

JFA Associates/The Institute
Washington, D.C./Austin, Texas

Conducting Justice and Corrections Research for Effective Policy Making

**The Impact of Ignoring Dyslexia and Reading Disabilities in
the Criminal Justice System: What We Know and Need to
Know**

Dr. Tony Fabelo

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**Report to the Dyslexia Research Foundation of Texas, Inc.
Mr. William B. Hilgers, Chairman**

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About *JFA Associates/The Institute* (www.JFA-Associates.com)

JFA Associates and its not-for-profit entity, *The Institute*, conduct justice and correctional research for effective policy making. The organization receives funding from federal, state, and local governmental agencies and from foundations interested in developing and evaluating new initiatives to assist states and local agencies to more effectively manage their justice, crime prevention and correctional policies.

JFA Associates/The Institute has a long history of consulting work for a wide variety of criminal justice related projects. Major clients include the National Institute of Corrections, the Bureau of Justice Assistance, Georgia, Louisiana, New Jersey, Puerto Rico, Kentucky, Connecticut, Alameda County, California, the JEHT Foundation, The Open Society Institute and the New South Wales and Victoria governments in Australia. Partnerships include the National Institute of Corrections and the Council of State Governments.

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Executive Summary

In Texas, there are close to 145,000 adults in the state prison system, 550,000 on probation or parole and over 100,000 in the state's local jails and state and local juvenile detention centers. This correctional population of close to 800,000 adults and juveniles is disproportionately composed of persons with learning disabilities. Learning disabilities can be linked in part to undetected and untreated dyslexia, as a large percentage of persons with learning disabilities have a reading disorder. A person with dyslexia is a person born with a glitch in the brain's posterior reading systems that have a reading impairment at the level of decoding. Dyslexic readers require many more exposures to a printed word over a much longer period of time before the stored representations are clear and true to the printed word. We know there is a "cost" to not properly diagnosing and treating dyslexia. But we do not know the magnitude of the problem and its costs for Texas.

The Dyslexia Research Foundation of Texas, an outgrowth of initiatives undertaken by the Scottish Rite Learning Center of Austin, Inc., was created in Austin, Texas under the leadership of William B. Hilgers. The Board of Directors of the Foundation includes experts and concerned citizens interested in embarking on a pioneering research effort to determine the economic implications of a failure to address learning disorders that impact the lives of children and adults in Texas. Particular emphasis will be given to the economic impact of ignoring dyslexia in public schools and correctional systems.

The Dyslexia Research Foundation is committed to establishing a multi-year research agenda to determine the economic costs of dyslexia in Texas. This report presents the first step to accomplish the above goal. The Foundation commissioned *JFA Associates/The Institute* to conduct a comprehensive assessment of what is known in Texas and the nation regarding learning disorders and dyslexia in juvenile and adult correctional populations and its relation to institutional behavior, rehabilitation, recidivism and criminal justice costs.

JFA Associates/The Institute is a multi-disciplinary research center with headquarters in Washington, D.C. and offices in Austin. The center develops and evaluates innovative crime prevention, law enforcement, sentencing and correctional policies and designs programs to reduce crime and improve the quality of the adult and juvenile justice systems.

This report confirms that reading disabilities are prevalent in criminal justice populations, and these disabilities present a great obstacle for the successful rehabilitation of adult and juvenile offenders. However, little is known about the prevalence of dyslexia in correctional populations. Therefore, the effectiveness of remediation strategies used in our correctional systems to teach offenders with dyslexia is unknown. Research is needed to generate the knowledge necessary to address this issue and to design policies that will improve the effectiveness of rehabilitation efforts, reduce criminal justice and social costs, and improve public safety.

A summary of the main findings of the report include the following:

- More is known about the impact of learning disabilities on delinquency than the impact of dyslexia on delinquency
 - ✓ The relationship between poor school performance and delinquency is complex and the direction of causality difficult to estimate, but in general, academic failure, especially difficulties in reading, has been linked with delinquency in adolescence
 - ✓ The literature search produced only nine publications specifically addressing dyslexia in criminal justice populations
 - ✓ Studies show the difficulty in “untangling” the impact of dyslexia on criminal behavior due to the multiple disorders that may affect criminals
 - ✓ The articles provided some ideas on how methodological issues regarding how dyslexia is measured can impact the results of a study; this is an important lesson for future research efforts in Texas
- Dyslexia tends to be under diagnosed in the general population and this impacts the ability of correctional officials to identify dyslexic offenders
 - ✓ Estimates of the prevalence of dyslexia vary depending on the methodology used to estimate the condition
 - ✓ The Connecticut Longitudinal Study by Dr. Sally Shaywitz, one of the top experts in the field, has tracked for over 20 years the experiences of 445 children and showed that 20% of the children were reading below their age, grade and level of ability
 - ✓ The Shaywitz study also showed that only one-third of this 20% were receiving special help for reading problems in schools, strongly suggesting the prevalence of undiagnosed dyslexia in schools
- In Texas the identification and instruction of students with dyslexia is mandated by law and regulations (TEC 38.003 and Chapter 19 of TAC 74.28)
 - ✓ There is evidence that school districts are inconsistent in the application of this law and that students with dyslexia are placed in Special Education when they qualify, leading to the prevalence of undiagnosed dyslexia; the Special Education is partly funded by federal funds while the state dyslexia program is not funded by the state or the federal government

- ✓ The Texas Education Agency (TEA) does not track in their student record computerized Public Education Information Management System (PEIMS) students diagnosed with dyslexia, making it difficult to know the number of dyslexic students statewide and making it difficult to identify them later in the correctional system
- ✓ Unless correctional agencies conduct their own detailed assessment, these agencies do not know which offenders are dyslexic and do not know to what extent they may need to design specific remediation strategies
- None of the major educational systems examined in the adult and juvenile correctional systems have specific protocols to identify dyslexic offenders and target them for dyslexia remediation programs. The same is true with the “Safe Schools” programs. The systems examined were:
 - ✓ Texas Department of Criminal Justice (TDCJ) and specifically the school system serving the offenders institutionalized in Texas prisons and State Jails known as the Windham School District (TDCJ is the state adult correctional agency)
 - ✓ Texas Youth Commission (TYC) and its related educational program (TYC is the juvenile correctional agency for Texas)
 - ✓ Texas Juvenile Probation Commission (TJPC) in relation to its administration of the Juvenile Justice Alternative Education Program- the so-called JJAEPs (TJPC is the primary agency through which state funding for juvenile justice is channeled to the counties)
 - ✓ Texas Education Agency (TEA) in relation to its oversight of the Disciplinary Alternative Education Programs or DAEPs which are the programs operated by the local school districts and are designed to serve students who are removed from their regular classrooms due to disruptive behavior or for committing felonies off campus
- We know from the demographic analysis that there is a high proportion of offenders with reading difficulties in our correctional systems and that reading difficulties are related to high recidivism and to difficulties in advancing in grade level within the educational programs of the correctional agencies or alternative educational programs
- The main findings relevant to the demographic and education analysis of the prison population are listed below:
 - ✓ 45,221 of all the offenders institutionalized in the TDCJ in FY 2002 were functionally illiterate (Education Achievement or EA score of 5.9 or less), and of those, 23,008 were nonreaders (EA score of less than 4.0)

- ✓ In terms of percentages, 31% of all the offenders institutionalized in the TDCJ were functionally illiterate and half of those (51%) were nonreaders
 - ✓ Nonreaders represented 16% of all offenders institutionalized in TDCJ
 - ✓ A comprehensive study conducted by the University of Texas Medical Branch (UTMB) in 1999 to determine the prevalence of dyslexia in the prison population found that 47.8% of the Texas inmate sample scored below the 25th percentile in the word attack scores and 41.5% also had low word identification scores which were indexes that the authors used as an indication of dyslexia
 - ✓ The UTMB study did not relate dyslexia to recidivism but a series of studies conducted by the Criminal Justice Policy Council in 2000 and 2001 related illiteracy to high recidivism
 - ✓ Inmates leaving prison with an EA score below 4.0 (non-readers) had a recidivism rate of 17%, while inmates who exited with an EA of 9.0 or greater had a recidivism rate of 14% at the end of a two-year follow-up period (18% lower recidivism rate)
 - ✓ Property offenders under age 35 who had an EA score of less than 4.0 at release (non-readers) had a 25% two year recidivism rate compared 15% for the same age group of property offenders who had an EA score of 9.0 or greater
 - ✓ In terms of state re-incarceration costs, for every 1,000 releases of non-reader young property offenders, the state is estimated to be paying \$12 million in re-incarceration costs compared to \$7.2 million for young property offenders who can read based on the results of the above study
 - ✓ 31% of inmates released from prison in FY 2002 were still functionally illiterate, with half of those being nonreaders
 - ✓ The obstacles faced by functionally illiterate inmates as they re-enter the community are substantial and they have higher recidivism rates as documented above
- The main findings relevant to the demographic and education analysis of the TYC population are listed below
 - ✓ The median reading and math achievement level of youth committed to TYC is 5th or 6th grade, which is four to five years behind the expected grade level for the age of this population

- ✓ 43% of TYC students are classified as needing special education (compared to approximately 11 to 12% in public schools); only 8.3% of students are reading on expected grade level at entry in TYC
- ✓ 83.2% of the youth released from TYC are reading at below grade level and almost half of those released were reading at four or more levels below expectation (46.9%)
- ✓ The three year recidivism rate for all youth released from TYC was 52% for the latest group tracked by the agency (recidivism meaning re-incarceration in a TYC or adult facility three years after release)
- ✓ The higher the reading levels of youth at release, the lower their three year recidivism rate: youth released with eleventh and twelfth grade reading levels have recidivism rates of 36% and 42% respectively compared to the 57% and 62% recidivism rate for youth released with a first or second grade reading level
- ✓ Almost none of the juveniles released with a reading level of first to ninth grade were reading at their expected level upon release
- ✓ For every 100 youth released from TYC in a group with a recidivism rate of 62%, the recidivism of those released with a second grade reading level, the state will be paying \$2,597,192 more in re-incarceration costs than for every 100 youth released in a group with a recidivism rate of 36%, the recidivism rate of those released with an eleventh grade reading level
- ✓ The farther behind a TYC youth is in reading achievement, the less likely he will obtain a GED while at TYC
- ✓ A TYC study found that 30.4% of the youth receiving a high school diploma at TYC had future residential days in either TYC or TDCJ, compared to 48.2% of the youth who did not receive a high school diploma
- ✓ The TYC study found that after controlling for statistical differences known to relate to recidivism (like type of offense committed by the offender), youth who obtained a diploma had an average future residential cost to the state of \$12,160 compared to \$17,535 for youth without a diploma
- ✓ Each youth released from TYC without a high school diploma cost the state an additional \$5,375 in re-incarceration costs in comparison with those released with a diploma

- The main findings relevant to the demographic and education analysis of the Safe Schools programs are listed below
 - ✓ One-fourth of the JJAEP population is classified as in need of Special Education and 68% of the special education population is classified as learning disabled
 - ✓ JJAEP students are below the average reading scores reported for the total state student population
 - ✓ DAEP student performance is also below the state average for reading and this population has higher drop-out rates than the general student population
 - ✓ While the juvenile offender population shared many social factors associated with problem behaviors and delinquency, school problems were the most prevalent factor in a statewide study conducted by the Criminal Justice Policy Council, with the great majority of offenders (74%) identified as having a history of expulsion, enrollment in an alternative program, dropping out of school, or failing a grade

What we do not know about dyslexia that is important to know for developing policy and addressing the potential economic cost of this condition (social and criminal justice costs) is the following:

- Prevalence of this condition among adult and juvenile correctional populations and among alternative juvenile justice and disciplinary school populations
- School experiences of offenders who have dyslexia and whether or not they were diagnosed and treated for dyslexia before entering the correctional system
- The most practical and effective diagnosis process that can be used in the correctional system to distinguish persons having reading difficulties who are dyslexic versus those who are not
- Whether present remediation strategies used for offenders or alternative school students with reading disorders will be more effective if students were diagnosed and identified as dyslexic or whether dyslexic students will benefit more from remediation strategies specifically designed for them
- Whether students in juvenile justice or disciplinary alternative schools are in a path of delinquency due in part to the failure to deal with their reading disorders
- Whether diagnostic processes and remediation strategies need to account for specific issues impacting minorities, persons in low socioeconomic circumstances

and persons with other conditions like mental health problems, alcohol and drug abuse

Based on the above findings, a research strategy is presented for the Foundation to consider. The strategy is to target parts of this complex issue in a practical way and to produce relatively quickly (within three years) the knowledge needed to determine the most effective remediation strategies and policies for the Foundation to promote in addressing this problem. The strategy is directed at determining the prevalence of reading disorders and dyslexia in targeted populations, identifying diagnosis gaps that need to be addressed to improve the identification of affected populations, testing remediation protocols, and generating knowledge to quantify the social and criminal justice costs of not addressing the problem.

In general, the research strategy can apply to all populations examined here, but assumes that the research is conducted with the TYC population. Ideally, a group of youth entering TYC will go through a well-designed privately funded protocol to identify youth with dyslexia. The criminal record and school history of these youth will be investigated to determine their school experiences and other characteristics relevant to the research. Once the youth are identified they will be tracked for a year in the TYC educational system to determine their academic progress given the use of present remediation strategies. On a different design some of the youth can be placed in a remediation program specifically designed for dyslexic students. This program will have to be privately funded as part of the research. The school progress after a year for those in the privately funded remediation program and those in the regular TYC program can then be compared to draw some inferences as to the possible effectiveness of the remediation strategies. Once the youth are released, a mechanism can be set to track the recidivism of the study group or groups and make inferences as to the relationship between dyslexia, remediation strategies, recidivism and related state and social costs. This can be accomplished over a three year period, which will be a fairly quick turnaround for this type of pioneering research.

It is important to note the most challenging research design tasks: to reach agreement on an operational definition of dyslexia to distinguish the condition from other reading disabilities and to reach agreement on diagnosis protocols that are acceptable to the agency but also acceptable in the field as the best method to identify dyslexic students.

I. Introduction

The Dyslexia Research Foundation of Texas, an outgrowth of initiatives undertaken by the Scottish Rite Learning Center of Austin, Inc., was created in Austin, Texas under the leadership of William B. Hilgers. The Board of Directors of the Foundation includes experts and concerned citizens interested in embarking on a pioneering research effort to determine the economic implications of a failure to address learning disorders that impact the lives of children and adults in Texas. Particular emphasis will be given to the economic impact of ignoring dyslexia in public schools and correctional systems.

Dr. Sally Shaywitz in her book Overcoming Dyslexia defined dyslexia as a condition in which children and adults have a “frustrating and persistent problem in learning to read, through no fault of their own.”¹ We will discuss a more operational definition of dyslexia later in the report. As reading is essential for academic success, reading problems “have consequences all across development, including into adult life. This is why it is so important to be able to identify dyslexia accurately and precisely early on and take the appropriate steps without delay to ensure that the child learns to read and to enjoy reading.”²

Goals of Report

Review national research literature to determine what is known about learning disorders and dyslexia in the specific area of juvenile and adult corrections

Review Texas juvenile and correctional systems to determine what is known about the number of offenders with reading disabilities and dyslexia and the diagnosis protocols that are in place to identify this population

Identify best target for research given the size and complexity of the state correctional system and the lack of knowledge regarding dyslexia and criminal justice

While it is well recognized that dyslexia and associated reading disabilities have a debilitating effect on the productivity of individuals, little is known about the overall economic costs on our society. Less is known about the prevalence of dyslexia in criminal justice populations. Some of the obvious economic tolls associated with undiagnosed and untreated dyslexia and other reading disabilities may be higher rates of dropouts from our public and private school systems, unemployment rates, and higher public assistance and welfare costs. We know that persons who become part of the

criminal justice system have high rates of dropout, low education, and unemployment. These same conditions can also lead to higher rates of alcoholism and drug abuse.

¹ Shaywitz, Sally (2003). Overcoming Dyslexia: A New and Complete Science-Based Program for Reading Problems at Any Level Alfred A. Knopf, NY page 3.

² Shaywitz (2003), page 9.

Persons with such attributes are far more likely to become involved in criminal behavior which leads to incarceration.

In Texas, there are close to 145,000 adults in the state prison system, 550,000 on probation or parole and over 100,000 in the state's local jails and state and local juvenile detention centers. This correctional population of close to 800,000 adults and juveniles is disproportionately composed of persons with learning disabilities. Learning disabilities can be linked in part to undetected and untreated dyslexia. We know there is a "cost" to not properly diagnosing and treating dyslexia. But we do not know the magnitude of the problem and its costs for Texas.

The Dyslexia Research Foundation is committed to establishing a multi-year research agenda to determine the economic costs of dyslexia in Texas. More specifically, the initial goal of the Foundation is to develop a research plan that would: (a) determine the prevalence rate of reading disorders and dyslexia among juvenile and adult correctional populations; (b) determine the impact on rehabilitation efforts in institutional or community settings of not diagnosing and addressing adequately reading disorders in the offender population; (c) determine the impact on recidivism and criminal justice cost of this problem; and (d) determine the most effective areas for developing policies and remediation strategies to address the issue.

The challenge, of course, is to develop and fund a multi-year research plan or protocol that will provide a number of independent and objective research projects and studies to accomplish the above goals. The plan must be practical in terms of logistics, costs and timeliness of the research. It must also serve as a vehicle for attracting potential donors to provide the required funding to support the proposed research.

This report presents the first step to accomplish the above goals. The Foundation commissioned *JFA Associates/The Institute* to conduct a comprehensive assessment of what is known in Texas and the nation regarding reading disabilities and dyslexia in juvenile and adult correctional populations and its relation to institutional behavior, rehabilitation, recidivism and criminal justice costs.

JFA Associates/The Institute is a multi-disciplinary research center with headquarters in Washington, D.C. and offices in Austin, Texas. The center develops and evaluates innovative crime prevention, law enforcement, sentencing and correctional policies and designs programs to reduce crime and improve the quality of the adult and juvenile justice systems.

This report reviews:

- National research literature to determine what is known about learning disorders and dyslexia in the specific area of juvenile and adult corrections
- Texas juvenile and correctional systems to determine what is known about the number of offenders with reading disabilities and dyslexia and the diagnosis protocols that are in place to identify this population
- Best target for research given the size and complexity of the state correctional system and the lack of knowledge regarding dyslexia and criminal justice

Based on the national literature and Texas systems assessments, a research strategy is presented for the Foundation to consider. The strategy is to target parts of this complex issue in a practical way and to produce relatively quickly (within three years) the knowledge needed to determine the most effective remediation strategies and policies for the Foundation to promote in addressing this problem. The research strategy, therefore, is not oriented at trying to untangle the complex question of how dyslexia may be a causal factor for criminal or delinquent behavior. This can only be addressed with a multi-year longitudinal study involving very sophisticated data collection and tracking procedures and at a relatively high cost.

The strategy suggested here is directed at determining the prevalence of reading disorders and dyslexia in targeted populations in the criminal justice system, identifying diagnosis gaps that need to be addressed to improve the identification of affected populations, test remediation protocols and start generating knowledge to quantify the social and criminal justice costs of not addressing the problem. A detailed research proposal was not developed at this time based on direction from the Board of Directors. The Board needs to review this report to determine its priorities and coordination of resources in preparation for future research.

II. Dyslexia and the Texas Dyslexia Law

A. Dyslexia Defined for the Layman

Dyslexia Simply Defined

Person is born with a “glitch” in the brain’s posterior reading systems leading to a reading impairment

Dyslexic readers require many more exposures to a printed word over a much longer period of time before the stored representations are clear and true to the printed word

The authors are not experts on dyslexia. As a matter of fact, as we will discuss later, it is likely that there are very few criminologists who are experts on dyslexia. Due to the pioneering work of the Foundation, we may be the first criminologists to become these experts. Therefore, we need criminologists and other non-experts to understand how dyslexia is defined, what are the assessment procedures established by law and practice to identify dyslexic individuals, and what is the Texas law regarding assessment and intervention of dyslexic students. This latter issue is

important because, as we will see later, if the educational system does not adequately identify and remediate dyslexic students early, the identification and remediation of this population in the juvenile and adult correctional systems is likely to be negatively impacted.

