08 E</td>
<td>RD</td>
<td>58</td>
<td>75</td>
<td>70</td>
<td>6</td>
<td>61.0</td>
<td></td>
</tr>
</tbody>
</table>
**SPRING 1990-91 DRP SCHOOL SUMMARY**

*** BY GRADE AND SCHOOL ***

**LEVELS OF COMPREHENSION IN DRP UN: INSTRUCTIONAL LEVEL (P = .75)**

<table>
<thead>
<tr>
<th>TOTAL TESTED</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEACHER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>2,562</td>
<td>65.3</td>
<td>28.8</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3</td>
<td>2,389</td>
<td>79.3</td>
<td>36.5</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N1</td>
<td>2,276</td>
<td>79.0</td>
<td>41.7</td>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N2</td>
<td>2,060</td>
<td>76.4</td>
<td>46.7</td>
<td>55</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SCHOOL 99**

<table>
<thead>
<tr>
<th>TOTAL TESTED</th>
<th>20</th>
<th>30</th>
<th>40</th>
<th>50</th>
<th>60</th>
<th>70</th>
<th>80</th>
<th>90</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEACHER</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>153</td>
<td>66.7</td>
<td>32.7</td>
<td>30</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P3</td>
<td>131</td>
<td>76.3</td>
<td>40.5</td>
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<tr>
<td>N1</td>
<td>77</td>
<td>81.8</td>
<td>51.9</td>
<td>50</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>N2</td>
<td>104</td>
<td>89.4</td>
<td>59.6</td>
<td>57</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Interpretation:**

**DISTRICT**

At third grade District Wide, 2,369 students were tested with DRP (in this case PEP). Of these, 79.3% scored above the District Wide Reference Point DRP and 36.5% scored above the District's third grade goal. The median score was 68.

School 99

Of the 131 third grade students tested at School 99, 76.3% were above the DRP (somewhat lower than the District) and 40.5% scored above the district goal (somewhat better than the district). The median score was 41.

**Notes:**

- Handicapped students are excluded from the above table.
- Aggregations of student test data and summary statistics compose in rounded raw score units and then converted to DRP units.
- Total tested population less than 10 are not graphed.
k for our next publication:

"A Simple Method To Identify The DRP Values of Texts and Library Books."

Scheduled for release

Ten things ---

How down ---!
AN INTRODUCTION TO THE

DRP

DEGREES OF READING POWER TEST

Coordinating Director of Student Data, Testing, and Records
Ann Pinnella

Assistant Superintendent of Curriculum and Support Services
David Hunt

August 1990
The district is proposing a new model for districtwide assessment of reading. A DRP (Degrees of Reading Power) test is planned for administration in grades 2 to 8 to replace the California Achievement Reading (CAT) test. This leads to a natural series of questions:

What are Degrees of Reading Power?
How does a DRP test differ from a traditional reading test?
Why is a DRP test considered "better" than a traditional test?
What is planned for kindergarten and grades 1 and 9 through 12?
Will it be possible to relate the DRP to the CAT?
Who will train staff in the use and interpretation of the DRP test?

What are Degrees of Reading Power?

Degrees of Reading Power (DRP) units form a scale of prose difficulty or readability. The scale ranges from 15 to 100 units. A score of 15 DRP units describes the easiest prose that anyone is likely to encounter; a score of 100 units represents the most difficult prose imaginable. In practice, commonly encountered English text runs from about 30 DRP units on the easy end to 85 on the difficult.

 Exhibit 1 shows DRP Passages of varying difficulty, Figure 1 shows the average readability of periodicals. Exhibit 2 shows the DRP level of documents encountered at entry level positions in a major insurance company and Exhibit 3 shows the DRP values of a document commonly encountered by most adults: the driver's manual for their home state.
EXHIBIT 1
DRP PASSAGES OF VARYING DIFFICULTIES.

34 DRP UNITS

Bears are big. They need a lot of food. Bears eat meat. They eat bugs. They eat berries. They eat honey. They eat fish, too. Bears feed in the spring. They feed in the summer. They feed in the fall. Bears look for food then. They hunt. They fish. They dig roots. They pick berries. They eat a lot. They grow fat. Soon, winter comes. It gets cold. It snows. But the bears don't need to go out. They don't need food. They are fat enough. They can sleep.

