

## Testimony of Professor Sally Shaywitz and Professor Bennett Shaywitz before the Committee on Education

In Support of Raised Bill No. 1054: An Act Concerning Students With Dyslexia

March 11, 2014

Senator Slossberg, Representative Fleischmann, and members of the committee, thank you for this opportunity to testify in support of students who are dyslexic and Raised Bill No.1054: AN ACT CONCERNING STUDENTS WITH DYSLEXIA.

We support this Bill which requires The Commissioner of Education to designate an employee of the Department of Education to be responsible for providing information and assistance to the public relating to dyslexia, including programmatic requirements for teacher preparation courses relating to dyslexia and including dyslexia instruction as part of the in-service training for educators. This is an urgent necessity. At the same time, we want to make sure that what is legislated will accomplish good, that is, result in the improved reading of the state's many, many students who are dyslexic. We urge action, but not a rush to do something without first ensuring that the action and programs have evidence that they are indeed proven to be effective. If we neglect this critical aspect of providing evidence-based programs, we will have lost a truly extraordinary opportunity.

This Bill builds on the great success of Raised Bill No. 5662: AN ACT CONCERNING SPECIAL EDUCATION. As a result of that Bill, the State Department of Education convened a Dyslexia Workgroup on which we are proud to continue to serve. Serving on the Workgroup also provided a valuable perspective on the complexities of implementing legislation in a school setting. That Workgroup, under the able direction of Dr. Pat Anderson of the SDE developed up-to-date scientifically informed guidelines which for the first time, provide both a definition of, and mechanisms for, public schools to identify children with dyslexia. The current Raised Bill No. 1054 will assure that once identified, dyslexic children can be provided with evidence based interventions and appropriate accommodations. Furthermore, the Bill will make teachers aware of dyslexia, encourage teachers to identify their dyslexic students and over time learn more and more about dyslexia.

We have two suggestions for amendments to the Bill that would strengthen it and yet not add costs. The first suggestion is for **screening young children for dyslexia**. As we detail below, most recently, data from the Connecticut Longitudinal Study (CLS) has, for the first time, allowed us to develop a screening instrument for dyslexia, consisting of 10-12 questions that are completed by the child's teacher at the end of the year. Instruments are currently available for kindergarten and first grade and will soon be available for second and third grade as well. This instrument, the Dyslexia Screening Measure (DSM) is unique in that it was developed based on the results of the longitudinal study of Connecticut school children which detected the specific items that identified the children who went on to have dyslexia. Remarkably, we found that teachers' response to a small subset of questions [Dyslexia Screening Measure] predict children at high risk for dyslexia with a high degree of accuracy, with good sensitivity and specificity. The great advantages of this screening instrument is that it is as accurate as much more elaborate and expensive screening measures for dyslexia and it is completed by the teacher, encouraging the teacher's engagement in the identification process. A word of caution, there are a number of colleges, schools and even states that have implemented screeners- but very often without any evidence of validity/efficacy. As a result, the state's and school's investment in this approach may be a wasted effort and not at all helpful to the students.

The second relates to the provisions in the Bill for programmatic requirements for teacher preparation courses including dyslexia instruction as part of the in-service training for educators. While we are very much in support of these in principle, at the same time we strongly suggest that these provisions for **teacher preparation must use evidence-based programs** that have proven efficacy. Evidence-based programs are akin to the level of evidence the FDA requires before a medication can be approved for use. Many, many theoretical, research based approaches, when tested in the field, prove to be ineffective. Our children's reading is too important to be left to theoretical, but unproven, practices and methods. We must replace anecdotal and common, but, non-evidence-based practices, with those that are proven, that is, they are evidence-based. Schools of education must ensure that aspiring teachers are taught evidence-based methods to teach reading and have monitored experience demonstrating that they are effective in implementing these methods. We also caution that evidence-based programs must be used, as well, for in-service programs. Such **professional development programs targeted for teachers must provide evidence that the students of the teachers taking these programs actually improve in their reading performance**. This is in contrast to some professional development programs which seem to improve teacher's understanding but not in a way that results in improvement in their student's reading performance.