Dr. Sally Shaywitz, one of the nation’s top experts on dyslexia, provides a layman’s overview of dyslexia in her book Overcoming Dyslexia. Basically, a dyslexic person is a smart person – intelligent, motivated, with adequate educational experiences – who has difficulty learning how to read. She describes two major classes of persons with reading difficulties:

“One, the classic dyslexic, is born with a glitch in his posterior reading systems. This group has higher verbal abilities and is able to compensate somewhat- improving in accuracy but remaining slow readers. The second group seems to have developed into poor readers mainly, we speculate, as a result of experience. It may be the result of a combination of poor reading instructions in school and a disadvantaged language environment at home. In this group the wiring for the posterior reading system may have been laid down early on but never activated appropriately; the system is there, but it is not functioning properly. Without effective intervention, individuals in this group remain poor readers, reading both inaccurately and slowly.”³

She further draws the distinction in the following manner:

³ Shaywitz (2003), page 85.

“There are other disorders that may impact reading. Dyslexia is distinguished from these problems by the unique, encapsulated nature of the phonologic weakness, one not intruding into other language or thinking domains.”⁴

“In developmental dyslexia the phonologic weakness is primary, other components of the language system are intact, and the reading impairment is at the level of decoding the single word, initially accurately and later fluently. Intelligence is not affected and may be in the superior or gifted range. The disorder is present from birth and not acquired.”⁵

“In language-learning disability the primary deficit involves all aspects of language, including both the sounds and the meanings of words. The reading difficulty is at the level of both decoding and comprehension, and language difficulties of all sorts are prominent. Measures of verbal intelligence are significantly affected by language deficits and intelligence may be in the subaverage range. People are born with the disorder.”⁶

B. Operational Definition of Dyslexia

The operational definition of dyslexia has changed over time in response to new scientific knowledge. Figure 1 below shows the consensus definition that reflects the most current scientific knowledge.⁷

Figure 1: Working Definition for Dyslexia Based on Consensus of Scientific Experts, 2003

Dyslexia is a specific learning disability that is neurobiological in origin. It is characterized by difficulties with accurate and/or fluent word recognition and by poor spelling and decoding abilities. These difficulties typically result from a deficit in the phonological component of language that is often unexpected in relation to other cognitive abilities and the provision of effective classroom instructions. Secondary consequences may include problems in reading comprehension and reduced reading experiences that can impede growth of vocabulary and background knowledge.

The definition identifies dyslexia as a specific learning disability in contrast to the more general term “learning disabilities” (LD) as this later category encompasses a wide

⁴ Shaywitz (2003), page 140.

⁵ Shaywitz (2003), page 140.

⁶ Shaywitz (2003), page 140.

⁷ From Lyon, G. Reid, Shaywitz, Sally and Shaywitz, Bennett A. (2003). “Defining Dyslexia, Comorbidity, Teachers’ Knowledge of Language and Reading: A Definition of Dyslexia” in *Annals of Dyslexia*, Vol. 53, 2003.

range of disorders in listening, speaking, reading, writing, and mathematics. The definition defines dyslexia as neurobiological in origin, as brain research shows the failure of the left hemisphere posterior brain systems to function properly during reading. It relates the condition to specific difficulties with accurate word recognition and decoding abilities as well as poor spelling and the inability to read fluently. In addition, it re-conceptualizes the prior “unexpectedness” between achievement and intelligence: instead, the condition is to be assessed via comparisons of reading age with chronological age and/or by comparing reading ability to educational level and professional level of attainment. “New in this component of the definition is the concept that the child needs to have been provided with effective classroom instruction. Documenting an individual’s instructional history is critical to understanding the nature of the observed reading difficulty.”⁸

Dyslexia is well defined by scientific experts but the assessment of the condition in day-to-day situations is a clinical decision by well-trained professionals. Distinguishing persons having reading difficulties who are dyslexic versus those who are not can be done following comprehensive, well-established assessment protocols. The challenge, as we will see later, is that funding in the correctional systems does not support the implementation of these comprehensive assessments.

C. Assessment for Dyslexia

It is important to note, as Shaywitz has stated in a research article prior to her book, that there is “no single test score that is pathognomonic of dyslexia. As with any other medical diagnosis, the diagnosis of dyslexia should reflect a thoughtful synthesis of all the clinical data available, including the history, observations and testing data.”⁹ Testing for phonologic awareness (awareness of the sound structure of words) and phonemic awareness (more advance ability to notice, identify, and manipulate the smallest particles that make up a word- the phonemes) are part of the screening for dyslexia. “Phonemic awareness has the strongest relationship to later reading, and most tests focus on this level of awareness. The most helpful tests include three kinds of measures: sound comparison, segmentation and blending.”¹⁰

Assessment for Dyslexia is a Clinical Decision

Dyslexia is well defined by scientific experts but the assessment of the condition in day-to-day situations is a clinical decision by well-trained professionals

Distinguishing persons having reading difficulties who are dyslexic versus those who are not can be done following comprehensive, well-established assessment protocols

Figure 2 below depicts the principles of assessment as summarized by the International Dyslexia Association. Appendix 1 reviews in detail each assessment

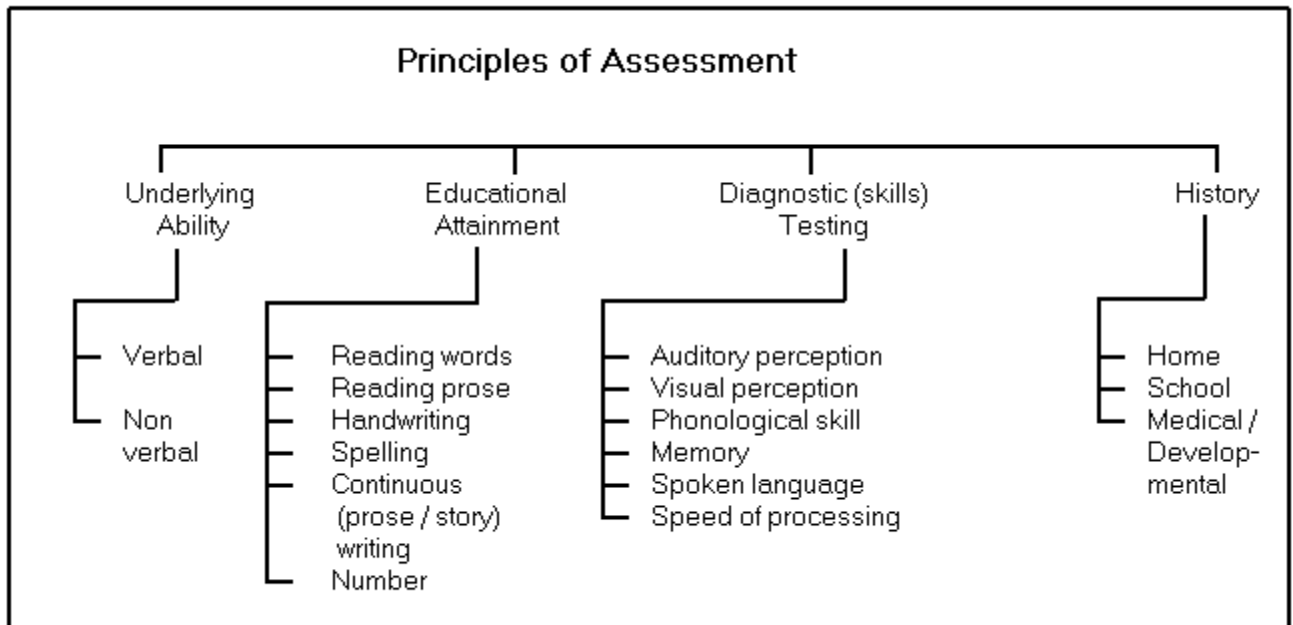
⁸ , G. Reid, Shaywitz, Sally and Shaywitz, Bennett A. (2003), page 8.

⁹ Shaywitz, Sally (1998). “Current Concepts” in *The New England Journal of Medicine*, Volume 338, Number 5, January 29, page 310.

¹⁰ Shaywitz (2003), page 144.

component.¹¹ The purpose of the assessment is to ascertain whether the student is falling behind in reading and the reasons for it. The underlying ability of the student is measured by IQ tests, the education attainment is measured by a variety of tests (like single word reading test), other diagnostic skill testing is conducted related to phonological awareness, and a case history is compiled. All this helps a clinical expert to identify a student as dyslexic and identify proper remediation strategies.

Figure 2: Principles of Assessment as Identified by the International Dyslexia Association



Estimates of the prevalence of dyslexia vary depending on the methodology used to estimate the condition. The Connecticut Longitudinal Study by Shaywitz has tracked for over 20 years the experiences of 445 children. This study shows that 20% of the children were reading below their age, grade and level of ability. However, only one-third of this 20% were receiving special help for reading problems in schools, strongly suggesting the prevalence of undiagnosed dyslexia in schools.¹² Therefore, figures provided by schools that indicate the number of children receiving educational services for a reading disability provide only an approximation of prevalence. Students receiving special education services nationally represent 4.4% of the school children. Reading disability is estimated to compromise 80% of all learning disabilities. By this measure, approximately 3.5% of school children nationally are receiving special education services for a reading disability.¹³ In Texas, 11.6% of the student population was receiving

¹¹ See: The International Dyslexia Association (IDA), Dyslexia Assessment Overview (2004), www.dyslexia-inst.org.uk

¹² Shaywitz (2003), page 30.

¹³ Shaywitz (2003) page 29.

special education as of 2003.¹⁴ The apparent under-identification of reading disabled children is problematic because the later the identification of the problem, the more difficult it is to remediate.

Dyslexia is a very specific condition that is relatively well-defined in the scientific literature. However, the Schwab Learning Organization notes that many educators don't use the term dyslexia. As they put it: "They talk instead about specific learning disabilities or language processing disorders because, they point out, dyslexia is a broad term which isn't very helpful in developing a targeted educational program to meet a child's individual needs."¹⁵ This attitude is shared by many of the educators in the correctional system interviewed for this report.

Remediation strategies for dyslexia all share the same underlying characteristics.

Multi-sensory techniques are used to stimulate different "learning channels". An example combines reading and spelling using simultaneous oral spelling techniques. The remediation program needs to be structured, which means that written language has been broken down into component parts, which can then be taught, one by one, in a prescribed order. The structured approach is individualized and includes a set of practice routines to reinforce learning. The approach is active, meaning the student is involved in what he is doing, and not merely a passive observer.¹⁶ As Shaywitz notes, the specific program chosen from among many well-established programs "is far less important than the provision of systematic, explicit instruction in phonemic awareness and phonics, and then teaching children how to apply this knowledge to reading and writing. Specific programs are constantly changing, but the instructional principles remain the same."¹⁷ Finally, it is important to note that according to Shaywitz, even children that do not qualify as dyslexic might "still require and benefit from help in reading."¹⁸

Remediation Strategy
Remediation strategies for dyslexia all share the same underlying characteristics
Multi-sensory techniques are used to stimulate different "learning channels"
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The approach is active, meaning the student is involved in what he is doing, and not merely a passive observer

¹⁴ Texas Education Agency (2003). Texas Public School Statistics, Pocket Edition Austin, Texas.

¹⁵ Strawberry, Kristen (2004). "What Educators Say About Dyslexia" on-line at www.schwablearning.org

¹⁶ See: The International Dyslexia Association (IDA), Principle of Teaching (2004) www.dyslexia-inst.org.uk

¹⁷ Shaywitz (2003), page 144.

¹⁸ Shaywitz (2003), page 29.

D. Texas Dyslexia Law

In Texas the identification and instruction of students with dyslexia is mandated and structured by law and regulations in TEC 38.003 and Chapter 19 of TAC 74.28. These requirements are specified in detail in The Dyslexia Handbook published by the Texas Education Agency.¹⁹

Texas Education Code (TEC) §38.003 defines dyslexia and related disorders, mandates testing students for dyslexia, provides instructional guidelines for students with dyslexia and gives the State Board of Education authority to adopt rules and standards to administer testing and instruction. The law and regulations outline the responsibilities of districts and charter schools in the delivery of services to students with dyslexia. It also gives guidance related to the evaluation of dyslexic students to qualify for Special Education programs. The Special Education system was established to provide educational services to children with disabilities in the regular classroom to the extent possible. Created through federal legislation known as the Individuals with Disabilities Education Act or IDEA, the federal government provides funding to partly support the Special Education program.

Identification and Prevalence

In Texas the identification and instruction of students with dyslexia and related disorders is mandated and structured by law and regulations

Estimates of prevalence of dyslexia in school children range from 3% to 20% depending on the methodology used with the official prevalence as reported by schools being lower than the prevalence calculated from longitudinal research

According to state rules districts and charter schools must administer early reading instruments to all students in kindergarten and grades 1 and 2 to diagnose their reading development and comprehension. If, on the basis of the reading instrument results, students are determined to be at risk for dyslexia or other reading difficulties, the district or charter school must notify the students' parents/guardians and implement an accelerated (intensive) reading program that appropriately addresses students' reading difficulties. If during the intensive reading instruction, students in kindergarten and grades 1 and 2 still demonstrate the characteristics of dyslexia, districts and charter schools must initiate procedures to

recommend these students for assessment for dyslexia. Assessment procedures for dyslexia are spelled out in detail in the Handbook and include all the testing and protocols mentioned above.

Once it has been determined that a student has dyslexia, the school district or charter school is mandated to provide an appropriate instructional program for the student. This program, however, has to be funded by the local school districts as no state funds are available to support this mandate. Teachers who provide the appropriate

¹⁹ Texas Education Agency (2001). The Dyslexia Handbook: Procedures Concerning Dyslexia and Related Disorders February.

instruction for students with dyslexia must also be trained in instructional strategies that utilize individualized, intensive, multi-sensory, phonetic methods and a variety of writing and spelling components specified in the handbook.

At any time during the assessment for dyslexia, students may be referred for evaluation and possible identification as disabled within the meaning of the IDEA. If a student with dyslexia is found eligible for special education, appropriate reading instruction on the student's Individualized Education Program (IEP) must be provided. Under IDEA dyslexia is considered one of a variety of etiological foundations for "specific learning disability." According to the Handbook the term "specific learning disability":

Under-Identification an Issue

The apparent under-identification of reading disabled children is problematic because the later the identification of the problem, the more difficult it is to remediate

"means a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written. The disorder may manifest itself in imperfect ability to listen, think, speak, read, write, spell, or do mathematical calculations. A disorder includes such conditions as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. A disorder does not include a learning problem that is primarily the result of visual, hearing, or motor disabilities, of mental retardation, of emotional disturbance, or of environmental, cultural, or economic disadvantage."²⁰

The TEA does not track dyslexia in their computerized student record system, referred to as the Public Education Information Management System or PEIMS. There is also evidence that school districts are inconsistent in the application of the dyslexia law and that students with reading problems are placed in Special Education; this program is partly funded by federal funds while the state dyslexia program is not funded by the state or the federal government. The Star-Telegram newspaper in Forth Worth in a series of articles in January of 2004 reported on this issue. As many as 20 percent of children have dyslexia or a related disorder, but a Star-Telegram survey of 16 area Ft. Worth districts found that nine of them were providing the state-mandated help to less than 1 percent of their students. Six others were helping 1 percent to 3 percent. One -- the Greenville school district -- provided help to 7.7 percent. Several other districts interviewed declined to provide the number of students in their dyslexia programs. Public school educators said to the reporter that their dyslexia programs comply with the law but that providing the tutoring -- which requires additional materials, training and teachers -- can be a financial burden. They also said that the disability is sometimes hard to identify.²¹

²⁰ TEA (2001), page 9.

²¹ Radcliffe, Jennifer (2004). "Left behind. Despite the law, schools don't do enough to identify, educate dyslexics, advocates say" Forth Worth Star-Telegram, January 4.

The under-identification problem is also aggravated by what Dr. G. Reid Lyon, Chief of the Child Development and Behavioral Branch of the National Institute of Child Health and Human Development at the National Institute of Health, says is an outdated definition for identifying learning disabled students for Special Education.²² In particular, to qualify as learning disabled, schools must demonstrate a discrepancy between a student's measured skills in reading and his learning potential as measured by intelligence. According to Lyon, the so-called discrepancy between aptitude and achievement is a "wait-to-fail" model in which "children must fall below a predicted level of performance before becoming eligible for special education" and this cannot be measured reliably "until a child reaches about nine years of age, or the 3rd grade."²³

Moreover, the learning disability for qualifying for Special Education cannot stem from certain conditions that commonly impede learning, like a mental deficiency or visual impairment. Conditions such as inadequate teaching and cultural, social or economic disadvantages also do not qualify a student for Special Education. According to Lyon, this exclusion ignores how these environmental conditions negatively affect the neural development that supports reading. "Children thus affected need the best instruction at the earliest possible time, but current federal definitions of LD preclude such a basic, sensible policy."²⁴

The required discrepancy between aptitude and achievement, and ignoring environmental factors, may also be particularly problematic when diagnosing minority children in urban areas. Low expectations and biases may lead teachers to equate a reading problem with just low intellectual abilities. This may result in many "invisible dyslexics," a term used in a study by the Abell Foundation examining this issue in the Baltimore school district.²⁵ As the author of that report stated, "early reading problems are too often blamed on weakness in intelligence or family background rather than specific deficits like phonological processing, which school systems can prevent and remediate. Low expectations of low-income children with low IQs are reinforced."²⁶

Factors Impacting Later Identification of Dyslexic Students in Correctional System

The weak implementation of the Texas dyslexia law leading to the under-identification of dyslexic students

The lack of notation in the students PEIMS records showing who has been identified as dyslexic under the Texas dyslexia law

The assessment criteria under the Special Education law that may restrict the identification of minority students as reading disabled

²² Lyon, G. Reid and Fletcher, Jack M. (2001). "Early Warning System" in Education Matters, Summer 2001. Online at www.edmatters.org.

²³ Lyon and Fletcher (2001), page 26.

²⁴ Lyon and Fletcher (2001), page 26.

²⁵ Hetteleman, Kalman R. (2003). The Invisible Dyslexics: How Public School Systems in Baltimore and Elsewhere Discriminate Against Poor Children in the Diagnosis and Treatment of Early Reading Difficulties. The Abell Foundation, www.abell.org, February.

²⁶ Hetteleman (2003), page 10.

It is important to note that the most recent operational definition of dyslexia discussed above redefines the issue of intellectual discrepancy and environmental background. It re-conceptualizes the “unexpectedness” between achievement and intelligence by focusing on a comparison of reading age with chronological age and/or reading ability with educational level and professional level of attainment. The newer definition also considers reading deficits resulting from inadequate instruction.

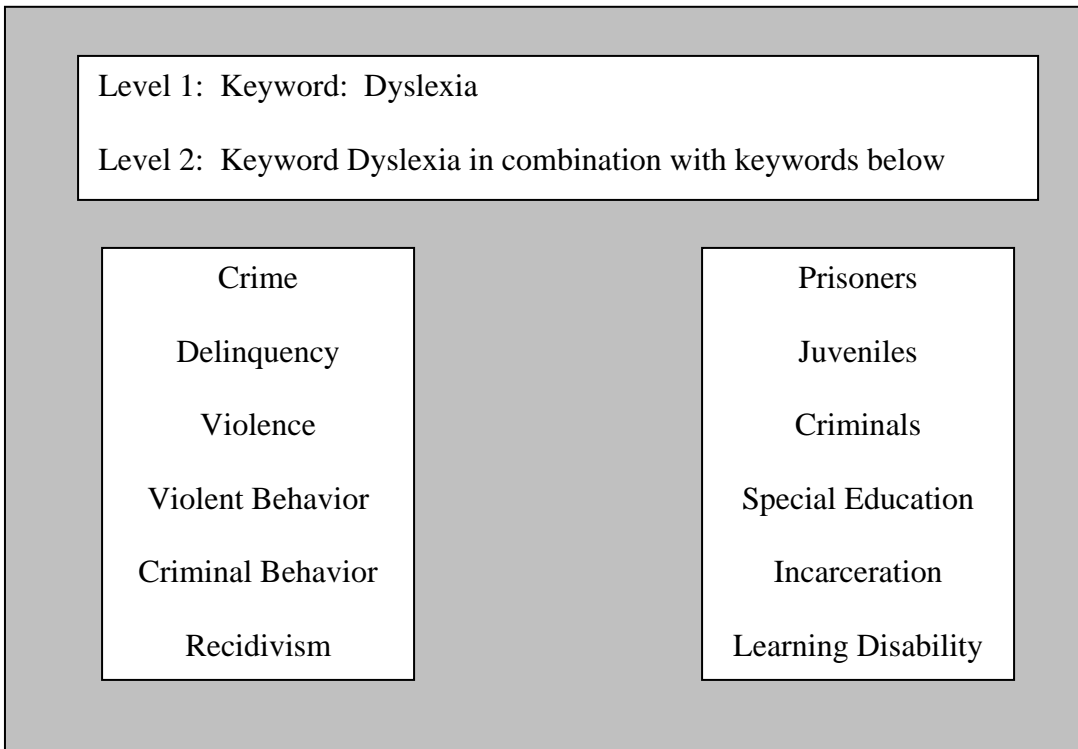
The ability of adult and juvenile correctional officials to address dyslexia in their populations is negatively impacted by the weak implementation of the Texas dyslexia law in public schools, the lack of notation in the students PEIMS records showing who has been identified as dyslexic, and the assessment criteria under the Special Education law that may restrict the identification of minority students as reading disabled. Unless correctional agencies conduct their own detailed assessment, these agencies will not know which offenders are dyslexics. They also will not know the extent to which they may need to design specific remediation strategies based on the person’s prior school experiences.