47 DRP UNITS

The part of a beach between high and low tide is called the middle beach. It is home to many plants and animals. But life on this middle beach is hard. There is no protection against the wash of the oncoming waves. Some animals survive by digging holes in the sand. They can stay in their homes under ground. The undertow will not pull them out to sea. They are safe.

60 DRP UNITS

The ouija board is a simple rectangular piece of wood. All the letters of the alphabet are set out in a semicircle across a long edge. The ten digits and the words "yes" "no," and "goodbye" appear below. A small heart-shaped piece of wood called a planchette is mounted on casters so it can move easily on the board. When one places his fingertips lightly on the planchette, it slides around. It moves apparently without any conscious control on the part of the operator. Its pointer is supposed to spell out the answers to questions.

73 DRP UNITS

Hellenistic literature showed an interest in individual history and psychology, rather than man in general. Theophrastus' Characters, with its detailed portraits of such types as the flatterer, appeared during this time. Biography, dealing with the lives of real people, was a flourishing form. And in philosophy the emphasis was on personal conduct rather than speculation about reality.
EXHIBIT 2

Difficulty of Documents Used in Level Positions in a Major Insurance Company

<table>
<thead>
<tr>
<th>Level</th>
<th>Number of Documents</th>
<th>Average DRP Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Miners</td>
<td>51</td>
<td>71</td>
</tr>
<tr>
<td>Technicians</td>
<td>34</td>
<td>69</td>
</tr>
<tr>
<td>s-Typists</td>
<td>29</td>
<td>63</td>
</tr>
<tr>
<td>strol Clerks</td>
<td>14</td>
<td>68</td>
</tr>
<tr>
<td>ion Clerks</td>
<td>22</td>
<td>72</td>
</tr>
<tr>
<td>ine Operators</td>
<td>3</td>
<td>64</td>
</tr>
<tr>
<td>i Assistants</td>
<td>5</td>
<td>70</td>
</tr>
<tr>
<td>ive Assistants</td>
<td>13</td>
<td>70</td>
</tr>
<tr>
<td>e Coordinators</td>
<td>5</td>
<td>68</td>
</tr>
<tr>
<td>r Clerks</td>
<td>16</td>
<td>69</td>
</tr>
<tr>
<td>tenance Clerks</td>
<td>7</td>
<td>64</td>
</tr>
<tr>
<td>overage</td>
<td>192</td>
<td>69</td>
</tr>
</tbody>
</table>

EXHIBIT 3

Readability of Selected State Driver's Manuals

<table>
<thead>
<tr>
<th>DRP Units</th>
<th>State Driver's Manuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
<td>ILLINOIS Rules of the Road 1985</td>
</tr>
<tr>
<td>71</td>
<td>driver's Manual, State of NEW YORK</td>
</tr>
<tr>
<td>70</td>
<td>MINNESOTA Driver's Manual 1985</td>
</tr>
<tr>
<td>69</td>
<td>FLORENZA Driver's Manual 1985</td>
</tr>
<tr>
<td>68</td>
<td>TEXAS Driver's Handbook 1985</td>
</tr>
<tr>
<td>66</td>
<td>Driver's Handbook, State of NORTH CAROLINA 1987 *</td>
</tr>
<tr>
<td>64</td>
<td>Driver's Manual, State of NEW JERSEY 1985</td>
</tr>
<tr>
<td>63</td>
<td>CALIFORNIA Driver's Manual 1984</td>
</tr>
<tr>
<td>61</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td></td>
</tr>
<tr>
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<td>58</td>
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<td>57</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td></td>
</tr>
<tr>
<td>55</td>
<td></td>
</tr>
</tbody>
</table>

* Variability of more than 0 DRP units among samples.
OW DOES A DRP TEST DIFFER FROM A TRADITIONAL ONE?

A traditional test, the student reads a passage and then answers a series of questions based on the passage by choosing from 3 to 5 possible choices. "Multiple choice" is the descriptor commonly ascribed to these tests. The California achievement test (CAT) is a traditional multiple choice test. A sample of a traditional test is shown in Exhibit 4.

EXHIBIT 4
TRADITIONAL READING TEST

Bob and his father loaded up their truck with peaches. Then, before the sun had a chance to come up, they started on their long drive to the city. On their way to the market they crossed a bridge over a wide river. Bob was amazed to see how tall the buildings in the city were.