In September 2014, Dr. Sally Shaywitz testified before the Congressional Committee on Science, Space and Technology hearing on the "Science of Dyslexia." Dr. Shaywitz testified specifically on the "Science of Dyslexia" with the stated goal of aligning education with 21st century science; our children deserve no less. Her oral testimony can be seen on <http://dyslexia.yale.edu/sept18Hearing.php>.

For education to truly align with modern day science, we must ensure that modern concepts of evidence-based randomized clinical trials are the standard in choosing programs, whether for professional development, reading programs or in Colleges of Education educating future educators about dyslexia. When selecting any of these programs, we must not succumb to received wisdom or tightly held belief systems, but continually ask "Show me the evidence!"

Putting into practice 21st century advances in the science of dyslexia so that this common condition is reliably identified and effectively treated will mark a major positive turning point in meeting the needs of the 1 in 5 children who are dyslexic, serving not only the children but their parents, educators and society as well. This very large group of bright, eager to learn children who are dyslexic must no longer be ignored. At the same time, we must not be in such a rush to do something that we do so without first considering, "will this be effective, is there evidence that this will actually result in dyslexic students actually improving their reading skills?" I ask you, our Connecticut state legislators, the representatives of our dyslexic boys and girls and their families, to help ensure that we just don't do something based on anecdote or received wisdom, but based on factual evidence of efficacy by always asking, "Show me the evidence." A major step forward, for example, is to consult the US Department of Education's "What Works Clearinghouse" (online at [ies.ed.gov/ncee/wwc](http://ies.ed.gov/ncee/wwc)) that provides information on the evidence (or lack of) behind many reading programs and professional development programs. We have come so far, it would be quite sad if we rushed to grab a program based on availability rather than evidence of efficacy. For educators to teach reading most effectively to our children requires their having a tool box of methods and approaches, a necessity so that they can fit each child with the most effective, evidence-based instruction he or she requires. To do so, will mean that Connecticut will truly have taken a major step forward in ensuring that each dyslexic child has the opportunity to read and to succeed in school and in life.

This is the ideal time for Connecticut schools to recognize dyslexia, now known to be the most common learning disability, affecting 80% of all children diagnosed as SLD. Dyslexia was first described in 1896, over sixty years before the term 'learning disabilities' came into being and it is not only the most common learning disability, by far, but also the one that is the most clearly delineated and scientifically validated.

Defined as an unexpected difficulty in reading in an individual who has the intelligence to be a much better reader, dyslexia reflects a difficulty in getting to the individual sounds of spoken language which typically impacts speaking (word retrieval), reading (accuracy and fluency), spelling, and often, learning a second language. Dyslexia is highly prevalent, affecting one out of five, and is persistent. Great progress has been made in understanding dyslexia at a scientific level, including its epidemiology, cognitive and neurobiological bases. Though neurobiologically-based, dyslexia has a major educational impact. Dyslexia is a paradox, so that often the same individual who has a weakness in decoding or reading fluency also has strengths in higher level cognitive functions such as reasoning, critical thinking, concept formation and problem solving. Diagnosis of dyslexia is critical, leading to focused, evidence-based interventions, necessary accommodations, self-awareness, self-empowerment, and school and life success. As a result, it is possible and essential for the strengths rather than the weakness to predominate and represent that individual's life.

Much of the current knowledge about dyslexia has been the result of studies done here in Connecticut and initially funded by the Connecticut Department of Education. We will detail these below.

Let us briefly introduce ourselves to the committee:

Sally E. Shaywitz, M.D. is the Audrey G. Ratner Professor in Learning Development at the Yale University School of Medicine and Co-Director of the Yale Center for Dyslexia & Creativity. Dr. Shaywitz' studies provide the basic framework and details for the 21st century scientific understanding of dyslexia. The author of over 250 scientific articles and chapters, her epidemiological studies provide current knowledge of the prevalence, gender composition, universality and persistence of dyslexia. Her book, the award-winning, "Overcoming Dyslexia" (Alfred Knopf, 2003) details fundamental scientific findings on dyslexia and how to translate this scientific knowledge into clinical practice. Overcoming Dyslexia has received critical acclaim and has been the top selling trade book on dyslexia since its publication. An elected member of the Institute of Medicine of the National Academy of Sciences, Dr. Shaywitz is annually selected as one of the *Best Doctors in America* and *America's Top Doctors*. Dr. Shaywitz has served on the Congressionally-mandated National Reading Panel and the Committee to Prevent Reading Difficulties in Young Children of the National Research Council and, by Presidential appointment (President Bush, President Obama) on the National Board of the Institute for Education Sciences of the US Department of Education. As noted earlier, Dr. Shaywitz recently testified before the US House of Representatives Committee on Science, Space and Technology on "The Science of Dyslexia."