III. Review of the Literature

A. Methodology

A comprehensive approach was followed to identify relevant research regarding dyslexia and criminal justice. A search was conducted of all major computerized research databases. The search followed a protocol using “keywords” and combination of keywords listed with the keyword “Dyslexia”. Figure 3 below shows the keyword combinations. It is interesting to note that in a “subject search” at The University of Texas at Austin General Libraries Online Catalog there were 73 subjects under “Dyslexia” but none were related to criminal justice, corrections, delinquency or crime. Only one subject entry was related to “Dyslexia – Texas” and under that subject heading the only publication was the above mentioned Texas Dyslexia Handbook.

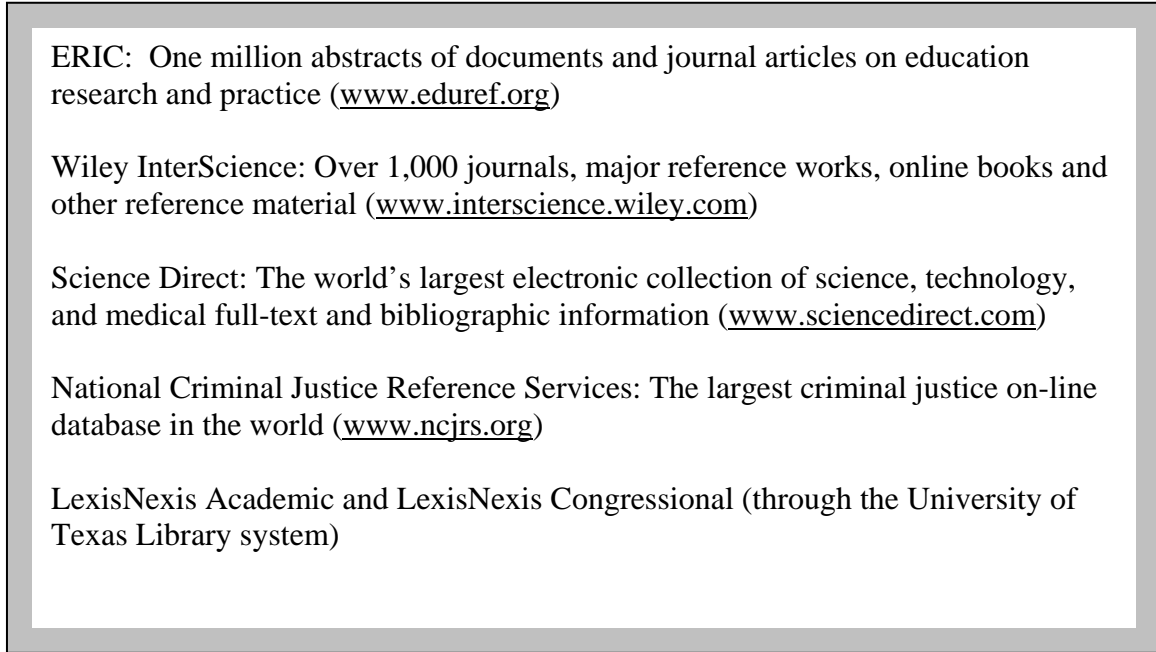
Figure 3: Keywords Used in Examining Computerized Research Databases



The result from each search was carefully examined for relevance. For example, in the ERIC database, containing one million abstracts of documents and journal articles on education research and practice, a search using “Dyslexia” alone led to 1,469 articles. Half of the titles and abstracts on all those articles were examined to review the relevance of the information and none were found to be relevant. A level 2 search was then conducted leading to the identification of 20 articles potentially more relevant to this topic. Of those 20, some were repeat “hits” and these articles were eliminated, leaving 12

articles for further examination. This process was followed for all the databases searched. Figure 4 below lists some of the major databases examined.

Figure 4: Major Computerized Databases Examined in Search



Finally, specific web sites and journals were examined and some of the more relevant are listed in Figure 5 below.

Figure 5: Other Sources Examined in Literature Search

Journal of Learning Disabilities	National Center on Education, Disability and Juvenile Justice (www.edjj.org)
Journal of Childhood Communications Disorders	Children with Disabilities (www.childrenwithdisabilities.ncjrs.org)
Academic Therapy Quarterly	Child Welfare League of America (www.cwla.org)
Annals of Dyslexia	Center for the Study of Learning at Georgetown University (www.csl.georgetown.edu)
Learning Disability Quarterly	Texas Scottish Rite Hospital (www.tsrhc.org) and related sites
International Dyslexia Association (www.interdys.org)	
Schwab Learning Center (www.schwablearning.org)	

B. Results Specific to Dyslexia and Criminal Justice

Nothing is known about the causal relationship of dyslexia with crime, delinquency and recidivism. No literature was found addressing this issue. The search produced only nine publications specifically addressing dyslexia in criminal justice populations. One of these publications was a study in the Texas prison system that will be discussed in a later section of this report. In chronological order, the oldest research study was in 1992 and examined the impact of an intensive multi-sensory reading program on a population of learning-disabled delinquents.²⁷ A group of 116 delinquents with reading disabilities were given daily multi-sensory (Orton/Gillingham approach) remedial reading instruction or regular reading instruction. One year after release, the treatment group had made significantly greater growth in reading and had a significantly lower rate of recidivism.

Six articles were produced at different times dealing more specifically with the prevalence of dyslexia in the Swedish youth and adult correctional system (which is not large and definitely not representative of the type of populations incarcerated in this country). Without being able to discuss the development of this research over time with the authors it is difficult to talk about their overall motivation and the issues that impacted their research strategy. Nevertheless, the articles provide some idea of how

²⁷ Simpson, Stephen B. and others (1992) "The Impact of an Intensive Multisensory Reading Program on a Population of Learning-Disabled Delinquents" in Annals of Dyslexia v. 42 p. 54-66.

methodological issues regarding how dyslexia is measured can impact the results of a study. For example, the first study found in this series was published in 2000.²⁸ The study compared a sample of prison inmates with the norms obtained for large samples of 12-year-old students on tests measuring word decoding skills, reading, and spelling abilities. The study showed that most of the inmates performed better or at the same level as 12-year-old students on all tasks measuring reading, spelling, and word decoding skills.

Highlights

The search produced only nine publications specifically addressing dyslexia in criminal justice populations

Studies show the difficulty in “untangling” the impact of dyslexia on criminal behavior due to the multiple disorders that may affect criminals

One study showed that when prisoners are compared to a population with similar socioeconomic characteristics, the prevalence of dyslexia among the two populations is comparable

These articles provide some idea on how methodological issues regarding how dyslexia is measured can impact the results of a study, an important lesson for future research efforts in Texas

A later study in 2001 done by some of the same researchers examined offenders in juvenile institutions in Sweden.²⁹ The study analyzed gender differences and differences between immigrants and Swedish pupils. The study included 163 students from 22 institutions and used three tests of literacy skills: word identification, spelling and reading comprehension. This was the total population of juvenile delinquents institutionalized in special youth institutions in Sweden. More than 70% showed some problems in reading and spelling. However, only 11% had serious difficulties. Moreover, the results showed that comprehension ability among immigrant boys was lower than among Swedish boys, despite the same level of word reading skill. According to the authors the high prevalence of reading and writing disabilities seems primarily to be related to social and cultural factors, home backgrounds, limited school attendance and poor self-esteem rather than to constitutional problems of a dyslexic nature. However, methodological issues influenced their conclusions. The authors pointed out that the study did not focus on

dyslexia because the instrument used in the study could not be used to determine the prevalence of dyslexia.

²⁸ Samuelsson, Stefan; Gustavsson, Ann; Herkner, Birgitta; Lundberg, Ingvar (2000) “Is the Frequency of Dyslexic Problems among Prison Inmates Higher Than in a Normal Population?” in *Reading and Writing: An Interdisciplinary Journal*; v. 13 n. 3-4 p. 297-312 December.

²⁹ Svensoon, Idor, Lundberg, Ingvar and Jacobson, Christer (2001). “The Prevalence of Reading and Spelling Difficulties among Inmates of Institutions for Compulsory Care of Juvenile Delinquents” in *Dyslexia* 7: 62-76.

In 2002, in Sweden again, the prevalence of dyslexia and AD/HD among inmates was studied.³⁰ A total of 45 inmates, ages 21-52, with Swedish as their native language were interviewed and administered academic achievement tests, neuropsychological assessments, and personality questionnaires. Twenty-eight (62 percent) of the inmates were diagnosed with dyslexia. Childhood hyperactivity was reported by 25 (55 percent) of the inmates; persisting into adulthood for half of these subjects. No difference between the dyslexic and non-dyslexic inmates was found regarding personality disorders. The authors reported that this replicated previous findings of a socially deviant personality pattern among AD/HD inmates. The study is interesting in the sense that it shows the difficulty in “untangling” the impact of dyslexia on criminal behavior due to the multiple disorders that may affect criminals. When controlling for comorbid AD/HD, only 1 of 15 personality traits studied here covaried with dyslexia (“suspicion”). The authors suggested that the fact that approximately half of the inmates had childhood AD/HD explained why poor language skills can be used to identify boys at risk of delinquent behavior. The authors emphasized the need for the early diagnosis and treatment of AD/HD as well as dyslexia.

The most recent study found from the Swedish researchers was in 2003 and compares the reading and writing skills of Swedish prisoners not with the general population but with a population comparable in terms of cultural and educational factors.³¹ This study is interesting because it actually finds that the prevalence of dyslexia is not higher in the prison population when compared to an equivalent population outside prison. Data from a sample of 82 prison inmates derived from three different prisons were collected. These prisoners were compared to a group of adults equated on educational level, reading habits, and socioeconomic status. A reading-level matched group of students between the ages of 13 and 15 years was also included for comparisons. The results showed that prison inmates and adult controls performed almost identically on all tests used to measure reading and writing skills. The prevalence of dyslexic problems among the inmates varied between 6.1% and 14.6%, depending on the definition employed. It was also observed that prison inmates performed better than or at the same level as the reading-level matched group on the same measures, including phonological-processing tasks. Less than 10% of the inmates exhibited phonological deficits assumed to be the core deficits in dyslexia. Their conclusion was that prison inmates in Sweden possessed reading and writing skills that were comparable to those found in an equivalent adult population and that the occurrence of dyslexic problems was very close to population incidences.

A study conducted in Scotland shows again the limitations on this research when a full assessment for dyslexia cannot be conducted.³² A screening study was undertaken

³⁰ May Lindgren ; Jimmy Jensen; Arne Dalteg; Ann Wirsén Meurling; David H. Ingvar ; Sten Levander (2002). “Dyslexia and AD/HD Among Swedish Prison Inmates” in *Journal of Scandinavian Studies in Criminology and Crime Prevention* Volume:3 Issue: 1 Pages: 84 to 95.

³¹ Samuelsson, Stefan; Herkner, Birgitta; Lundberg, Ingvar (2003). “Reading and Writing Difficulties among Prison Inmates: A Matter of Experiential Factors Rather Than Dyslexic Problems” in *Scientific Studies of Reading*, V. 7, n. 1 p.53-73.

³² Kirk, Jane and Reid, Gavin (2001). “An Examination of the Relationship between Dyslexia and Offending in Young People and the Implications for the Training System” in *Dyslexia* 7:77-84.

which involved 50 young offenders serving sentences of various lengths, all from the largest juvenile institutions in Scotland. All 50 were screened for dyslexia using a system call QuickScan. The authors acknowledged that this system “could not offer an exact diagnosis of dyslexia” (p. 79) but was the most effective tool available for the study given certain institutional constraints that were imposed on the researchers. The author found that 50% of the youth displayed some to all indicators of dyslexia from the test but again, whether this was really a good diagnosis test for dyslexia is open to question.

Finally, a 1972 study was found not directly related to the justice system but showing the potential impact of remediation strategies for dyslexic individuals.³³ This study sought to determine if a group of 83 dyslexic job trainees who were given special reading and writing remediation had regressed or continued to function on higher socioeconomic level than before the training. Also examined were the effects of reading remediation on a group of students in a city college continuing education class and students in a high school for delinquent boys. The study found a high incidence of dyslexia among youths exhibiting antisocial behavior, but substantial improvements in social attitudes occurred with reading remediation. A high degree of success was achieved in teaching dyslexics and the resulting improvement raised the individual's self-esteem, which in turn, the authors argued, improved the individual's economic and social status. It is important to note that the methodology for the above study could not be reviewed. Nevertheless, other research is available on this issue. For example, reading remediation that focuses on direct teaching of discrete skills within a socio-cultural context was found to allowed adolescents with reading disabilities in detention facilities to make faster progress in reading and later have lower recidivism rates in comparison with a non-treatment group.³⁴

C. Learning Disabilities as the More General Problem

Dyslexia can be seen as one of the conditions within the broader problem of learning disabilities affecting juvenile and adult offenders. Given the broad scope of issues in this area any review of the literature dealing with the impact of learning disabilities on delinquency or crime is not an easy undertaking. The principal investigator for this report was a member of the Panel on Juvenile Crime of the National Research Council and Institute of Medicine of the National Academy of Sciences in 2000 and 2001. This panel reviewed the literature in the area of juvenile crime and juvenile justice and issued two national reports.³⁵ The panel took particular care in reviewing the

³³ Work Training Program, Inc. (1972). Study of Reading Disorders in Relation to Poverty and Crime, Final Report NCJ Number 5823.

³⁴ Keith, Jill Marie and McCray, Audrey Davis (2002). Page 699 citing Simpson et al. “The impact of an intensive multisensory reading program on a population of learning-disabled delinquents.” Annals of Dyslexia, 42, 54-66: 1992.

³⁵ National Research Council and Institute of Medicine (2001). Juvenile Crime, Juvenile Justice. Panel on Juvenile Crime: Prevention, Treatment, and Control. Joan McCord, Cathy Spatz Widom, and Nancy A. Crowell, eds. Committee on Law and Justice and Board on Children, Youth and Families. Washington, DC: National Academy Press, 2001; National Research Council and Institute of Medicine. Education and Delinquency: Summary of a Workshop. Panel on Juvenile Crime: Prevention, Treatment, and Control.

Academic Failure and Delinquency

The relationship between poor school performance and delinquency is complex and the direction of causality difficult to estimate, but in general, academic failure, especially difficulties in reading, has been linked with delinquency in adolescence

Poor and minority students are more likely to experience school failure, be labeled delinquents, drop out of school, and end up in juvenile justice systems

methodological strengths of the studies to be cited in the report; there are many studies in the field but only a small number meet the strict scientific criteria acceptable to the National Academy of Sciences for inclusion. As part of a workshop on education and delinquency, literature regarding the impact of learning disabilities was reviewed. No literature was found regarding dyslexia and delinquency.

The National Research Council found that the relationship between poor school performance and delinquency is complex and the direction of causality difficult to estimate; still “the evidence is clear that poor school performance, truancy, and leaving school at a young age are connected to juvenile delinquency.”³⁶ The panel agreed that “verbal and reading

deficits are linked to victimization (both inside and outside school), drug use, aggression, and delinquent behavior when students who fall behind in reading become marginalized as failures.”³⁷ The panel agreed that “school failure undermines a student’s interest in and commitment to school and learning. Delinquent peer associations may also be a consequence of school failure when a student comes to reject academic achievement and pro-social behavior as legitimate goals and values.”³⁸ However, little was known about the consequences of placement in special disciplinary classes or schools or of expulsions.³⁹ Again when the panel said “little was known” this was based on the strict scientific standards set to review studies for inclusion in the report.⁴⁰

An apparent less strict review of the literature regarding juvenile offenders with special needs was recently done by researchers at The University of Texas at Austin

Joan McCord, Cathy Spatz Widom, and Nancy A. Crowell, eds. Committee on Law and Justice and Board on Children, Youth and Families. Washington, DC: National Academy Press.

³⁶ National Research Council and Institute of Medicine (2000). Education and Delinquency: Summary of a Workshop. Panel on Juvenile Crime: Prevention, Treatment, and Control. Joan McCord, Cathy Spatz Widom, and Nancy A. Crowell, eds. Committee on Law and Justice and Board on Children, Youth and Families. Washington, DC: National Academy Press, page 13.

³⁷ National Research Council and Institute of Medicine (2000), page 14.

³⁸ National Research Council and Institute of Medicine (2000), page 14.

³⁹ National Research Council and Institute of Medicine (2000), page 27.

⁴⁰ This is the same process that the National Reading Panel commissioned by Congress and organized by the National Institute of Child Health and Human Development followed in their review of the literature for their 1998 report. For example, in reviewing the area of Phonemic Awareness Instruction they found 1,962 citations but only 56 met the panel’s criteria for scientific inclusion in their review. For Phonics Instruction they found 1,373 citations but only 38 met the inclusion criteria; Guided Oral Reading 364 citations were found but only 16 met criteria and for Vocabulary Instruction more than 20,000 research citations were found but only 50 met the criteria for inclusion.

(UTA).⁴¹ A “less strict review” of the literature can still add to the general base of knowledge. As one researcher puts it the answers to be found in the research seeking to establish the existence of a link between learning disabilities and behavior are “yes, no, maybe.”⁴² With this in mind, the review by the UTA researchers shows that:

- Juvenile offenders possess antisocial behavior at an early age, struggle to focus attention, and have difficulty performing at grade level in school subjects, including reading, writing and mathematics⁴³
- Academic failure, especially difficulties in reading, has been linked with delinquency in adolescence⁴⁴
- Poor and minority students are more likely to experience school failure, be labeled delinquents, drop out of school, and end up in juvenile justice systems⁴⁵
- School’s failure to provide appropriate intervention strategies for teaching reading skills to students with delinquent behaviors is common and students having reading difficulties become frustrated and unmotivated even to attend school⁴⁶
- Persistent reading disabilities in adolescents, regardless of behavior difficulties, led to limited opportunities and restricted job opportunities⁴⁷

More policy relevant research is needed in the area of dyslexia and criminal justice, in particular, in the more promising area of juvenile corrections (where making a positive impact early in a youth’s life is more cost effective than in the adult correctional system). The National Council on Disability issued a report in 2003 documenting the need for more relevant research regarding youth with disabilities in the juvenile justice

⁴¹ Keith, Jill Marie and McCray, Audrey Davis (2002). “Juvenile offenders with special needs: critical issues and bleak outcomes” in Qualitative Studies in Education, Vol. 15, No. 6, 691-710.

⁴² Dickman, Emerson G. (1996) “Shaping Public Policy” in Shiley C. Cramer and William Ellis Learning Disabilities, Lifelong Issues Paul H. Brookes Publishing, Baltimore. Page 215.

⁴³ Keith, Jill Marie and McCray, Audrey Davis (2002). Page 691 citing among other studies a study by Williams, S. and McGee, R. “Reading attainment and juvenile delinquency. Journal of Child Psychology, Psychiatry, and Allied Disciplines, 35, 441-456. 1994.