"You don't see any farms or peach orchards among all these buildings, do you, Bob?" said his father. Bob shook his head and wondered what boys and girls must be doing in the city while he helped to pick fruits and vegetables and feed the animals.

1. How did Bob feel when he saw the city?
   - frightened
   - surprised
   - disappointed
   - happy

2. According to this story, what does Bob's father grow?
   - oranges
   - pears
   - plums
   - peaches

3. What does Bob often do?
   - rides a bicycle
   - drives a truck
   - reads
   - helps with the chores

4. When did Bob and his father go to the city?
   - late at night
   - about noon
   - early in the morning
   - late in the afternoon

5. Why did Bob and his father go to the city?
   - to sell their fruit
   - to see the sights
   - to visit relatives
   - to buy a new truck

6. This story is mostly about?
   - life on a farm
   - where our food comes from
   - Bob's first visit to the city
   - the big city
The DRP test provides a passage in which one or two words are omitted and blanks provided. The student is directed to pick from 3 to 5 choices provided, the word at makes the most sense based on the entire passage. Such tests are also referred as "Close technique" tests. Among the DRP tests already in use in the district are state mandated PEP, PCT, and RCT reading tests. A sample passage from a DRP st is shown in Exhibit 5.

EXHIBIT 5
SAMPLE PASSAGE FROM DRP TEST

Bridges are built to allow a continuous flow of highway and railway traffic across water lying in their paths. But engineers cannot forget that river traffic, too, is essential to our economy. The role of __1__ is important. To keep these vessels moving freely, bridges are built high enough, when possible, to let them pass underneath. Sometimes, however, channels must accommodate very tall ships. It may be uneconomical to build a tall enough bridge. The __2__ would be too high. To save money, engineers build movable bridges.

In the swing bridge, the middle part pivots or swings open. When the bridge is closed, this section joins the two ends of the bridge, blocking tall vessels. But this section __3___. When swung open, it is perpendicular to the ends of the bridge, creating two free channels for river traffic. With swing bridges, channel width is limited by the bridge's piers. The largest swing bridge provides only a 75-meter channel. Such channels are sometimes too __4___. In such cases, a bascule bridge may be built.

Bascule bridges are drawbridges with two arms that swing upward. They provide an opening as wide as the span. They are also versatile. These bridges are not limited to being fully opened or fully closed. They can be __5__ in many ways. They can be fixed at different angles to accommodate different vessels.

In vertical lift bridges, the center remains horizontal. Towers at both ends allow the center to be lifted like an elevator. One interesting variation of this kind of bridge was built during World War II. A lift bridge was desired, but there were wartime shortages of the steel and machinery needed for the towers. It was hard to find enough __6___. An ingenious engineer designed the bridge so that it did not have to be raised above traffic. Instead it was __7___. It could be submerged seven meters below the surface of the river. Ships sailed over it.

1. a) wind    b) boats
   b) weight    c) wires
   e) experience

2. a) levels    b) cost
   b) deck    c) waves
   e) standards

3. a) stands    b) floods
   b) wears    c) turns
   e) supports

4. a) narrow    b) rough
   b) long    c) deep
   e) straight

5. a) crossed    b) approached
   b) lighted    c) planned
   e) positioned

6. a) work    b) material
   b) time    c) power
   e) space

7. a) burned    b) emptied
   b) secured    c) shared
   e) lowered
well written tests of both types, all responses are grammatically correct and do not
rely on the prior knowledge. However, in a traditional test it is possible to skim the
entire passage in order to find the information necessary to answer a specific question. In a DRP test,

will it be possible to relate the DRP results to the results of CAT given in
the instance where a teacher is concerned with assessing specific reading skills, the
test has always had available, and will continue to maintain, special reading agnostic tests which provide this information in a more comprehensive and complete way than traditional reading tests do.

the proposed model calls for the administration of the CAT tests to a sample of
students so that an equating study can be done to relate scores on the two types of
tests. This is not only of interest to the district but also necessary for the use of the
RP for pre-post assessment of funded programs. This type of equating has been
one in the past whenever the district changed major test series.

HY IS A DRP TEST CONSIDERED A "BETTER" TEST THAN A TRADITIONAL TEST?