Bennett A. Shaywitz, M.D. is the Charles and Helen Schwab Professor in Dyslexia and Learning Development, Chief of Pediatric Neurology and Co-Director of the Yale Center for Dyslexia & Creativity at the Yale University School of Medicine. Both a child neurologist and neuroscientist, Dr. Shaywitz is a leader in applying functional magnetic

resonance imaging (fMRI) to understand the neurobiology of reading and dyslexia in children and adults. These studies identify a neural signature for dyslexia, making a previously hidden learning disability visible, and for the first time demonstrate the brain basis for the lack of fluency in dyslexia. The author of over 300 scientific papers, Dr. Shaywitz• honors include election to membership in the Institute of Medicine of the National Academy of Sciences and Distinguished Alumnus Award from Washington University School of Medicine.

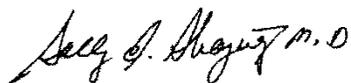
The study that has provided so much of the state-of-the-art knowledge of dyslexia is the Connecticut Longitudinal Study (CLS), initially funded by the Connecticut State Department of Education, and funded subsequently by U.S. Department of Education, National Institutes of Health and private foundations. The CLS incorporates both an epidemiological sample survey and a longitudinal design, and has prospectively and continuously monitored a probabilistic sample of 445 Connecticut public school children from the time of school entry at kindergarten to the present, when the CLS sample is into their mid 30's. All children, and now all adults, are followed including those who dropped out of school or move out of state. Attrition has been remarkably minimal; approximately 75% of the original sample has been maintained over the 31 year period. The availability of a virtually intact epidemiologic sample, one whose cognitive, academic, and behavioral development has been continually and carefully monitored from school entry now provides an important new dimension -- long-term outcome from kindergarten through the fourth decade-- previously not available to modern era studies of dyslexia.

The series of reports based on data from the CLS has helped to clarify some of the most pressing issues in dyslexia including: definition/classification, epidemiology and developmental course. For example, using data derived from the CLS, we found that dyslexia occurs almost equally in boys and girls and that, like hypertension, occurs along a continuum of severity. Another important finding from this Connecticut population is that dyslexia represents an enduring deficit, it does not disappear over time and is not a developmental lag. Furthermore, we found that the primary problem in dyslexia, problems getting to the individual sounds of spoken language, continue into adolescence and even adult life. Importantly, assessment of each child indicates that dyslexia is quite common, affecting about 20% of the school-age population. These results have been used by schools and policy makers throughout the nation, and even worldwide. As we indicated above, most recently, data from the CLS has, for the first time, allowed the development of a screening instrument for dyslexia.

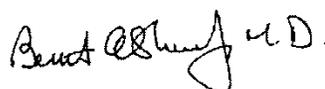
In summary, we strongly support Senate Bfill No. 1054: An Act Concerning Students With Dyslexia. As noted above, there is strong scientific evidence--much of it based on studies of students here in Connecticut --supporting the validity of dyslexia as an important factor impacting children's reading and, indeed, success in school and in future life. This Bill represents an important step forward, reflecting the latest scientific knowledge, aligning education with science. With the passage of P.A. 14-39, Sections 1 and 2 and now with the introduction of Raised Bill No. 1054, we

have achieved a major milestone. With the incorporation of the IEP box now labelled, SLD/Dyslexia, no parent in Connecticut will hear the ignorant and harmful comment, "we do not believe in dyslexia." Now, as we go forward, together we must ensure that we address the needs of dyslexic students in a thoughtful, evidence- based approach and not, in our eagerness to do something, do so in a rushed or careless way that is ineffective, Yes, there is an urgent need to act; the admonition is to act in accordance with science so that what is legislated ensures effective, evidence-based programs. We can do it; we must do it.

Sincerely,



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