⁴⁴ Keith, Jill Marie and McCray, Audrey Davis (2002). Page 692 citing Maguin, E., and Loeber, R. “Academic performance and delinquency” in M. Tonry (Ed.), Crime and Justice: A Review of Research Chicago: University of Chicago Press. Vol. 20, 1996.

⁴⁵ Keith, Jill Marie and McCray, Audrey Davis (2002). Page 692 citing Lawrence, R. School Crime and Juvenile Justice. New York: Oxford University Press. 1998.

⁴⁶ Keith, Jill Marie and McCray, Audrey Davis (2002). Page 694 citing Osher, D. (et al). “Exploring relationship between inappropriate and ineffective special education services for African-American children and youth and their overrepresentation in the juvenile justice system” The Civil Rights Project. (On line) Available: www.law.harvard.edu/civilrights/conferences/Speced/oshcrpaper2.html. 2001. Also cited: Snyder, H.N. and Sickmund, M. Juvenile Offenders and Victims. 1999. (On line) Available: www.ncjrs.org. 1999.

⁴⁷ Keith, Jill Marie and McCray, Audrey Davis (2002). Page 698 citing Maughan, B., Gray, G. and Rutter, M. “Reading retardation and antisocial behavior: A follow-up into employment.” Journal of Child Psychology and Psychiatry, 26: 741-758, 1985.

system.⁴⁸ The report documented that “there is relatively little quality research on almost every dimension that was examined, from the prevalence of disabilities at various stages of the juvenile justice system to the levels and impacts of federal efforts to enforce compliance with disability law.”⁴⁹ They suggested this research agenda:

“Conduct research that focuses on establishing the true prevalence of youth with disabilities of different types among at-risk populations in schools and across all stages of the juvenile justice system; the needs/services gap, including compliance with disability law; the causes of overrepresentation, where it exists, of youth with disabilities in the juvenile justice system, especially correctional facilities; and effective systems-level and program-level approaches, including federal laws, for addressing the needs of these youth, including particular attention to the types of programming most effective for youth from diverse racial/ethnic and cultural backgrounds.”

“Undertake a comprehensive assessment to determine what programs and policies are most effective in schools, communities, and the juvenile justice system. At the same time, ensure that there is a balanced approach to funding diverse programs and policies, coupled with evaluation research studies of their effectiveness. Such an approach will ensure that a more definitive body of knowledge can determine ‘what works’ and for whom.”⁵⁰

D. Prevalence of Learning Disabilities in Corrections

The two most common disabilities found in the juvenile justice system are specific learning disability and emotional disturbance.⁵¹ A national survey of the prevalence of youth with disabilities in juvenile detention, and in juvenile and adult correctional facilities in the U.S. sponsored by the Center for Effective Collaboration and Practice and the National Center on Education, Disability and Juvenile Justice found that 46% of youth with a disability in corrections had a primary diagnosis of specific learning disability and 45% were identified with an emotional disturbance.⁵² An older study in 1990 sponsored by The Institute of Mental Disability and Law of the National Center for State Courts conducted a “meta analysis” of all the studies at the time related to the prevalence of mentally disabled and handicapped juvenile offenders. A meta analysis is a process that follows certain established procedures to estimate from disparate information certain outcomes that are being measured, in this case prevalence. The authors examined

⁴⁸ National Council on Disability (2003). Addressing the Needs of Youth with Disabilities in the Juvenile Justice System: The Current Status of Evidence-Based Research Washington, D.C. May 1.

⁴⁹ National Council on Disability (2003), page 4.

⁵⁰ National Council on Disability (2003), page 7.

⁵¹ Burrell, Sue and Warboys, Loren (2000). Special Education and the Juvenile Justice System Office of Juvenile Justice and Delinquency Prevention, U.S. Department of Justice, July.

⁵² Quinn, Mary M., Rutherford, Robert B. and Leone, Peter E. (2001). Students with Learning Disabilities in Correctional Facilities ERIC Clearinghouse on Disabilities and Gifted Education, EDOEC0116, December.

31 studies that met the requirements for a meta analysis. They estimated the “weighted average prevalence estimate of learning disabled juvenile offenders” to be 35.6%.⁵³ The National Center on Education Disability and Juvenile Justice reports that more than one in three youth who enter correctional facilities have previously received special education services.⁵⁴

In the adult correctional system, the Bureau of Justice Statistics of the U.S. Department of Justice reports that 31% of state inmates have a physical impairment or mental condition and 9.9% have a learning disability (which included dyslexia and attention deficit disorder). This was based on inmate self-reports as “most state prison systems lack comprehensive and accessible data on the health status of their inmates.”⁵⁵ This is about the same proportion reported for jail and prison inmates in a report done in 2002 lumping dyslexia and attention deficit disorders together.⁵⁶ The prevalence of learning disabilities in the general adult population is measured using different methodologies. In general, 2% to 5% of the general adult population may have learning disabilities.⁵⁷

Learning Disabilities

The two most common disabilities found in the juvenile justice system are specific learning disability and emotional disturbance

In the adult correctional system, the Bureau of Justice Statistics of the U.S. Department of Justice reported that 9.9% of state inmates were reported as having a learning disability (which included dyslexia and attention deficit disorder)

⁵³ Casey, Pamela A. and Keilitz, Ingo (1990). “Estimating the Prevalence of Learning Disabled and Mentally Retarded Juvenile Offenders” in Peter E. Leone Understanding Troubled and Troubling Youth Sage Publications, Newbury Park, page 89.

⁵⁴ National Center on Education Disability and Juvenile Justice (2004). Special Education in Correctional Facilities On line: www.edjj.org/publications/pub05_01_00.html.

⁵⁵ Bureau of Justice Statistics (2001). Medical Problems of Inmates, 1997 U.S. Department of Justice, Washington, D.C.

⁵⁶ Hartley and Marks Publishers Inc. (2002). Trends in Substance Abuse and Treatment Needs Among Inmates, Final Reports NCJRS 197073, October 25.

⁵⁷ Vogel, Susan A.(2004). How Many Adults Really Have Learning Disabilities. On line at www.ldonline.org/ld_indepth/adult/vogel_howmany.html

IV. Researching the Texas Correctional System

A. Overview of System

Texas has the largest correctional justice system in the country with close to 800,000 adult and juvenile offenders supervised by a state or local criminal justice agency in 2001.⁵⁸ The state criminal justice system is operated by agencies with state and local jurisdiction or a combination of both. Local jails are operated by counties, juvenile and adult probation departments are operated by counties with oversight and funding support from state agencies and the adult and juvenile incarceration system is operated by state agencies. The state adult correctional agency is the Texas Department of Criminal

Texas Has the Largest Correctional System in the U.S.

In 2001 Texas had the third highest adult incarceration rate in the country with 711 prisoners per 100,000 population

There were 740,000 adults under the correctional jurisdiction of state or county agencies representing 1 in 21 adults in Texas

Adding juveniles under state and local jurisdiction brings the total population under correctional jurisdiction in Texas to over 800,000, the largest correctional population in the U.S.

Justice (TDCJ) which is the umbrella agency operating the adult prison and parole agencies and the oversight agency for the locally operated probation system. The juvenile correctional agencies are the Texas Juvenile Probation Commission (TJPC) and the Texas Youth Commission (TYC). TJPC provides oversight over the locally operated juvenile probation system and TYC is responsible for operating the state juvenile incarceration system. The combined yearly budget of the three agencies is over \$2.5 billion.

This study concentrates on those components of the state correctional system that offer the most potential to understand the demographics of offenders in relation to education and the issue of dyslexia and offer the best logistics for conducting future research. Logistically it is impossible for this study to examine the aspects of the correctional system that are mainly local. However, the research proposed here will touch on some local issues when applicable.

⁵⁸ Criminal Justice Policy Council (2003). Biennial Report to the 78th Texas Legislature January, Austin, Texas.

B. Target for Demographic Assessment

The demographic assessment presented here and the development of the initial research strategy targets the following components of the state correctional system:

- TDCJ and specifically the school system serving the offenders institutionalized in Texas prisons and State Jails known as the Windham School District (WSD)
 - ✓ TDCJ is the state agency with jurisdiction over incarcerated offenders and responsible for operating 105 facilities (state prisons, substance abuse facilities, and State Jails among others) that housed close to 145,000 offenders in Fiscal Year 2003

- TYC and its related educational program.
 - ✓ TYC is the juvenile correctional agency for Texas and operates 15 secure institutions and nine residential halfway house programs with an average daily population in 2002 of 5,384
 - ✓ TYC main responsibility is to care, provide custody, rehabilitation and educational services for offenders committed to the agency by judges in Texas
 - ✓ Youth are sent to TYC for mostly felony-level crimes that are committed between the ages of 10 and 16 years of age.

- TJPC in relation to its administration of the Juvenile Justice Alternative Education Program (JJAEPs)
 - ✓ TJPC is the primary agency through which state funding for juvenile justice is channeled to the counties
 - ✓ State law requires each county to have a juvenile board which administers the local juvenile probation system mainly funded by local dollars
 - ✓ JJAEPs are alternative education programs that provide continued education services for youth that have been expelled from the public school system
 - ✓ There were 6,832 student entries into these programs in 2001

- Texas Education Agency (TEA) in relation to its oversight of the Disciplinary Alternative Education Programs or DAEPs
 - ✓ DAEPs are operated by local school districts and are designed to serve students who are removed from their regular classrooms due to disruptive behavior or for committing felonies off campus
 - ✓ DAEPs may be located either on or off campus. TEA oversees their operation like they oversee the operations of school districts
 - ✓ There were 89,532 students placed in these programs in the state in 2001

There are 164 juvenile probation departments that supervised 42,802 juveniles on probation in 2002 and 122 adult probation departments (Community Supervision and Corrections Departments) that supervised 438,205 adult probationers. These departments served all 254 counties in Texas. These departments are part of the state criminal justice system; however, due to the nature of their local operations, it is beyond the reach of this study to be able to review these departments in terms of their assessment of offenders for educational deficiencies and dyslexia in particular. Moreover, adult probation departments do not offer many direct education diagnoses and programs. Juvenile probation departments do offer education services to populations in local detention centers and post-adjudication facilities operated by the department or county. Youth are usually detained for an average of 12.9 days which is not long enough to provide comprehensive educational services.⁵⁹ Juvenile departments operate 44 facilities with a capacity of 2,372 beds for youth that have been adjudicated but not committed to TYC. Youth serve about nine months in these facilities and educational services are provided. In the future, this may be another population to explore as part of this developing project.

⁵⁹ Texas Juvenile Probation Commission (2002). The State of Juvenile Probation Activity in Texas, Calendar Year Page 35.

C. Cost-per-Day of Services

The operational cost-per-day to the state of the different correctional services has been calculated until recently by the Criminal Justice Policy Council. These cost-per-day figures have been standardized using the same formula to compare “apples to apples” cost among the different services administered by the different agencies. The costs include indirect administrative cost usually “not charged” to an agency’s budget (like the cost of the Attorney General or State Comptroller allocated per capita to each state agency). Table 1 below presents the most recent operational cost-per-day figures which are for FY 2002.⁶⁰ As can be seen, the most expensive per day cost is to house juvenile offenders at TYC institutions.

Big Prisons, Big Business

A large Texas prison unit, like the Polansky 2,250 bed unit in Livingston, Texas cost \$57.2 million to construct, has an annual payroll of approximately \$20.5 million and provides employment to 755 people

Table 1: Operational Cost-Per-Day and Yearly Costs for Selected Correctional Programs

Agency/Program	Operational Cost-Per-Day	Annual Cost
TYC Institutions	\$151.28	\$55,217
Prisons	\$44.01	\$16,063
State Jails	\$37.35	\$13,633
Substance Abuse Felony Punishment (SAFP)	\$52.25	\$19,071
Juvenile Probation		
Regular Supervision	\$15.98	\$5,833
Detention	\$85.13	\$31,072
Secure Placement	\$81.08	\$29,594
Non Secure Placement	\$105.79	\$38,613
JJAEP State Cost	\$59.00	\$21,535

⁶⁰ Criminal Justice Policy Council (2003). Mangos to Mangos: Comparing the Operational Costs of Juvenile and Adult Correctional Programs in Texas January, Austin, Texas.

V. Prison Demographics

A. Demographics and Education

Offenders admitted to the institutions of TDCJ go through a diagnosis process that includes a series of interviews, medical tests and other record gathering activities. During this process prison officials ask inmates about their educational background. Inmates self-report the last grade they completed in schools. Inmates are also tested by the WSD for educational achievement using the Test of Adult Basic Education (TABE). This test generates an Educational Achievement Score- commonly referred as EA Score - which indicates the grade level at which an inmate is functioning. An EA score is generated for reading. School officials do not get an inmate's school record nor do they routinely request it. They also do not diagnose for dyslexia.

High School Graduates in Prison

Almost half of offenders in Texas prisons claimed to have never completed high school (47% of the inmates in FY 02 or 58,511 inmates)

This is higher than the national average of 40% in state correctional populations

25% of the Texas adult population has not completed high school according to U.S. Census figures for 2001

Table 2 below shows the school year claimed completed by Texas prisoners in FY 2002, the last year for which full data are available. Almost half of offenders in Texas prisons claimed to have never completed high school (47% of the inmates in FY 02 or 58,511 inmates). This is higher than the national average of 40%.⁶¹ Another 19% of the prison population in FY 02 (23,901 inmates) had no high school diploma but had a GED certificate, which is accepted by most employers and educational institutions as the equivalent of a high school diploma. This is lower than the national average for state prisoners of 28%.⁶² Therefore, if all inmates who completed less than 12 years

of schooling and those who received a GED were classified as not completing high school, then 66% of the Texas inmates did not complete high school. This is slightly lower than the national average for state prison inmates of 68%.⁶³

⁶¹ Bureau of Justice Statistics, Special Report (2003). Education and Correctional Populations U.S. Department of Justice, Washington, DC. January.

⁶² Ibid., Bureau of Justice Statistics, Special Report (2003).

⁶³ Ibid., Bureau of Justice Statistics, Special Report (2003).

Table 2: Last Grade Claimed Completed by Texas Inmates, FY 2002

Grade Claimed Completed	Number of Inmates	Percent of Total
1 st thru 5 th	3,731	3.0%
6 th thru 8 th	16,222	12.9%
9 th thru 11 th	38,558	30.7%
<i>No High School Grad.</i>	<i>58,511</i>	<i>46.6%</i>
High School Graduation	23,500	18.7%
GED	23,901	19.0%
College Credit	4,626	3.7%
Unclassified	15,117	12.0%
Grand Total	125,655	100%
Average	10.39	

Source: Texas Department of Criminal Justice, Statistical Report, Fiscal Year 2002

Table 3 below shows the educational achievement score (EA) of Texas prisoners in FY 2002. Based on this measure, 31% or 38,774 inmates in FY 02 in Texas were functionally illiterate as they scored below 6th grade in their EA test. More than half of those (19,868) scored less than a fourth grade level. This group is considered the non-readers.

Table 3: Educational Achievement Score of Texas Inmates, FY 2002

Educational Achievement Score	Number of Inmates	Percent of Total
< 4.0	19,868	15.8%
4.0 – 4.9	7,370	5.9%
5.0 – 5.9	11,536	9.2%
<i>Functionally Illiterate</i>	<i>38,774</i>	<i>30.9%</i>
6.0 – 6.9	13,298	10.6%
7.0 – 7.9	11,796	9.4%
8.0 – 8.9	14,344	11.4%
9.0 – 9.9	10,717	8.5%
10.0 – 10.9	6,614	5.3%
11.0 – 11.9	8,513	6.8%
12+	18,050	14.4%
Unclassified	3,549	2.8%
Grand Total	125,655	100%
Average	7.6	

Source: Texas Department of Criminal Justice, Statistical Report, Fiscal Year 2002

In addition to those offenders in traditional prisons, which was until recently called the Institutional Division of the TDCJ, there are also offenders institutionalized in the substance abuse facilities (Substance Abuse Felony Punishment Facilities in which offenders can serve between 6 and 9 months) and in the State Jails (mainly for property and drug offenders serving an average of one year in these facilities).⁶⁴ These populations also include a large proportion of offenders with low educational levels. Tables 4 and 5 below show the number of school years claimed completed and the educational achievement scores for both of these populations combined. While 47% of the prison population did not have a high school diploma or GED, the equivalent population in SAFPs and State Jails is 36%. In terms of educational achievement, a higher percentage of the SAFP and State Jail population was considered functionally illiterate (34%) than in the prisons (31%).

Table 4: Last Grade Claimed Completed of SAFP and State Jail Inmates in Texas, FY 2002

Grade Claimed Completed	Number of SAFP and State Jail Inmates	Percent of Total
1 st thru 5 th	288	1.5%
6 th thru 8 th	1,718	8.9%
9 th thru 11 th	4,991	26.0%
<i>No High School Grad.</i>	<i>6,997</i>	<i>36.4%</i>
High School Graduation	4,637	24.2%
GED	3,914	20.5%
College Credit	862	4.6%
Unclassified	2,723	14.2%
Grand Total	19,133	100%
Average	10.8	

Source: Texas Department of Criminal Justice, Statistical Report, Fiscal Year 2002

⁶⁴ A reorganization of TDCJ divisions in 2003 created the Correctional Institutions Division which now oversees all institutions – prisons, state jails and substance abuse facilities.

Table 5: Educational Achievement Score of SAFP and State Jail Inmates in Texas, FY 2002

Educational Achievement Score	Number of SAFP and State Jail Inmates	Percent of Total
< 4.0	3,140	16.4%
4.0 – 4.9	1,299	6.8%
5.0 – 5.9	2,008	10.5%
<i>Functionally Illiterate</i>	<i>6,447</i>	<i>33.7%</i>
6.0 – 6.9	2,072	10.8%
7.0 – 7.9	1,462	7.6%
8.0 – 8.9	1,615	8.4%
9.0 – 9.9	1,482	7.8%
10.0 – 10.9	910	4.7%
11.0 – 11.9	1,209	6.4%
12+	2,268	11.8%
Unclassified	1,668	8.8%
Grand Total	19,133	100%
Average for State Jail	7.1	
Average for SAFP	8.0	

Source: Texas Department of Criminal Justice, Statistical Report, Fiscal Year 2002

Table 6 below summarizes the most critical points for this report. Namely, that 45,221 of all the offenders institutionalized in the TDCJ in FY 2002 were functionally illiterate (EA score of 5.9 or less), and of those, 23,008 were nonreaders (EA score of less than 4.0). In terms of percentages, 31% of all the offenders institutionalized in the TDCJ were functionally illiterate and half of those (51%) were nonreaders. Nonreaders represented 16% of all offenders institutionalized in TDCJ.

Table 6: Summary Educational Indicators of TDCJ Population, FY 2002

Total Number of Offenders Institutionalized in TDCJ in FY 2002	144,788
Number Illiterate (EA Score of 5.9 or less)	45,221
Percent Illiterate	31%
Number of Nonreaders (EA Score of less than 4.0)	23,008
Percent Nonreader	15.8%

Source: Texas Department of Criminal Justice, Statistical Report, Fiscal Year 2002

B. Windham School District

In 1969 Texas established the nation’s first correctional school district country to provide educational programs to incarcerated offenders, the Windham School District (WSD). The WSD operates educational, vocational, and life skills training programs in 88 Texas prisons and state jails. The district is a public school district monitored and funded by the Texas Education Agency (TEA). The system employed approximately 1,580 professionals and paraprofessional staff and served 52,639 inmates in literacy programs in FY02.⁶⁵ The WSD budget in FY 2003 was approximately \$71 million. However, due to budget cuts during the legislative session in 2003, the FY04 budget is now approximately \$57 million. The cuts translated into a reduction of approximately 17% in teaching staff and 36% in administrative staff.⁶⁶

Table 7 below depicts the characteristics of a typical WSD student. The WSD literacy program provides adult basic education for offenders functioning below the sixth grade level and secondary level adult education for those who are working toward attainment of a high school equivalency certificate or GED. Based on individual achievement, students are assigned to beginning Literacy I classes, intermediate Literacy II, or advanced Literacy III level classes. Literacy classes are non-graded, competency-based, and operate on a 12-month scholastic year. Students generally attend literacy classes three hours per day. Students with reading skills below the fourth grade level may be enrolled in Literacy I – Reading, a special program designed to provide intensive instruction in reading.⁶⁷

⁶⁵ Windham School District (2002), Annual Performance Report, 2001-2002 Huntsville, Texas, page 8.