The DRP test is considered "better" because it more closely matches the new
devlopments in curriculum and assessment. As a holistic criterion referenced
essment it is more consistent with the whole language approach to teaching
ading.

rther, as the district seeks more authentic assessment, the DRP approach is more appropriate. It measures the performance of a student in reading, rather than measuring distinct reading skills. The DRP test supports the idea that a skill must be able to be used before its acquisition can be deemed truly important. In this area the
RP has the added advantage that the scores on the reading test can be related to
the difficulty of the textbooks that the student is using. Almost all textbooks
currently in print come with a DRP rating.

the instance where a teacher is concerned with assessing specific reading skills, the
strict has always had available, and will continue to maintain, special reading agnostic tests which provide this information in a more comprehensive and complete way than traditional reading tests do.

other advantage of the DRP test is that it will eliminate double testing at grades 3
and 6 with both a standardized and a state test.

 Will it be possible to relate the DRP results to the results of CAT given in
past years?

The proposed model calls for the administration of the CAT tests to a sample of
students so that an equating study can be done to relate scores on the two types of
tests. This is not only of interest to the district but also necessary for the use of the
RP for pre-post assessment of funded programs. This type of equating has been
one in the past whenever the district changed major test series.
WHAT IS PLANNED FOR READING ASSESSMENT IN KINDERGARTEN AND GRADES 1 TO 12?

IP tests are not suitable for use with beginning readers because of the requirement to read passages. The district is developing alternative approaches to early reader assessment. At the present time, kindergarten teachers are developing a portfolio assessment model for use at kindergarten. It is expected that a similar model will be developed for first grade. If the first grade portfolio is not available by spring 1991, the district will use CAT 11 at this grade level.

For grades 9 through 12, buildings will have the option to use the CAT levels 19 and 20. No provision was made to change the tests for these grade levels because several other types of assessment already exist at these grades. Reading is monitored by the site PCT and RCT tests and content by the course grades. It will be necessary in some cases to test with CAT in order to meet the requirements of certain categorically funded programs, but this is expected to involve small numbers of students.

HOW WILL TRAIN TEACHERS AND ADMINISTRATORS IN THE USE AND INTERPRETATION OF THESE NEW DRP TESTS?

Student Data and The Department of Curriculum will work jointly toward developing the appropriate inservice packages.
### Proposed Citywide Assessment Model

<table>
<thead>
<tr>
<th>Grade</th>
<th>Reading* Measure</th>
<th>Math** Measure</th>
<th>Other Assessments</th>
</tr>
</thead>
<tbody>
<tr>
<td>K</td>
<td>Portfolio</td>
<td>Competency Check List</td>
<td>Fall Screening</td>
</tr>
<tr>
<td>Prefirst</td>
<td>Portfolio</td>
<td>Competency Check List</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Portfolio</td>
<td>CAT 11</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>DRP E-9</td>
<td>CAT 12</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>PEP 3</td>
<td>PEP 3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>DRP E-7</td>
<td>CAT 14</td>
<td>PET 4 Science</td>
</tr>
<tr>
<td>5</td>
<td>DRP F-7</td>
<td>CAT 15</td>
<td>PEP 5 Writing</td>
</tr>
<tr>
<td>6</td>
<td>PEP 6</td>
<td>PEP 6</td>
<td>PET 6 S.S.</td>
</tr>
<tr>
<td>7</td>
<td>DRP E-5</td>
<td>CAT 17</td>
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</tr>
<tr>
<td>8</td>
<td>DRP F-5</td>
<td>CAT 18</td>
<td>PET 8 S.S.</td>
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<tr>
<td>9</td>
<td>DRP E-3</td>
<td>To be determined</td>
<td>RCT 9 Math and Science</td>
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<tr>
<td>10</td>
<td>DRP S-2</td>
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<td>RCT Glo. Stud. Career Inventory</td>
</tr>
<tr>
<td>11</td>
<td>DRP R-2</td>
<td></td>
<td>RCT Rdg., Wri., and U.S. History</td>
</tr>
<tr>
<td>12</td>
<td>DRP S-2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

For 1990-91 it will be necessary to do equating studies with CAT in grades 2, 4, 5, 7, 9 and with the DRP at grades 3 and 6.

Sufficient data are available from past test administrations to relate PEP 3 with CAT 13 and PEP 6 with CAT 16.
Reference List


Haley, N. A. & Watson, C. D. (2000), In-School Literacy extension: Beyond In-School Suspension. Journal of Adolescent & Adult Literacy, 7, 654-670,