⁶⁶ Interview with Marjie Haynes, Director of Instruction, WSD, February 9, 2003.

⁶⁷ Ibid., Windham School District (2002), page 3.

Table 7: Characteristics of a Typical WSD Student

Typical WSD Student
Dropped out of school in the 9 th or 10 th grade
Functions at the 5 th grade level
Has an IQ of 85
Has an average age of 35
Has a history of academic failure
Has a defensive and/or negative attitude
Has low self-esteem
Has little confidence in self to find employment
Has limited ability to visualize a productive future
Has difficulty with relationships
Has difficulty controlling anger
Exhibits impulsive behavior

Source: Windham School District (2002), Annual Performance Report, 2001-2002 Page 1.

Selection to participate in WSD programs is based on the Individualized Treatment Plan (ITP) which identifies the treatment needs of offenders. School officials also conduct an assessment of offenders in order to place them in appropriate programs. Key factors that affect selection into programs include the time an offender has left in prison to participate in a program and the level of need the offender has for a program. Need is based on educational achievement, with offenders with less than a 6th grade EA score having priority for academic/literacy programs. Program capacity and program availability in particular prison units, as well as the offender security classification, impact placement decisions. Limited resources and inmate abilities make prison education difficult. As a Texas Comptroller reports notes: “Because most prisons have limited classroom space, some inmates have to wait for classes. TDCJ has space for about 25,000 students. Windham instructors operate on double shifts, so inmates are enrolled using a priority system.”⁶⁸ A WSD briefing to the legislature states: “Thousand more are in need of education, but WSD is limited by physical classroom space and funding.”⁶⁹

Initial assessment by WSD diagnosticians are based on interviews with the offenders and the results of IQ and EA score testing. School records are not usually examined as these are not available; any information dealing with prior schooling or prior school difficulties is based on what inmates report.⁷⁰ The only exception is if an inmate states that he was in Special Education while attending school. In that case, the WSD tries to get the prior school records. Priority for academic/literacy programs is given to all offenders under age 22 regardless of sentence and for offenders under age 35 that are

⁶⁸ Texas Comptroller of Public Accounts (2001). “Blackboards Behind Bars” in Fiscal Notes, March, Austin, Texas. p. 8.

⁶⁹ Windham School District (2003), Page 1.

⁷⁰ Interview with Marjie Haynes, Director of Instruction, WSD, February 9, 2003.

within five years of release eligibility. Special instruction is provided by the WSD for students with learning disabilities, emotional disturbance, mental retardation, vision and/or hearing impairments, orthopedic impairments, other health impairments, traumatic brain injury, and speech impairments.

Inmates identified as non-readers are placed in competency based classes with a maximum size of 25 students. The “LAUBACH Protocol Way of Reading” (by New Readers Press) is followed with these inmates. Offenders that are having particular trouble learning how to read using this protocol are referred for further diagnosis. These offenders may be diagnosed as having a learning disability and placed in Special Education classes. The WSD follows the Texas Education Agency rules and federal regulations in conducting the assessment for Special Education eligibility.

No specific diagnosis is done by the WSD to identify offenders with dyslexia.⁷¹ As a matter of fact, an extensive evaluation of the WSD by the Performance Review of the Texas Comptroller in 1992 produced a report hundreds of pages long but did not mention the issue of dyslexia.⁷² The report commended the district for “an exemplary system for maintaining a daily assessment of each student’s progress.”⁷³ A later Performance Review evaluation of TDCJ in 1994 mentioned that “other assessment tests that might be a helpful diagnostic and planning tool for assessing incoming inmates are noticeably missing from the general diagnosis process” but there was no specific mention or recommendation of the need for assessing dyslexia.⁷⁴ The latest Texas Education Agency (TEA) District Effectiveness and Compliance Visit Report of the WSD actually states that the “dyslexia program does not apply to this district. The district does not offer the program.”⁷⁵ The lack of an official protocol to diagnose and identify dyslexic offenders means that the number of offenders who are dyslexic is unknown.

WSD Budget Cuts

The WSD budget in FY 2003 was approximately \$71 million but due to budget cuts during the legislative session in 2003, the FY04 budget is now approximately \$57 million

The cuts translated into a reduction of approximately 17% in teaching staff and 36% in administrative staff

Table 8 below shows the number of students participating in WSD academic programs. In FY 2001-2002 the WSD served 52,639 inmates in their literary programs, 4,211 offenders participated in special reading classes for non-readers, and 2,454

⁷¹ Interview with Marjie Haynes, Director of Instruction, WSD, February 9, 2003.
⁷² Texas Comptroller of Public Accounts, Texas Performance Review (1992). Schools Behind Bars: Windham School System and Other Prison Education Programs December, Austin, Texas.
⁷³ Ibid., Texas Comptroller of Public Accounts, Texas Performance Review (1992), page 7-41.
⁷⁴ Texas Comptroller of Public Accounts, Texas Performance Review (1994). Behind the Walls: The Price and Performance of the Texas Department of Criminal Justice April, Austin, Texas, page 100.
⁷⁵ Texas Education Agency, Division of Accountability Evaluations (2003). District Effectiveness and Compliance Visit Report for Windham School District, May 26-30, Austin, Texas. page 6.

offenders participated in the Special Education program.⁷⁶ The percentage participating in Special Education classes is significantly lower than the 12% for the Texas student population. Certified Special Education teachers employ a wide variety of instructional strategies and materials to address each student’s individual learning style. The WSD uses a standardized protocol called *Language!* (by Sopris West) for students classified as learning disabled who have trouble reading.⁷⁷ This protocol is one of the interventions recommended by Dr. Shaywitz for dyslexic adults in her book Overcoming Dyslexia. As she describes this protocol:

“*Language!* provides the broadest coverage, encompassing just about every aspect of language instruction while also managing to integrate nicely the different language components. As you now know, each of the units of study has been rated according to its level of reading difficulty and assigned a ‘readability’ code based on the Degrees of Reading Power (DRP) formula. Once a student knows his reading level in *Language!* it is linked to a DRP score and to vast numbers of appropriate books. A student in the *Language!* program is now able to access ten thousand books in fifteen categories, including adventure, sports, science fiction, history, biography, science, and mystery. Without such a system, pinpointing a book’s level of readability is often more difficult that you might think. Imagine how nice it is for an adult reader to be able to find a book that interests him and to know that he can read it. Although developed for teaching entire classes, *Language!* easily lends itself to small group instructions where it is likely to achieve even better results.”⁷⁸

Table 8: Number of Offenders Participating in WSD Academic Programs, FY 2001-2002

Type	Number of Offenders Participating in 2001-2002	Percent of Total
General Literacy Classes	52,639	
Special Reading Classes	4,211	7.9%
Special Education Program	2,454	4.6%

The WSD has also trained some Literacy I – Reading teachers at the Neuhaus Education Center in Houston. These teachers learned to use the Wilson Reading System and the WSD has invested funds to buy the Wilson materials for the classrooms. According to Dr. Shaywitz, this system “was developed for older elementary students through adults but is now available for younger children as well.” This system is part of

⁷⁶ Windham School District (2003), page 2.

⁷⁷ Interview with Marjie Haynes, Director of Instruction, WSD, February 9, 2003.

⁷⁸ Ibid., Shaywitz (2003), page 290.

the Orton-Gillingham approach of a highly structured and systematic multi-sensory approach to learning letters and sounds. In terms of training teachers, Dr. Shaywitz states that certified Wilson instructors “are required to participate in an extensive professional development program.”⁷⁹

B. UTMB Dyslexia Study of Inmates

In 1999 the staff of The University of Texas Medical Branch (UTMB) in Galveston, in cooperation with WSD officials, conducted a study to measure the prevalence of dyslexia for persons admitted to prison. This was the only study of this type found in the U.S. in the review of the literature. The study was published in The Journal of Texas Medicine in 2000.⁸⁰

The purpose of the study was to examine the ability of Texas prison inmates to decode single words, which the authors described as the main indication of dyslexia absent of any other difficulties. However, the authors also recognized the difficulty in diagnosing this population because “complex developmental and educational histories, which are common in incarcerated adults, make determination of dyslexia difficult, especially in the absence of relevant documentation such as elementary school records.”⁸¹

Dyslexia in Texas Prisons

The UTMB study found that 47.8% of the Texas inmate sample scored below the 25th percentile in the word attack scores and about 41.5% also had low word identification scores which the authors considered as evidence of dyslexia

The study was not designed to relate the above finding to recidivism rates and to explore if remediation strategies by the WSD are successful in teaching reading to these inmates

The protocol for the research seems to have been comprehensive. The researchers selected prison units reflecting male and female populations at random. After the units were identified, they selected a random sample of inmates within each unit who had been admitted to prison in the six months prior to the study. Certain inmates were excluded from the study, like violent offenders in administrative segregation and mentally ill offenders. The sample was composed of 150 males and 150 females, and after refusals and exclusions, the final study group consisted of 253 inmates.

The researchers trained 12 licensed and certified diagnosticians from TDCJ and WSD to conduct all study assessments. Pilot interviews and video assessments of the diagnosticians were part of the methodological controls. The study began with a 30

⁷⁹ Ibid., Shaywitz (2003), page 266.

⁸⁰ Moody, Kathryn C., Holzer, Charles E. Roman, Mary J. Paulsen, Katherine A. Freeman, Daniel H. Haynes, Marjie and James, Thomas N. (2000). “Prevalence of Dyslexia Among Texas Prison Inmates” in Texas Medicine Volume 96, Number 6, June.

⁸¹ Ibid., Moody et al (2000), page 69.

minute background interview follow by a battery of psycho-educational and cognitive tests designed to evaluate reading achievement, language-based cognitive skills, and general aptitude. Specific test included: Visual-Auditory Learning, Word Identification, Word Attack, and Passage Comprehension from the Woodcock Reading Mastery Test-Revised; Incomplete Words, Sound Blending, Picture Vocabulary and Verbal Analogies from the Woodcock Johnson-Revised Tests of Cognitive Ability and the Test of Non-Verbal Intelligence 2 (TONI-2). The researchers considered “Word Attack test scores below the 25th percentile of the standard national reference as evidence of dyslexia.”⁸²

By the standards of the study, 47.8% of the entire inmate sample scored below the 25th percentile in the word attack scores and about 41.5% also had low word identification scores. Low reading comprehension was found for 61.7% of the entire study sample, well above the normative sample prevalence of 25%. Poor word attack skills were found in more than half of those with low passage comprehension scores and poor reading comprehension scores. African-American inmates were found to have a significantly increased prevalence of low word attack scores compared with Hispanic and white subjects. There was no statistically significant difference between males and females. Other risk factors associated with poor word attack skills, included head injury in childhood or adulthood, having been in a resource room in an elementary school and a history of having been placed in a “special education” class in elementary school.

The findings lend credence to the assertion that dyslexia could contribute to the high prevalence of reading difficulty in the prison populations and that remediation strategies should take this into account. However, the authors wanted to make very clear that they could not establish a connection between dyslexia and crime. The study was not designed to track the recidivism rates of dyslexic inmates or track their school progress while participating in WSD programs. The latter will have given an indication if the WSD remediation strategies are effective with this population. The authors warned that the:

“nature of this study and our interpretation of the findings must not be misread. To conclude that dyslexia causes criminal behavior would be completely incorrect. We know of no evidence to support such an interpretation. The association of dyslexia with criminal behavior is not a directly causative relationship. The uninformed and careless response to dyslexia by society-at-large becomes a contributory cause, ending in an emotionally degrading life for the dyslexic child who is often being told how lazy he is when he knows how hard he has been trying.”⁸³

In a concluding comment, Dr. Curtis Prout, the director of the National Commission on Correctional Healthcare and a lecturer in medicine at Harvard Medical School, reaffirmed the prior statement by the authors and suggested new areas for research. “The ‘logical’ assumption that dyslexia causes criminal behavior is completely

⁸² Ibid., Moody et al (2000), page 79.

⁸³ Ibid., Moody et al (2000), page 74.

unproven, as Dr. Moody and her colleagues clearly state but such handicaps undoubtedly add to the resentful and authoritarian attitudes of criminals.”⁸⁴ Dr. Prout suggested that the relationship between dyslexia and the antisocial personality disorder so common among the male recidivists should be further explored.

C. Reading and Recidivism

The most comprehensive study of correctional education and its impact on recidivism in Texas was conducted by the Criminal Justice Policy Council (CJPC) in 2000. The CJPC was the research and evaluation agency for the Texas adult and juvenile correctional system between 1983 and 2004. The CJPC conducted three studies tracking the education achievement, employment and two year recidivism rate for over 25,000 inmates released for the first time from Texas prisons in 1997 and 1998. The studies were conducted under the direction of the main author of this report who was at the time the Executive Director of the agency.

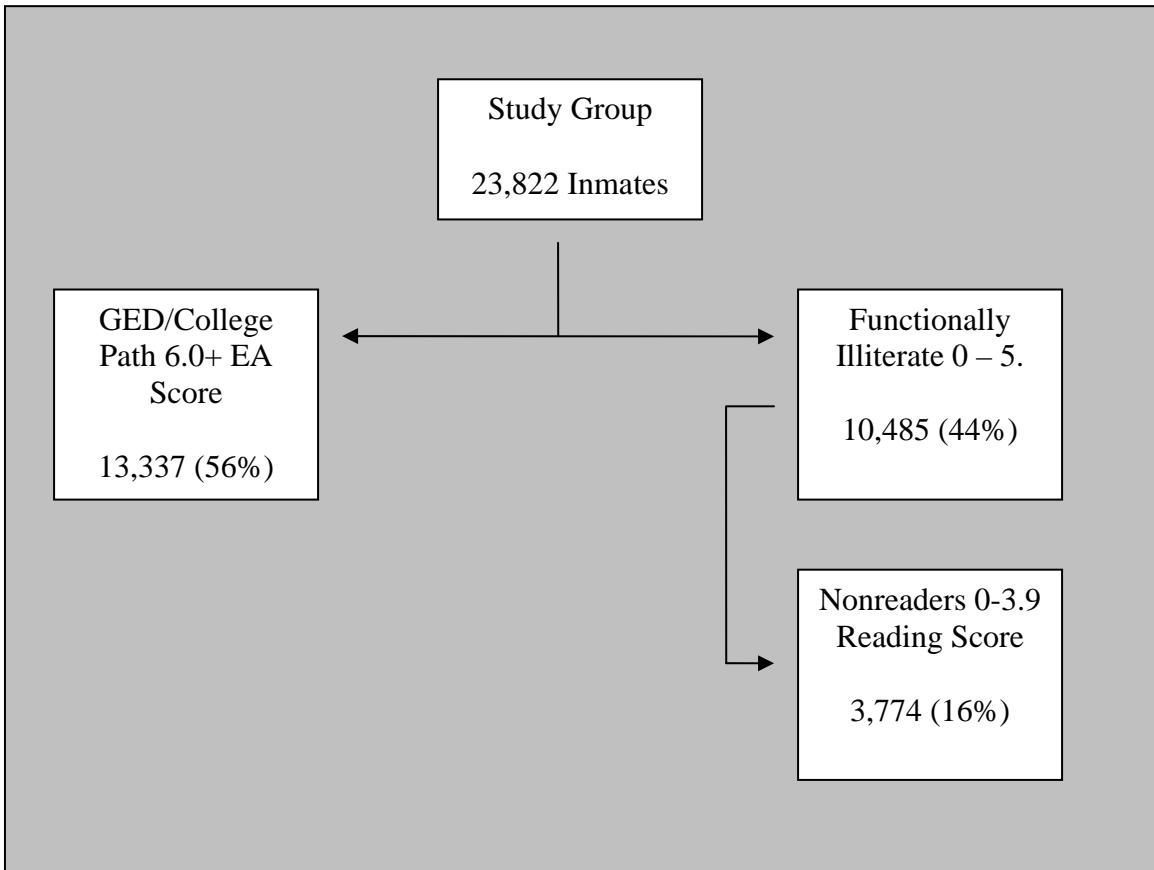
The inmates were categorized into three study groups to analyze educational achievement for the adult education programs.⁸⁵ Figure 6 depicts the groups and the number of inmates studied in each group. The groups included:

- **Functionally Illiterate:** These were inmates who scored less than 6.0 on the entry TABE and were eligible to participate in adult basic education classes
- **Nonreaders:** This was a subgroup of the Functionally Illiterate group who scored less than a 4.0 on the reading portion of the entry TABE indicating an inability to read or reading at a beginning level
- **GED/College Path:** These were inmates who scored 6.0 or greater on the entry composite TABE and were eligible to participate in Secondary Education courses

⁸⁴ Ibid., Moody et al (2000), page 76.

⁸⁵ Criminal Justice Policy Council (2000d). Impact of Educational Achievement of Inmates in the Windham School District on Recidivism August, Austin, Texas, page 8.

Figure 6: Educational Achievement Categories and Number of Inmates Tracked in Each Group as Part of CJPC Study



The study found that the WSD was doing a relatively good job in advancing “borderline” students to a higher achievement group. The average improvement in educational achievement during an incarceration period was 1.5 grades. Nonreaders, however, needed the most instruction to improve 1.5 grade levels with 894 hours. Readers who were in the Functionally Illiterate group improved 1.7 grade levels in 755 hours and those in the GED/College Path group improved 1.2 grade levels in 431 hours.

No information was collected to diagnose nonreaders who were dyslexic nor was the study designed to test the effectiveness of specific remediation protocols used with nonreaders. We know that 46% of the nonreaders achieved at least a 4.0 reading level and their average reading EA score improved from 3.1 to 5.8 during the period of instruction. Of the inmates who became readers, 22% entered prison reading between a grade equivalent of 3.5 and 3.9, another 42% started out between 3.0 and 3.4 and the remaining 36% entered prison functioning below a 3.0 reading level.⁸⁶ Given the low level of reading skills of the inmates in the nonreader group, and given the limited time

⁸⁶ Criminal Justice Policy Council (2000d). Page 21.

that WSD has to remediate these inmates, it seems that in general, the WSD uses remediation strategies that help a large portion of the inmates improve their reading skills. However, it is not known if remediation strategies are less effective for dyslexic students in comparison to other inmates with reading problems.

The two-year recidivism rate was tracked for 25,980 inmates released. Inmates “recidivated” if they had been re-incarcerated within the TDCJ two years of their initial release from prison. The two-year recidivism rate for all inmates tracked was 16%. As seen in Table 9 below, inmates leaving prison with an EA score below 4.0 had a recidivism rate of 17%, while inmates who exited with an EA of 9.0 or greater had a recidivism rate of 14% at the end of the two-year release period (18% lower recidivism rate).⁸⁷

Young property offenders who were nonreaders at release from prison had recidivism rates that were higher than the same type of offenders who were readers. After controlling for age and type of offense, the study showed that property offenders with low educational achievement scores had the highest recidivism rate. Property offenders under age 35 who had an EA score of less than 4.0 at release had a 25% two year recidivism rate compared 15% for the same age group of property offenders who had 9.0 or greater EA scores. Young property offenders accounted for 23% of all releases (5,844).⁸⁸ In term of state re-incarceration costs, for every 1,000 releases of non-reader young property offenders, the state is estimated to be paying \$12 million compared to \$7.2 million for young property offenders who can read. This estimate is conservative as it does not account for the cost of long-term recidivism not tracked in the study and social costs in terms of victim costs, lost productivity and other social services costs.⁸⁹

Cost of Nonreader Recidivists

Property offenders under age 35 who were nonreaders at release had a 25% two year recidivism rate compared 15% for the same age group of property offenders who were readers

For every 1,000 releases of non-reader young property offenders the state is estimated to be paying \$12 million compared to \$7.2 million for young property offenders who can read

⁸⁷ Criminal Justice Policy Council (2000d). Impact of Educational Achievement of Inmates in the Windham School District on Recidivism August, Austin, Texas., Page 10.

⁸⁸ Criminal Justice Policy Council (2000d), page 14.

⁸⁹ This is based on a simple formula only accounting for state re-incarceration costs. The assumption is that the cost of a recidivist to the state is \$48,189 which represents the cost of housing an offender in prison for three years. This is the average time served assumed here for inmates recidivating. The actual time served for all offenders released in FY 2002 was longer at 4.7 years but for this analysis an adjustment is made to account for recidivist for technical revocations who will serve less time in prison than the average for all releases. However, it is important to note that the longer the recidivists stay in prison the more costly to the state the recidivist will be. For every 1,000 non-reader young property offender there will be 250 recidivists after two years costing the state \$12,047,250 compared to 150 for young property offenders who are readers at a cost of \$7,228,350.

Table 9: Educational Achievement Score of Inmates at Release and Two-Year Recidivism Rate

Educational Achievement Score at Release – All Inmates	Two-Year Recidivism Rate
< 4.0	17%
4.0 – 5.9	19%
6.0 – 7.4	18%
7.5 – 8.9	16%
9.0	14%
Property Offenders	
Property Offenders Younger than 35 with EA Score <4	25%
Property Offenders Younger than 35 with EA Score 9.0+	15%

Table 10 below shows the relationship between educational achievement in prison and recidivism rates. The study found that educational achievement in prison was associated with lower recidivism rates, regardless of inmate characteristics. Inmates who became readers while in prison had lower recidivism rates than inmates who remained nonreaders. This relationship was the most pronounced for young property offenders with 30% who stayed nonreaders being re-incarcerated within the two year period compared to 19% who became readers. Significantly increasing the educational achievement scores was associated with lower recidivism rates. Moreover, nonreaders who became readers and increased their reading EA score to 7.0 or above had the lowest recidivism rate of the three achievement groups. However, the study noted that one factor associated with the low recidivism rates of the reader group was that this group had a disproportionate percentage of older inmates compared to the other achievement groups. The recidivism rate of older offenders is lower than that of younger offenders, all other factors being equal.⁹⁰

As mentioned before, this study was not designed to identify dyslexic students; therefore, it is not possible to tell whether the effectiveness of prison education remediation strategies for non-readers is affected by the lack of identification of dyslexic students or whether the remediation strategies are effective for both types of students.

⁹⁰ Criminal Justice Policy Council (2000d), page 18.

Table 10: Educational Achievement in Prison and Recidivism Rate

Achievement	Two Year Recidivism Rate
Became Reader and Gained to:	
4.0 to 4.9 Reading EA	17%
5.0 to 6.9 Reading EA	15%
7.0+ Reading EA	9%
Became Literate and Gained to:	
6.0 – 6.9 Composite EA	20%
7.0 – 8.9 Composite EA	17%
9.0+ Composite EA	17%
Earned GED and Exited at:	
6-8.9 Composite EA	16%
9.0 to 10.9 Composite EA	16%
11.0+ Composite EA	12%

Finally, the study tracked the employment records of a subgroup of inmates in the study using the Unemployment Wage Record system of the Texas Workforce Commission. This is the system in which employers must report wages earned by employees for unemployment insurance purposes. The employment record for each inmate was tracked for one year after release from prison. As seen in Table 11 below, the study found that the higher the educational achievement of inmates at release, the more likely they are to be employed and the higher their average yearly wages. However, most inmates who were employed were not employed for a full year, just an average of 7.4 months, and even the highest average yearly salary was not much more than the equivalent of a minimum wage salary for one year.⁹¹

Table 11: Educational Achievement at Release, Recidivism and Employment

Educational Achievement Score at Release	Two Year Recidivism Rate	Percent Employed	Average Wage in Year After Release
< 4.0	17%	57%	\$7,697
4.0 – 5.9	19%	67%	\$7,588
6.0 – 7.4	18%	71%	\$8,128
7.5 – 8.9	16%	74%	\$8,574
9.0	14%	75%	\$10,139

⁹¹ Criminal Justice Policy Council (2000c). Impact of Educational Achievement of Inmates in the Windham School District on Post-Release Employment. June., Austin, Texas, page 13.

In terms of education achievement in the WSD, the study found that those inmates who were educated to the next achievement level tracked in the study had increased employment and wages earned after release. As Table 12 below shows, nonreaders who became readers during their incarceration were more likely to be employed (66%) than those who remained nonreaders (56%). However, the average wages earned the year after release and the average number of months employed in the year after release were about the same for readers and nonreaders (\$7,978 with 6.6 months for nonreaders compared to \$7,928 with 7.0 months for those who became readers).⁹² The study also noted that 27% of all nonreaders had a low IQ (50-70) and inmates with low IQ scores accounted for 31% of those who were unemployed in the nonreader group.⁹³

Table 12: Achievement Group, Percent Employed, Average Wages and Months Employed

Group	Percent Employed	Average Wages Earned in Year After Release	Average Months Employed in Year After Release
Nonreaders			
Stayed nonreader	56%	\$7,978	6.6
Became reader	66%	\$7,928	7.0
Functionally Illiterate			
Stayed Illiterate	61%	\$7,582	6.5
Became Literate	72%	\$8,075	7.0
GED Path Group			
Did not Earn GED	72%	\$7,954	6.9
Earned GED	77%	\$8,912	7.6

It is well-documented that dyslexia often accounts for poor reading skills. Although the WSD does not identify dyslexic inmates as part of their routine assessment process, they do identify poor readers and assign them to reading classes or special education classes. We know through the studies conducted by the CJPC that poor readers and nonreaders have higher recidivism rates upon release. Remediation strategies that assist in providing reading skills to inmates may lower their recidivism. It is not known whether remediation strategies will be more effective if the WSD identifies students with dyslexia.

⁹² ⁹² Criminal Justice Policy Council (2000c), page 16.

⁹³ ⁹³ Criminal Justice Policy Council (2000c), page 17.

Finally, it is important to note that based on the results of the CJPC study, the WSD appropriation authorization in 2001 directed the district to “identify younger offenders with the lowest educational levels as a high priority population when allocating educational resources.”⁹⁴ However, with the recent budget cuts mentioned above, it is unlikely that the WSD can effectively fulfill this mandate. Moreover, the WSD cannot serve the great majority of the inmates. For this reason, as Table 13 below shows, 31% of inmates released from prison in FY 2002 were still functionally illiterate, with half of those being nonreaders. Functionally illiterate inmates have higher recidivism rates as documented above, and the obstacles faced by this population as they re-enter the community are substantial.

Releasing Illiterate Inmates

30.7% of inmates released from prison last year were still functionally illiterate, with half of those being nonreader

Functionally illiterate inmates have higher recidivism rates as documented above and the obstacles faced by this population as they re-enter the community are substantial

Table 13: Educational Achievement Score of All Inmates Released from Prison in 2002

Educational Achievement Score	Number of Inmates	Percent of Total
< 4.0	5,730	15.3%
4.0 – 4.9	2,191	5.8%
5.0 – 5.9	3,605	9.6%
<i>Functionally Illiterate</i>	<i>11,527</i>	<i>30.7%</i>
6.0 – 6.9	4,064	10.8%
7.0 – 7.9	3,502	9.3%
8.0 – 8.9	4,344	11.6%
9.0 – 9.9	3,315	8.8%
10.0 – 10.9	1,943	5.2%
11.0 – 11.9	2,716	7.2%
12+	5,336	14.2%
Unclassified	804	2.1%
Grand Total	37,550	100%
Average	7.6	

⁹⁴ Texas, Seventy-seven Legislature, Regular Session (2001). Senate Bill 1, General Appropriation Act, Rider 74, WSD Appropriation, Austin, Texas.

VI. TYC Demographics

A. Demographics and Education

The Texas Youth Commission (TYC) is the juvenile correctional agency for Texas. The agency operates 15 secure institutions and nine residential halfway house programs. Its main responsibility is to care, provide custody, rehabilitation and educational services for offenders committed to the agency by judges in Texas. Youth are sent to TYC for mostly felony-level crimes that are committed between the ages of 10 and 16 years of age. In 2002 there were 3,562 intakes to TYC and the average daily population for that year was 5,384.⁹⁵ Offenders committed to TYC spend an average of 22 months in the agency's facilities before release. The state appropriation for the agency for the biennium of 2002-2003 was \$527.2 million.⁹⁶

The TYC population is mainly composed of the most violent and chronic delinquent offenders in the state. The great majority of offenders committed in 2003 were African-American (31%) and Hispanic (44%). Most were age 15 and 16 at commitment (67%) with 90% of all commitments being male. The percentage of youth assessed as having a mental health disorder was 48%⁹⁷. This was an increase from 27% seven years before. Most youth committed (83%) needed specialized treatment for sex behavior, chemical dependency, emotional disturbance, serious violent behavior or mental retardation.⁹⁸ The agency profiles other characteristics of the population. Table 14 below shows the median reading and math achievement level of youth committed to TYC was 5th or 6th grade, which is four to five years behind the expected grade level for the age of this population.

⁹⁵ Texas Youth Commission (2003). Strategic Plan for 2003-2007 Austin, Texas, page 18. Email from Chuck Jeffords, Director of Research, TYC, April 14, 2004.

⁹⁶ Information on-line at <http://www.tyc.state.tx.us/>

⁹⁷ Email from Chuck Jeffords, Director of Research, TYC, April 14, 2004.

⁹⁸ Texas Youth Commission (2002a). Annual Report 2002 Austin, Texas.

Table 14: Profile of the TYC Population

Median age at commitment was 16
42% admitted at intake that they are gang members
Median reading and math achievement level was 5 th or 6 th grade which is four to five years behind their peers
75% had IQs below the mean score of 100
55% had a high need for drug treatment
43% were severely emotionally disturbed
Three out of four youth had parents who never married or who divorced or separated
The vast majority had a history of being abused or neglected
More than one-half came from low-income homes
Three out of four came from chaotic environments
Many had families with histories of criminal behavior
Many had families members with mental impairments
More than half (57%) were in juvenile court on two or more felony-level offenses before being committed to TYC

Source: Information on-line at <http://www.tyc.state.tx.us/>

B. Education Program and Diagnosis Process

TYC operates year-round educational programs; the principals and teachers at the schools are agency employees. The schools are recognized as accredited campuses and held accountable through an appropriate educational accountability system. According to the agency’s description of their educational programs, the accountability criteria are especially structured to appropriately measure academic results for youth at TYC facilities. The accountability system addresses improvement gains in reading and math and completion of a general educational development (GED) certificate or a diploma of graduation under the requirements of the Texas Education Agency and State Board of Education. The schools are also held accountable for average daily attendance. Moreover, a youth’s educational progress is a consideration in determining the youth’s overall achievement in completing his or her personal re-socialization plan.

Youth committed to TYC are admitted at the TYC Orientation and Assessment Unit in Marlin. On average, each youth spends about 45 days at Marlin. During this time, he or she will experience a variety of assessment and intake procedures. Each youth receives individualized achievement testing and completes a vocational aptitude and interest inventory. As appropriate, youth also receive psychological and language proficiency evaluations. Each student completes standardized testing in reading and math which determines the instructional needs of the student. Additional diagnostic assessment continues as students demonstrate their proficiency in the classroom.

Ms. Billie Flippen, Manager of Curriculum and Accountability, describes in more detail the reading educational assessment given at Marlin in Figure 7 below.⁹⁹

Figure 7: TYC Reading Educational Assessment Tools and Process

The *Read Naturally screener* determines a starting point for initiating the Read Naturally assessment. *Read Naturally* is a program of modeled reading, with print and audio tape materials. Students work at their functional grade level to improve decoding skills (if functioning at a low grade level), fluency, and comprehension skills. The *Read Naturally assessment* determines students' grade level skills in oral reading fluency and comprehension of high interest reading passages.

The *Brigance reading assessment* determines and assigns a grade equivalent score for students' reading levels, measuring skills in word recognition, oral reading, vocabulary and comprehension of reading passages.

The *TABE reading assessment*, correlated with TEKS objectives for instruction implications, tests and assigns grade level equivalent scores for students' comprehension skills such as recalling information from text, determining the meaning of vocabulary terms using context clues, interpreting graphs and drawing conclusions.

The *Lexia Strategies for Older Students* assessment is given for students who score below the 3.0 grade level equivalent on the *TABE reading assessment*. This test identifies decoding problems at the phonemic level. The *Lexia SOS* program, which the assessment supports, is a computer based program with phonics, other decoding, and vocabulary development lessons.

Additional assessments may be given to students to determine eligibility for Special Education, or continued services needed, according to the Individuals with Disabilities Education Act (IDEA).

The *Woodcock-Munoz* test is given to students to determine eligibility for or continued services needed for English as a Second Language students.

⁹⁹ Flippen, Billie (2004).. "Educational Assessments Given at TYC-Marlin Orientation and Assessment Unit (MOAU)" TYC, Manager of Curriculum and Accountability, Austin, Texas.

On average, TYC youth are four to five grades below their expected grade level and 43% are classified as needing special education (compared to approximately 11 to 12% in public schools).¹⁰⁰ Only 8.3% of students are reading on expected grade level at entry in TYC.¹⁰¹ TYC does not have a formal “dyslexia protocol” to specifically diagnose dyslexia and there is no count of the number of dyslexic students. The TYC assessment system implements evaluation techniques and methods in accordance with federal and state special education mandates that identify children with learning disabilities, some of whom may exhibit dyslexia.¹⁰² A dyslexia diagnosis may be present in some of the youths’ prior school records collected at admissions, or an intake psychologist may note the possibility of dyslexia in doing an assessment; however, no count is kept in the agency’s centralized database regarding dyslexia.¹⁰³ The agency is also not subject to the Texas Administrative Code 74.28 which outlines the obligations and duties of school districts and charter schools to remediate and accommodate students identified as having dyslexia and related disorders.

TYC school officials state that their school population has significant deficits in cultural and educational experiences as well as emotional disorders. Approximately 10 percent are limited English proficient and require English as a second language instruction.¹⁰⁴ TYC education personnel administer a “differentiated teaching” approach to individualize teaching as much as possible and address the strengths and weaknesses of each student, whether their reading deficit is caused by dyslexia or other reading disabilities. Some TYC educators are aware of the practices to teach dyslexic students.¹⁰⁵ However, individualization is impacted by correctional management issues concerning class space constraints, the management of unruly behaviors and movement of the population within and among facilities. As the agency strategic plan states “the challenge is to provide the incentives and instructional environment needed to accomplish five years of growth in approximately one year.”¹⁰⁶ The strategic plan further stressed:

TYC Differentiated Teaching

TYC does not have a formal “dyslexia protocol” to specifically diagnose dyslexia and there is no count of the number of dyslexic students

TYC education personnel administer a “differentiated teaching” approach to individualize teaching as much as possible and address the strengths and weaknesses of each student, whether their reading deficit is caused by dyslexia or other reading disabilities

¹⁰⁰ Texas Youth Commission (2003). Page 1; Novy, F.A. (2004). “Incarcerated Youth with Learning Disabilities” Texas Youth Commission, Austin, Texas. page 2.

¹⁰¹ Information on-line at <http://www.tyc.state.tx.us/>

¹⁰² Email from Forrest Novy, Director of Special Education, February 17, 2004.

¹⁰³ Interview with Deborah Nance, Superintendent of Education, TYC, February 5 and February 19, 2004.

¹⁰⁴ Texas Youth Commission (2003), page 41.

¹⁰⁵ Interview with Deborah Nance, Superintendent of Education, TYC, February 5 and February 19, 2004 and Interview with Forrest Novy, Director of Special Education, February 5 and February 19, 2004.

¹⁰⁶ Texas Youth Commission (2003), page 41.

“TYC still needs significant technology equipment and infrastructure to be effective. Staff training and technical support for system maintenance and upkeep are critical needs. An increase in students with special needs places system constraints on TYC’s ability to address the reading and math needs of students who are typically four to five years behind their expected grade level performance. Current data collection capabilities, library resources and academic staff ratios are below standard for secondary schools. TYC needs school resources to assist students in career and educational planning in the institutions and when students reach parole.”¹⁰⁷

C. Outcomes

TYC has as one of their performance measures the “reading level gain” for youth leaving a TYC institution. Youth committed to TYC are administered entry and exit achievement reading tests. The time between the first administration of the achievement test (pre-test) and the last is approximately 18 months for each student. According to a report from the TYC Executive Director to the Governor and Legislature, regarding student performance in 2002, the agency does a fairly good job in teaching reading to this difficult population. As stated in this report:

“Only 8.3% of students are reading on expected grade level at entry in TYC. Utilizing the scores from the last administration of the TABE while at a TYC institutional school, statistics show that 16.8% of students are reading on grade level upon release or exit. While the median (50th percentile) grade level in reading at entry was 5.4, the median grade level in reading at exit was 7.8. Therefore, youth attending TYC institutions as a group increase their reading skills beyond one year’s growth for one year’s instruction in addition to learning re-socialization skills that engender self-discipline and victim empathy.”¹⁰⁸

Still, it is important to note that the same report shows that 83.2% of the youth released were reading below grade level. Almost half of those released were reading at 4 or more levels below expectations (46.9%). This is an improvement from 59.2% in the same category at admissions. Still, almost half of the youth released have significant reading problems.

The three year recidivism rate for all youth released from TYC is 52% for the latest group tracked by the agency (recidivism meaning re-incarceration in a TYC or adult facility).¹⁰⁹ For this report, the agency analyzed the recidivism and divided the

¹⁰⁷ Texas Youth Commission (2003), page 41.

¹⁰⁸ Texas Youth Commission (2002b). Report from TYC Executive Director to Governor and Legislature, Statistical Information Regarding Student Performance on the Test of Adult Basic Education, November, Austin, Texas, page 2.

¹⁰⁹ Email from Chuck Jeffords, Director of Research of TYC, March 29, 2003.

population by their reading grade level at release.¹¹⁰ As Table 15 below shows, the higher the reading levels of youth at release, the lower their recidivism rate. Youth released with eleventh and twelfth grade reading levels have recidivism rates of 36% and 42%, respectively. Youth released with a first or second grade reading level have recidivism rates of 57% and 62%, respectively. It is also important to note that only 15% of the releases tracked were at reading level when they were released. Almost none of the juveniles with a reading level of first to ninth grade at release were reading at their expected level. Most of those released are 16 or 17 years old and were already significantly behind grade level at admissions.

Table 15: Reading Grade Level of TYC Youth at Release and Percent Re-incarcerated in TYC or TDCJ after Three Years

Reading Grade Level of TYC Youth at Release	Percent Re-incarcerated in TYC or TDCJ After Three Years (Recidivism Rate)	Number of Offenders Tracked	Percent of the Offenders at Reading Level upon Release
Below 1	65%	43	0%
1	57%	95	0%
2	62%	204	0%
3	61%	209	0%
4	61%	343	0%
5	54%	574	0%
6	55%	495	0%
7	53%	377	0.6%
8	50%	383	0.6%
9	46%	282	1%
10	45%	195	16.%
11	36%	147	44%
12	42%	362	98%
All	52%	3,709	15%

The cost implications of these recidivism rates can be substantial. For every 100 youth released from TYC in a group with a recidivism rate of 62%, the recidivism of those released with a second grade reading level, the state will be paying \$2,597,192 more in re-incarceration costs than for every 100 youth released in a group with a recidivism rate of 36%, the recidivism rate of those released with an eleventh grade reading level. This estimate is conservative as it does not account for social costs in terms of victim costs, lost productivity and other social services costs.¹¹¹ However, it is

¹¹⁰ “Three Year Re-incarceration Rates by Reading Level at Release” in email from Chuck Jeffords, Director of Research of TYC, April 7, 2004

¹¹¹ This figure is based on a simple formula only accounting for state re-incarceration costs. The assumption is that half of the TYC youth who recidivate will recidivate back to a TYC institution and stay

important to note that a more detailed analysis of juvenile recidivism controlling for factors other than reading level could not be conducted for this study. Yet, if the relationship between reading and recidivism parallels results of the prison Windham School District study conducted by the CJPC and reviewed above, then the general relationship between low reading skill and high recidivism should be sustained even after controlling for offense, age and other factors.

In 1998 the agency also published a report examining the impact of attaining a GED on recidivism.¹¹² Recidivism was defined as youth returning to a TYC residential facility one year after release or being incarcerated in TDCJ. The sample for the study consisted of youth released for the first time from TYC secure residential programs to parole or discharge in fiscal years 1992-1994, and who were age-eligible to receive a diploma at the time of release (were at least 16 years old).

The study found that 30.4% of the youth receiving a diploma or GED at TYC had future residential days in either TYC or TDCJ, compared to 48.2% of the youth who did not.¹¹³

After controlling for statistical differences that are known to relate to recidivism (like type of offense committed by the offender), the study found that youth who obtained a diploma had an average future residential cost to the state of \$12,160 compared to the cost of \$17,535 for statistically comparable youth without a diploma or GED. In other words, each youth released from TYC without a high school diploma cost the state an

TYC Youth at Release

83.2% of the youth released from TYC were reading below grade level. Almost half of those released were reading a 4 or more levels below expectations (46.9%)

The higher the reading levels of youth at release, the lower their recidivism rate

Youth released with eleventh and twelfth grade reading levels have recidivism rates of 36% and 42% respectively compared to the 57% and 62% recidivism rate for youth released with a first or second grade reading level

there for an average of one year. The other half will recidivate to TDCJ and will stay there for an average of three years. The actual time served for all adult offenders released in FY 2002 was longer at 4.7 years, but for this analysis an adjustment is made to account for the fact that those recidivating for technical revocations tend to serve less time in prison than the average for all releases. This distribution is based on the actual pattern for TYC recidivists. The cost of housing a youth in TYC for a year is \$55,217. The cost of housing a youth incarcerated in an adult facility for three years is \$144,567. For every 100 TYC releases with a recidivism rate of 62% there will be 31 offenders re-incarcerated in TYC at a cost of \$1,711,727 and 31 re-incarcerated in an adult facility at a cost of \$4,481,577. For every 100 TYC releases with a recidivism rate of 36% there will be 18 offenders re-incarcerated in TYC at a cost of \$993,906 and 18 re-incarcerated in an adult facility at a cost of \$2,602,206. The total re-incarceration cost of the first group, therefore, will be \$6,193,304 compared to a cost of \$3,596,112 for the second group. The difference is \$2,597,192.

¹¹² Texas Youth Commission (1998). The Relationship Between Future Correctional Costs and Attainment of a GED or High School Diploma: A Preliminary Evaluation April.

¹¹³ Texas Youth Commission (1998). Page 3.

additional \$5,375 in re-incarceration costs in comparison with those released with a diploma. As stated before, this estimate is conservative as it does not account for social costs in terms of victim costs, lost productivity and the cost of other social services. Moreover, the cost is based on a one year recidivism rate as opposed to the higher rates that would occur after three years, as the study group was not tracked that long.¹¹⁴

The farther behind a TYC youth is in reading achievement, the less likely he will obtain a GED. As Table 16 below shows, the percentage of youth 16 years of age or older who receive a GED or high school diploma by the time of release from TYC is higher when the reading level of the youth at admissions was higher.¹¹⁵ In this sense, therefore, reading level is critical in increasing the chance for youth at TYC to obtain a GED while in the TYC educational system.

Table 16: Reading Level of Youth at Admission to TYC and Percentage Receiving a GED or Diploma at Release

Reading Level at Admissions	Percentage Receiving GED or Diploma at Release
3 rd Grade or Below	16.1%
4 th Grade	28.4%
5 th Grade	36.3%
6 th Grade	53.8%
7 th Grade	64.2%
8 th Grade	72.7%
9 th Grade	81.8%
10th Grade or Above	89.9%

As is the case with the prison educational system, we do not know the prevalence of dyslexia in the TYC population. We know that over 50% of youth with a learning disability have a “basic reading” learning disability.¹¹⁶ We know that youth with a learning disability generally enter TYC at a 4.6 reading level compared to 6.5 of youth without a learning disability. We also know that youth with a learning disability progress in an average of 12 months to a 6.6 reading level compared to achieving an 8.4 reading level in 10.8 months for youth without a learning disability.¹¹⁷ However, as with the prison educational system, we do not know if the identification of dyslexic students and the targeting of these students for specific remediation strategies will have allowed for a more effective intervention and faster improvement in grade level.

¹¹⁴ Future residential cost was calculated based on the average length of stay for offenders returning to TYC and average length of stay for offenders admitted to TDCJ. Costs were computed using the official average operational cost per day published at the time by the Criminal Justice Policy Council.

¹¹⁵ TYC (2002b), Attachment III.

¹¹⁶ Novy, F.A. (2004). “Incarcerated Youth with Learning Disabilities” Texas Youth Commission. Page 5.

¹¹⁷ Novy, F.A. (2004), page 7.

VI. Safe Schools Policy

A. Demographics and Major Programs

The most direct operational connection between schools and juvenile justice agencies regarding interventions with juvenile delinquency and school behavioral problems occurs along the provisions of the “safe schools” policies that have been enacted in Texas in the last decade. In 1995 the state legislature enacted the Safe Schools Act, creating Juvenile Justice Alternative Education Programs (JJAEPs) to provide alternative education centers for expelled students who commit serious or violent offenses in counties with a population of 125,000 or greater. This act mandated 26 Texas counties to operate JJAEPs. In addition, there were seven JJAEPs operated with state grant funds in counties with populations of less than 125,000.¹¹⁸ Chapter 37 of the Texas Education Code delineates how these programs should operate and provides minimum operational standards. Juvenile boards, the local boards statutorily charged with overseeing local juvenile probation agencies, are the immediate oversight body. Local school districts also work to design and sometimes fund the programs. JJAEPs are funded primarily through county tax revenues and state appropriations that flow through the Texas Education Agency and the Texas Juvenile Probation Commission.¹¹⁹

JJAEPs are different from Disciplinary Alternative Education Programs or DAEPs. DAEPs are operated by local school districts and are designed to serve students who are removed from their regular classrooms due to disruptive behavior or for committing felonies off campus. DAEPs may be located either on or off campus. TEA oversees their operation like they oversee the operations of the school districts. Chapter 37 specifies the offenses that result in mandatory placement to DAEPs. In addition, school administrators have the discretion to place students in DAEPs for violations of local student codes of conduct, even if these violations are not included in the mandatory removals stated in Chapter 37. According to TEA, districts have implemented a variety of DAEP programs, with different instructional arrangements and behavior management approaches. DAEPs average length of stay range from 27 days for White students to 36 days for African-American and Hispanic students.¹²⁰ Table 17 below presents the main distinctions between JJAEPs and DAEPs. It is important to note the difference between these programs and Alternative Education Programs (AEPs). The later are implemented by many districts and are not necessarily disciplinary in nature.¹²¹

¹¹⁸ Texas Juvenile Probation Commission (2002). The State of Juvenile Probation Activity in Texas, Calendar Year 2002. Austin, Texas, page 11.

¹¹⁹ Texas Juvenile Probation Commission and Texas Education Agency (2002b). Juvenile Justice Alternative Education Programs, Performance Assessment Report May. Page 1-2.

¹²⁰ Texas Education Agency (2002a). 2002 Comprehensive Annual Report on Texas Public Schools. December. Austin, Texas, page 48.

¹²¹ *Ibid.*, Texas Education Agency (2002b), page 46.

Table 17: Characteristics of Juvenile Justice Alternative Education Programs and Disciplinary Alternative Education Programs

	JJAEPs	DAEPs
Oversight Agency	Texas Juvenile Probation Commission working with local probation departments and school districts	Texas Education Agency working with local school districts
Number of Programs	22	527 identified in 1999 by the State Auditor's Office
Population Served	<p>Mandatory – students expelled for violent on-campus felonies under Section 37.007 (a), (d) or (e) for the Education Code</p> <p>Discretionary – students expelled for misdemeanor drug/alcohol use or elements of criminal mischief on-campus under Section (b) or (f) of above code</p>	<p>Students must be placed for on-campus felonies and violent off-campus felonies</p> <p>Students must be placed if they are younger than 10 years of age and they are expelled for serious offenses</p> <p>Students may be placed for violations of the local student code of conduct</p>
Hours of Operation	Operate seven hours a day	No minimum requirement but may operate as few as four hours a day which is the minimum requirement for a student to be eligible for average daily attendance funding

Source: Texas Office of the State Auditor, [A Report on Safe Schools Programs](#), August 1999.

There are a substantial number of children and youth placed in these alternative programs that may be in a path for further academic or delinquent problems. As seen in Table 18 below, the number of entrances to both forms of alternative schools increased between 1999 and 2001 by 31.5% for JJAEPs and 26.5% for DAEPs. As seen in Table 19, we also know that 23% of the JJAEPs and 24.8% of the DAEPs population were classified as in need of Special Education in 2001 and 71% of the JJAEPs and 64.2% of the DAEPs population were African-American or Hispanic. Of the special education population in JJAEPs, 68% is classified as learning disabled. The figures used here are from 2001 to have comparative numbers between the two programs. However, preliminary 2002 figures for JJAEPs show admissions continuing to increase (from 6,832

in 2001 to 6,901 in 2002) with a higher percentage of youth in Special Education in 2002 than in 2001 (26% compared to 23%).¹²²

Table 18: Placements in JJAEPs and DAEPs, 1999-2001

Program	1999	2000	2001	% Change 1999-2001
JJAEPs Placements	5,194	5,997	6,832	31.5%
DAEP Placements	70,728	85,849	89,532	26.5%

Sources: Texas Juvenile Probation Commission and Texas Education Agency (2002b).

Table 19: Race and Special Education in JJAEPs, DAEPs and Texas Schools

Category	JJAEPs	DAEPs	Texas School Population
Students placed in 2001	6,832	89,532	
African-American	26%	21.3%	14.4%
Hispanic	45%	42.9%	39.6%
Special Education	23%	24.8%	12.1%

Sources: Texas Juvenile Probation Commission and Texas Education Agency (2002b). Texas Education Agency (2000, 2001b and 2002b). Note that percentage for race for DAEPs is out of total placement as opposed to out of students placed (students can be placed more than once) and percentage for school population is for 2000.

B. Diagnosis and Outcomes

JJAEP officials conduct entry and exit school performance testing of their population, as well as assessment for Special Education; but they conduct no specific assessment to identify dyslexic students. JJAEPs obtain records from the schools, and if there is notification of a student with dyslexia, the program personnel will learn of it. There is no systematic method for counting dyslexic students and particular interventions tailored to dyslexia generally are not provided. In some localities, like Ft. Worth, the school districts provide the academic programs in the JJAEPs, and in this sense, they approach the issues related to dyslexia as they do in their school districts.¹²³

¹²² Preliminary figures provided by Nancy Arrigona, Director of Research of the Texas Juvenile Probation Commission, March 29, 2004.

¹²³ Linda Brooke, Director of Education for the Texas Juvenile Probation Commission, interview of February 5, 2004; interview with Mike Griffith, Juvenile Probation Chief for Dallas County, February 17, 2004; interview with Carey Cockrall, Juvenile Probation Chief for Tarrant County, February 17, 2004 and interview with Mary Ellen Weiberg, Director of the Tarrant County JJAEP, February 20, 2004

As stated earlier, the Star-Telegram newspaper in Forth Worth reported, in a series of articles in January of 2004, on the inconsistencies in the application of the Texas law requiring the identification and treatment of dyslexic students. Therefore, this practice of not appropriately identifying dyslexic students in public schools affects the ability of JJAEPs to do the same. Moreover, researchers from the University of Texas at Austin in a study conducted in 1999 found that few juvenile probation jurisdictions reported having or using trained or certified clinicians to administer or interpret risk and needs assessments. There was also considerable variation among jurisdictions on the quality of assessments and who subsequently received information from assessments.¹²⁴

Highlights

One-fourth of the JJAEP population is classified as in need of Special Education and 68% of the special education population is classified as learning disabled

JJAEP students are below the average reading scores reported for the total state student population

DAEP student performance is also below the state average for reading and the population has higher drop-out rates than the general student population

The students admitted to JJAEP are tested and ranked in terms of Texas Assessment of Academic Skills (TAAS) and Texas Learning Index (TLI) scores. TAAS measures academic skills in Math and Reading at grades 3 through 8. TLI is a statistic that allows for comparison both across years and across grades, with a subject area for Reading at grades 3 through 8 and at exit level. The minimum TLI score of 70 represents the same amount of achievement at each grade tested and at each administration. These scores describe how far a student's performance is above or below the passing standard. TJPC reports the TAAS passing grades and TLI score for reading of JJAEP students after participating for more than 90 days in the program.¹²⁵

Table 20 below shows the TAAS passing reading scores and TLI reading scores for JJAEP students assigned for 90 or more days. As seen in this table, JJAEP students are below the average reading scores reported for the total state student population. It is important to note that TJPC reports gains for reading while the students are in JJAEPs. These gains are reported as KTEA mean scores referring to results from the Kaufman Test of Educational Achievement. For students assigned to 90 days or more, the KTEA mean score for reading increased from 94.2 at entry to 99.4 at exit for the students tested.¹²⁶

¹²⁴ Kelly, William R. and Mears, Daniel P. (1999) "Assessments and Intake Processes in Juvenile Justice Processing: Emerging Policy Considerations" in *Crime and Delinquency*, Vol. 45, No. 4, October.

¹²⁵ Texas Juvenile Probation Commission and Texas Education Agency (2002b), page 33 and Texas Education Agency (2002b), page 21.

¹²⁶ Ibid., Texas Juvenile Probation Commission and Texas Education Agency (2002b), page 42

Table 20: TAAS Reading and TLI Reading Scores for JJAEP Students in 2001

	JJAEP Students	Texas Students
TAAS Reading Passing Rate	56%	Reading scores ranged from 87% of all students meeting minimum expectations at Grade 3 to 94% at Grades 8 and 10 in 2002
TLI Reading Scores	71%	Average in the 80s at all grade levels, ranging from 83.1% at Grade 3 to 89.5% at Grade 8

Source: Texas Juvenile Probation Commission and Texas Education Agency (2002). Juvenile Justice Alternative Education Programs, Performance Assessment Report, May, pages 34 and 36; Texas Education Agency (2002). 2002 Comprehensive Annual Report on Texas Public Schools. November, pages 20 and 22.

TEA reports student performance data for DAEP students. TEA does not report how many students are dyslexics. As stated before, this information is not captured as part of the student computerized records PEIMS data. Nevertheless, as with JJAEP students, DAEP student performance is below the state average for reading. As shown in the Table 21 below, the TAAS passing rates for students in DAEPs were lower than those of students statewide. In reading, the differences in student group scores ranged from 12.4 percentage points lower for White students to 19.4 percentage points lower for African-American students.

Table 21: DAEP Student Reading TAAS Passing Percentage Compared to State Average by Selected Categories

Student Group	State Percent Passing TASS Reading	DAEPs Percent Passing TASS Reading
African-American	82.5%	63.1%
Hispanic	83.5%	66.2%
White	95.1%	82.7%
Economically Disadvantaged	82.3%	65.1%
All Students	88.9%	71.3%

Source: Texas Education Agency (2002). 2002 Comprehensive Annual Report on Texas Public Schools. November, Austin, Texas, page 49.

In terms of the TLI scores, TEA reports the following:

“Students in Grades 4-8 assigned to DAEPs in 2000-2001 had lower TLI values and less TLI gains than the state average. The reading TLI for all DAEP students in 2001 was 77.7, or about percentage 10 points below the state average. The amount of change from 2000 to 2001 for the state was about 5 TLI points (non-matched students). For DAEP students (Grades 4 to 8 in 2001 – matched students), the change was about 1.3 points. While this was a positive change, the amount of gain was lower than the gain for the state.”¹²⁷

DAEP students also have a higher drop out rate than the overall student population. The annual dropout rate for Grades 7-12 for DAEPs students is 2.3% compared to 1.3% of students in the same grade level statewide.¹²⁸ The annual drop out rate refers to the percentage of students who drop out of school during one year and produces the lowest rate of any method. TEA does not report the longitudinal dropout rate for this group. This refers to the percentage of students from a class of 7th or 9th graders who drop out before completing high school. Even by TEA’s own admission, this last measure is more consistent with the public’s understanding of a dropout rate.¹²⁹

Finally, it is important to note the results of a study conducted by the Criminal Justice Policy Council in 2002.¹³⁰ The report analyzed the impact that social factors may have on the dispositions of juvenile offenders in Texas. Social factors referred to the social circumstances and risk factors in a juvenile’s life that may relate to juvenile delinquency. A sample of 1,595 juvenile records was selected from juvenile probation departments in nine urban and mid-size counties. The sample was drawn from all referrals during the first six months of 1999 that resulted in a formal disposition in court. The sample represented 7,402 formal dispositions that occurred during the period. Formal dispositions include cases adjudicated by the court to probation (community supervision), placement outside the home, commitment to TYC or certification to stand trial as an adult.

School Failure and Delinquency

We do know generally that there is a path for students who are failing in schools to engage in disruptive behaviors, for some of them to spend time in alternative schools and then to get further involved in the juvenile justice system

We do not know, and we need to find out, whether this path is in part a reflection of the failure to deal with the specific needs of dyslexic students

¹²⁷ Ibid., Texas Education Agency (2002), page 49.

¹²⁸ Ibid., Texas Education Agency (2002), page 50.

¹²⁹ See: Texas Education Agency (2002), Secondary School Completion and Dropouts in Texas Public Schools 2000-2001 August, Austin, Texas.

¹³⁰ See: Criminal Justice Policy Council (2002). Social Factors of Adjudicated Juvenile Offenders in Texas, August, Austin, Texas.

The study found that the juvenile offender population shared many social factors associated with problem behaviors and delinquency but school problems were the most prevalent factor. The great majority of offenders (74%) were identified as having a history of expulsion, enrollment in an alternative program, dropping out of school, or failing a grade. The most common risk factors among juveniles with school problems were previous or current enrollment in an alternative education program (46%) and failing a grade (45%). If school problems are excluded as a factor of high risk, the percentage of juveniles with a high risk indicator would have declined for the sample in the study from 82% to 49%.

Offenders with high risk indicators in the study were more likely to have been disposed to residential placement or TYC. In other words, juveniles with school problems were more costly to the state juvenile justice system. Therefore, it is important to identify the prevalence of dyslexia and how dyslexia may relate to the effectiveness of reading remediation strategies used in schools. We then need to determine the ability of juvenile justice officials to address the need of this population once they are part of the alternative schools population. We do know generally that there is a path for students who are failing in schools to engage in disruptive behaviors, for some of them to spend time in alternative schools and then to get further involved in the juvenile justice system. We do not know, and we need to find out, if this path is in part a reflection of the failure to deal with the specific needs of dyslexic students.

VII. Research Strategy

A. Research Questions

This report has documented that there is a considerable amount of missing information on the extent of dyslexia, its social and economic consequences, and how best to treat it. What is needed is a realistic research plan that will begin to provide answers which can then be used to guide public policy. In this section of the report, we outline a five year research agenda that if implemented would provide the necessary data that is now lacking.

A research strategy must be grounded in a series of research questions of interest to policy makers and other interested parties. Once these are agreed to, the appropriate research designs and data collection procedures can be developed and implemented. This first section outlines what we believe are the major research questions for this issue. Because this paper has largely focused on the Texas adult and juvenile correctional populations, the proposed research strategy will be limited to addressing questions that need to be answered for those populations. The questions deal with descriptive attributes of the populations under study, questions related to remediation strategies, and major public policy questions.

Descriptive Attributes of Populations

1. What is the number of adults and juveniles in the Texas correctional system who exhibit dyslexia and other related reading disabilities?

(This report presented the number of adult and juvenile offenders in the Texas correctional system and the number of alternative education students identified as non-readers or reading under grade level; the number of dyslexic persons in these populations is unknown.)

2. How do these persons differ from other offenders housed in these systems in terms of their demographic, socio-economic, and criminal history attributes?
3. To what extent were persons identified with dyslexia in the correctional system or alternative schools properly identified with dyslexia by the public school system?
4. To what extent is untreated dyslexia related to recidivism?

(This report presented the relation of low reading scores of adult and youth offenders at release with recidivism.)

5. What is the criminal justice, victimization, and correctional costs associated with persons diagnosed with untreated dyslexia?

(This report presented the cost related to the high recidivism rate of adult and youth offenders with low reading level.)

Remediation and Intervention

1. To what extent have persons diagnosed with dyslexia received special remediation while incarcerated or under supervision?

(This report has documented that dyslexia is undiagnosed in the adult and youth correctional systems, therefore, no special remediation strategies are provided to this population.)

2. What are the associated costs of such remediation strategies?
3. What is the impact of these forms of remediation in increasing one's reading and learning capabilities?
4. Do remediation strategies have to be adjusted to account for special characteristics of minority offenders (like Hispanic population having English as second language) and characteristics disproportionately impacting correctional populations (like their high level of emotional problems and substance abuse)?
5. What is the impact of these forms of remediation on reducing recidivism rates?

Major Public Policy Questions

1. What screening and diagnostic techniques and methods should be adopted by public agencies (both education and criminal justice) to reduce the extent of undetected dyslexia?
2. What forms of remediation should be made available to offenders who are diagnosed with dyslexia?
3. What would be the associated costs and benefits of providing remediation to all adults and juveniles with dyslexia?

B. Elements of Research Strategy

In order to answer these (and other) questions, two types of research studies are required – surveys and field experiments. It is our recommendation that the census studies be first completed over a 1-2 year period followed by the experimental field studies which would require 3-4 years to complete. Thus the overall research strategy would take approximately 5 years to complete.

This two phase strategy (census assessment and field experiments) targets components of this complex issue in a practical way and will produce relatively quickly (within two years) the basic knowledge needed to start shaping and influencing decisions on the most effective remediation strategies and policies for the Foundation to promote in addressing this problem.

Survey Studies on Prevalence, Response and Costs of Dyslexia in Texas

This design is the easiest and least expensive to conduct and complete, assuming that basic types of data are available from key Texas criminal justice systems. The survey studies are directed at determining the prevalence of reading disorders and dyslexia in targeted populations, identifying diagnosis gaps that need to be addressed to improve the identification of affected populations, testing remediation protocols, and generating knowledge to quantify the social and criminal justice costs of not addressing the problem. In order to accomplish these tasks, a wide array of data needs to be collected and analyzed on three sets of offenders who are in various phases of correctional supervision. These data can be collected on three populations: 1) admissions to the correctional system in a given year, 2) releases from the correctional systems in a given year, and 3) the current correctional population. These three samples will allow us to answer many of the descriptive questions listed above. However, if funding is limited, then the data collection should concentrate on offenders admitted.

Experimental Field Studies

The more rigorous and complicated research design would be geared toward determining the effectiveness of various treatment or remediation options that may reduce the debilitating effects of dyslexia. To answer these questions, an experimental field design is required where dyslexic persons are randomly assigned to a treatment protocol to determine the effectiveness of treatment on correcting the learning disorders and eventually reducing the risk of recidivism.

C. Proposed Research Strategy

We believe the first survey should be conducted on adults who have been admitted to WSD literacy programs, and on youth who have been committed to TYC or placed in JJAEPs and DAEPs (see Figure 8). However, the preferable target for the first round of research is the TYC population for logistical, cost and policy reasons.

TYC operates a centralized education system for a relatively small population in comparison to the other populations reviewed here. Juveniles at TYC are required to participate in education programs, unlike adults in the WSD. Juveniles at TYC are also in a controlled educational environment where regular school attendance can be enforced, unlike in JJAEPs or DAEPs. TYC has a fairly good computerized record system and a staff that is research oriented. In terms of benefits, the impact of remediation strategies in reducing social and re-incarceration costs will be larger with the juvenile population than with the adult population. Therefore, the research with juveniles is likely to produce more benefits per dollar of research.

Conducting research in the JJAEPs and DAEPs will also be productive, but because of the local nature of those programs, the logistics of conducting research are more expensive. Conducting research with the adult prison population is logistically feasible, but tracking school records for this population will be difficult as they have been out of school longer than juveniles, and testing remediation strategies will be more challenging because the mix of inmates in WSD programs (older inmates mixed with younger inmates; property offenders mixed with violent offenders; inmates with long sentences mixed with inmates with short sentences) will require more “statistical controls” and larger samples than with the TYC study.

Figure 8: Preferable Study Populations for Research Strategy

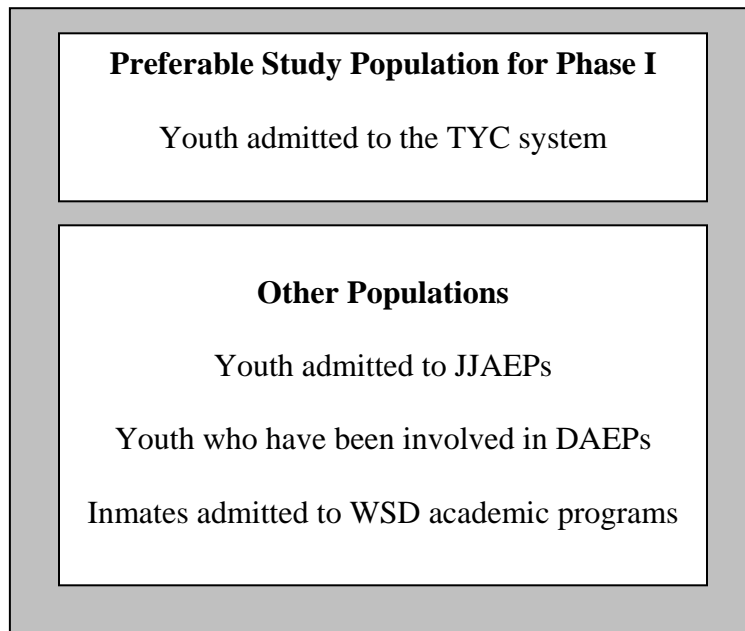


Figure 9 below presents the general research strategy that applies to all populations, but assumes that the research is conducted with the TYC population. Ideally, a group of youth entering TYC will go through a well-designed privately funded protocol to identify youth with dyslexia. The criminal record and school history of these youth will be analyzed to determine their school experiences and other characteristics relevant to the research. Once the youth are identified they will be tracked for a year in the TYC educational system to determine their academic progress given the use of present remediation strategies. On a different design some of the youth may be placed in a remediation program specifically designed for dyslexic students. This program will have to be privately funded as part of the research. The school progress after a year for those in the privately funded remediation program and those in the regular TYC program can then be compared to draw some inferences as to the possible effectiveness of the remediation strategies.

**Most Critical Research Design
Tasks**

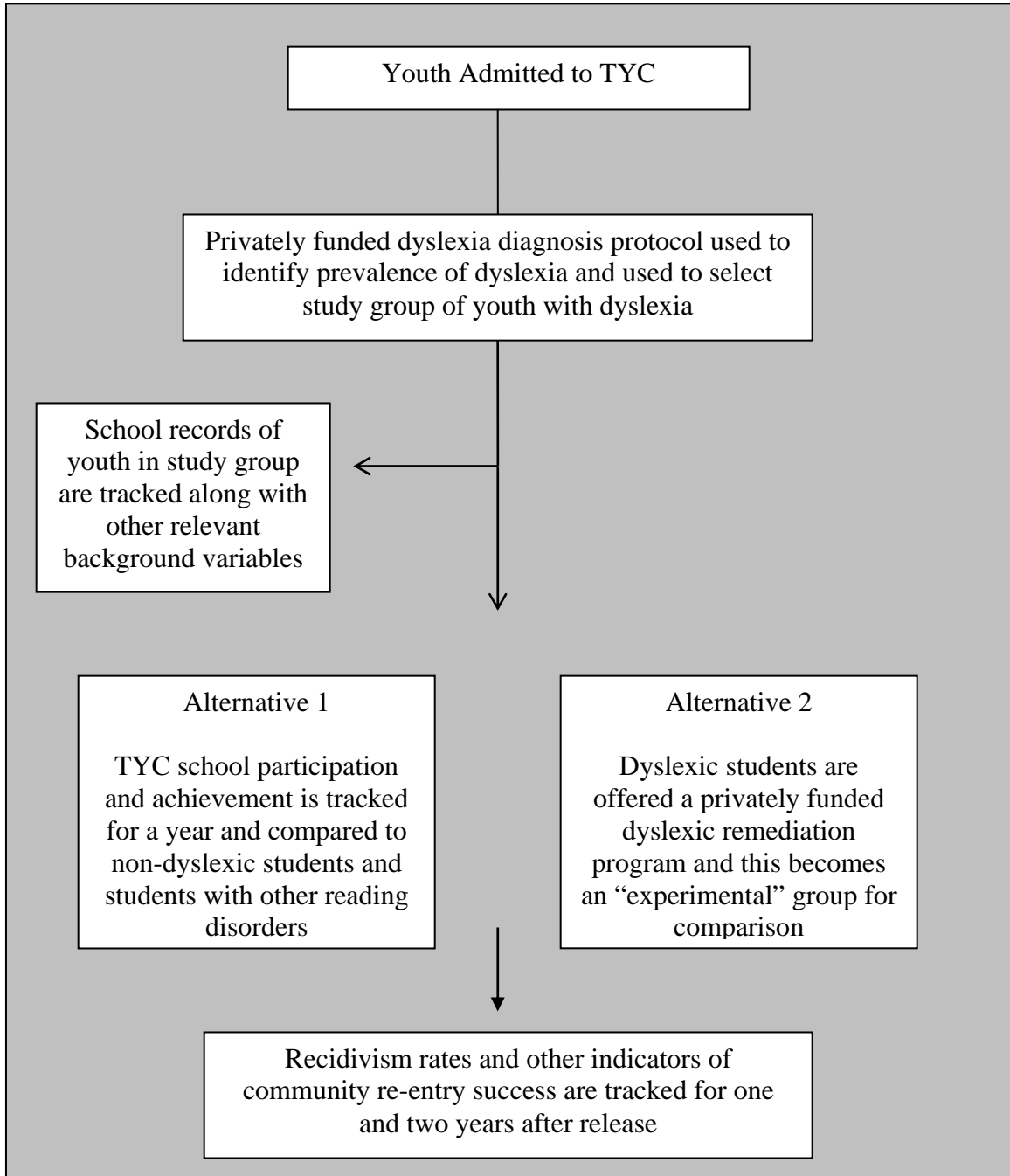
Agree on an operational definition of dyslexia to distinguish the condition from other reading disabilities

Agree on diagnosis protocols that are acceptable to the agency but also acceptable in the field as the best method to identify dyslexic students

The school progress after a year for those in the privately funded remediation program and those in the regular TYC program can then be compared to draw some inferences as to the possible effectiveness of the remediation strategies.

Finally, once the youth are released, a mechanism can be established to track the recidivism of the study group or groups and make inferences as to the relationship between dyslexia, remediation strategies, recidivism and related state and social costs. This can be accomplished in a three year period, which will be a fairly quick turnaround for this type of pioneering research.

Figure 9: Research Strategy as it Applies to a Study of the TYC Population



It is important to note all the issues that must be negotiated in order to successfully design and implement the above research. The issues include

- Address privacy requirements through appropriate protocols
- Negotiate cooperation with participating agencies, including the allocation of resources to the agencies to facilitate participation
- Agree on an operational definition of dyslexia to distinguish the condition from other reading disabilities and agree on diagnosis protocols that are acceptable to the agency but also acceptable in the field as the best method to identify dyslexic students¹³¹
- Establish protocols to review and release findings
- Gather support from agency's executive board members and elected officials, as without their support it will be impossible to get cooperation from agency staff

Finally it is important to consider the comments by The National Reading Panel on the need for future research. The National Reading Panel, organized by the National Institute of Child Health and Human Development, was commissioned by Congress to document the effectiveness of various approaches to teaching children to read.

In a 1999 report, the panel raised as an important question for future research: "whether students with learning disabilities have distinctive instructional needs and whether they benefit from instructional techniques that are different from those that are optimal for other low-achieving (non-disabled) students." The panel was able to address this question with respect to phonemic awareness and to phonics instructional programs and techniques. They found "that both types of students benefit from similar phonemics awareness and phonics instructional programs and techniques" but they could not answer this question "with respect to instructional programs and techniques aimed at developing reading fluency and comprehension. These important comparisons should be the focus of future research." Although the panel did not discuss how these issues applied to the particular needs and characteristics of correctional populations, it is clear by this report that future research could focus on this population.

¹³¹ Dr. Kathryn Moody and Dr. Thomas James, two of the authors of the UTMB Texas prison study, made very clear that the lack of agreement in the education field at the time of their study on how to categorize somebody as dyslexic make these assessments challenging. As Dr. James stated in a phone interview "there seems to be no criteria that would not get criticized" (March 31, 2004 and April 1, 2004 with Dr. Moody). Therefore, this is a particular area of attention that should rely of the latest state-of-the-art agreements of appropriate diagnosis protocols for dyslexia.

VIII. Conclusion

In this report we reviewed the national research literature to determine what is known about learning disorders and dyslexia in the specific area of juvenile and adult corrections. We reviewed the Texas juvenile and correctional systems to determine what is known about the number of offenders with learning disorders and dyslexia and the diagnosis protocols that are in place to identify this population. We identified the best target for research given the size and complexity of the state correctional system and the lack of knowledge regarding dyslexia and criminal justice. In summary, the major findings are that:

- More is known about the impact of learning disabilities on delinquency than the impact of dyslexia on delinquency
- Dyslexia tends to be under diagnosed in the general population and this impacts the ability of correctional officials to identify dyslexic offenders
- In Texas the identification and instruction of students with dyslexia is mandated by law and regulations (TEC 38.003 and Chapter 19 of TAC 74.28)
- There is evidence that school districts are inconsistent in the application of this law and that students with dyslexia are placed in Special Education when they qualify, leading to the prevalence of undiagnosed dyslexia; the Special Education is partly funded by federal funds while the state dyslexia program is not funded by the state or the federal government
- The Texas Education Agency (TEA) does not track in their student record computerized Public Education Information Management System (PEIMS) students diagnosed with dyslexia, making it difficult to know the number of dyslexic students statewide and making it difficult to identify them later in the correctional system
- Unless correctional agencies conduct their own detailed assessment, these agencies do not know which offenders are dyslexic and do not know to what extent they may need to design specific remediation strategies
- None of the major educational systems examined in the adult and juvenile correctional systems have specific protocols to identify dyslexic offenders and target them for dyslexia remediation programs and the same is true with the “Safe Schools” programs.
- We know from the demographic analysis that there is a high proportion of offenders with reading difficulties in our correctional systems and that reading difficulties are related to high recidivism and difficulties in advancing in grade level within the educational programs of the correctional agencies or alternative educational programs

What we do not know about dyslexia that is important for policy development and for addressing the potential economic cost of this condition (social and criminal justice costs) is the following:

- Prevalence of the condition among adult and juvenile correctional populations and among alternative juvenile justice and disciplinary school populations
- School experiences of offenders who have dyslexia and whether or not they were diagnosed and treated for dyslexia before entering the correctional system
- The most practical and effective diagnosis process that can be used in the correctional system to distinguish persons having reading difficulties who are dyslexic versus those who are not
- Whether present remediation strategies used for offenders or alternative school students with reading disorders will be more effective if students were diagnosed and identified as dyslexic or whether dyslexic students will benefit more from remediation strategies specifically designed for them.
- Whether students in juvenile justice or disciplinary alternative schools are in a path of delinquency due in part to the failure to deal with their reading disorders
- Whether diagnostic processes to identify dyslexia and remediation strategies need to account for specific issues impacting minorities, persons in low socioeconomic circumstances, and persons with other conditions like mental health problems, alcohol and drug abuse

Based on the above findings, a research strategy is presented for the Foundation to consider. The strategy is to target parts of this complex issue in a practical way and to produce relatively quickly (within three years) the knowledge needed to determine the most effective remediation strategies and policies for the Foundation to promote in addressing this problem. The strategy is directed at determining the prevalence of reading disorders and dyslexia in targeted populations, identifying diagnosis gaps that need to be addressed to improve the identification of affected populations, testing remediation protocols and generating knowledge to quantify the social and criminal justice costs of not addressing the problem.

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Appendix 1

Principle of Assessment by International Dyslexia Association*

The Assessment Process

The purpose of assessment is to ascertain whether the student is failing, and to what degree, compared with his peers. If he is behind expected levels, it is necessary to establish whether this is due to overall low ability, physical factors such as hearing or sight difficulty or a repeated absence due to illness, emotional or social factors, such as family problems, bereavement, or frequent changes of school, or whether the student has a specific learning difficulty. It is important to remember that more than one factor may be at work in an individual. For example, a failing child who has frequent absences due to asthma attacks may also have a hearing loss or a specific learning difficulty. Differential diagnosis in such cases, as in the case of bilingual children or those for whom English is not the mother tongue, is a delicate and specialized task.

It is necessary when assessing a student to ascertain his strengths as well as his weaknesses; these can then be used in teaching. A distinction must be made between his underlying ability (you may call this intelligence, or academic potential) and how he is performing now (i.e. his levels in literacy and numeracy). If there is a discrepancy between these two, the assessment of individual skills and a carefully taken case history will, it is hoped, lead to insights into the areas of skill deficit. Some of the skills, such as phonological awareness are essential to the development of literacy, other skill deficits may be among the effects of literacy failure. Some aspects of development, such as the establishment of laterality, may be useful diagnostic indicators.

Ideally, detailed assessment at a specialist centre or in school, will be carried out by an educational psychologist. Some tests are available for teachers to use, and although less detailed, they may well be useful as a preliminary to teaching. Wherever a teacher remains concerned a full assessment should be sought from a chartered psychologist.

Underlying ability

An educational psychologist will normally use either one of the Wechsler battery of IQ tests, (Wechsler Intelligence Scale for Children, 3rd edition, is the most common one) or the British or Differential Ability Scales. Both will yield an overall IQ score and separate IQ scores for verbal and performance (non-verbal) ability, which enables the assessor to compare the subject with his peers. The verbal IQ is recognized as the best predictor of future academic achievement.

These tests are closed to everyone except chartered psychologists; teachers may get some idea of underlying ability by using tests such as Raven's Matrices (pub. NFER) or the Matrix Analogies Test (a US publication, available from the Psychological Corporation), supplemented by relevant parts of the Aston index.

Educational Attainment

The assessor will look first at reading ability, testing both single word reading and continuous reading. Single word reading tests include SPAR (pub. Hodder), Wide-Range Achievement Test, 3rd edition (known as WRAT-3) (published in the USA and available from the Dyslexia Institute); Vernon Single Word Reading Test (pub. Hodder) or an older test such as Schonell, which is incorporated in the Aston Index - though an equivalent may be substituted. Continuous reading is most often tested using Neale Analysis of Reading Ability (Revised) (pub. NFER Nelson), which assesses accuracy, speed and comprehension of prose passages.

Spelling will be assessed, in a single word test such as WRAT, SPAR, Vernon or Schonell, and within a piece of continuous prose writing. Hand writing can also be looked at in continuous writing. Is the size consistent? Is it joined? Are the letters well formed and distinguishable from each other?

Finally, a number test may be administered. There is a useful one within Differential Ability Scales, but for teachers, the Cilham and Hesse Basic Number Screening Test is a valuable tool, as is the numeracy section of WRAT-3.

For the most reliable results, it is recommended that modern tests be used where possible, as the norms of older tests are likely to be out of date.

Typically, the SPLD student will present with an irregular profile of ability, showing areas of strength and areas of weakness, and there will usually be a discrepancy between his expected levels of attainment on the basis of the IQ test and his actual levels of attainment. Therefore, something is preventing him from achieving his potential.

Diagnostic (Skills) Testing

The student visual and auditory perceptual skills, including phonological awareness, will be assessed. The latter is a key factor in the development of literacy, and frequently presents as an area of weakness in the SPLD student. The assessor will wish to measure the auditory and visual memory skills, speed of information processing, and spoken language (receptive and expressive).

Some of the tests used will be norm-referenced; in other words, the scores will relate to age, either as an age score or as a percentile (the 60th percentile means that 40% of the same age will do better, and 60% will do less well). Other tests are criterion referenced, which means that success or failure is related to the skill. Some skills cannot be graded as an age continuum; a skill such as rhyming is mastered by most children in the pre-school years, but remains a problem to many older SpLD students. Therefore failure can be considered diagnostically useful, and the information of criterion referenced testing is particularly relevant when planning the teaching programme.

Case History

Finally, the importance of information from home and school cannot be overestimated. The parents and teachers who live or work with the child each day will know far more about his strengths and weaknesses in real situations than the tester can discover in an hour or two. The combination of school report, medical and developmental history, home background, other people's appraisal of the problems, and the objective testing will yield a broad pattern of the subject's abilities and difficulties, and will help the teacher to plan appropriate remedial procedures.

* From The International Dyslexia Association (IDA), Dyslexia Assessment Overview
www.dyslexia-inst.org.uk