



**Dyslexia
International** 
better training, better teaching

Overview

Dyslexia occurs in at least one in 10 people, putting more than 700 million children and adults worldwide at risk of life-long illiteracy and social exclusion.

Significant numbers of students with dyslexia go undiagnosed and their symptoms unaddressed, with tragic results, due largely to global lack of awareness and knowledge about this common learning difference.

Fortunately, research shows that when teachers are trained in early dyslexia identification and intervention, 90 percent of children with dyslexia can be educated in the regular inclusive classroom.¹ What's more, strategies for students with dyslexia will benefit **all** beginning readers, not only those with dyslexia.

The nonprofit Dyslexia International (DI), founded in 2000, works to make effective training available online and in other media so that struggling students in any school around the world can be identified early and educated appropriately to manage their dyslexia.

Over the past decade, DI has assembled a global team of expert scholars, educators, government officials and other stakeholders in 190 countries who are providing knowledge, tools, training and support for educators in dyslexia identification and teaching strategies.

This report highlights the alarming and significant damage caused by dyslexia, DI's research-supported approach and impact, and the initiatives under way to take this work to the next strategic level to improve outcomes for students with dyslexia worldwide.

Dyslexia's Impact

Dyslexia is the most common form of learning difficulty, with a prevalence of at least 10 percent² of any given population, depending on the orthographic system, type and degree of dyslexia, reading age assessed and sampling methods used. With a world population of more than 7 billion, this learning difference clearly impacts a huge number of children and adults, with far-reaching consequences across life domains.



Dyslexia makes fluent reading difficult, which affects not only academic success but also self-esteem and social-emotional development.

Dyslexia is neurologically based and often hereditary. It is associated with difficulties in reading, writing, spelling and organization. Functional Magnetic Resonance Imaging shows that the brains of people with dyslexia develop and function in a different way.³ Dyslexia makes fluent reading difficult, which affects not only academic success but also self-esteem and social-emotional development. To be most effective, interventions provided by teachers trained in dyslexia should begin early in a student's career and extend across the curriculum. Otherwise, students with dyslexia can quickly fall into a spiral of failure.

Some people with dyslexia are highly successful, becoming celebrities in their fields. Like John Chambers, chairman and CEO of Cisco Systems Inc., they triumph over their difficulties and go on to develop their often exceptional gifts. Too often, however, students with dyslexia remain undiagnosed throughout their school careers, labelled instead as lazy or disruptive.⁴ These students face the misery of failure early in their lives. The long-term effects of dyslexia on young adults include school failure, depression and increased risk of suicide, delinquency and reoffending. Indeed, surveys show that amongst the high percentage of illiterate people in prison, a disproportionate number have dyslexia.

Without identification and effective intervention, the impact of dyslexia can be significant and long-lasting not only for the individual, but for society at large. A 2006 KPMG Foundation report, *The Long-term Costs of Literacy Difficulties*,⁵ detailed the overall costs to society that result when illiteracy secondary to dyslexia is ignored. They include social costs, unemployment, consequent mental health problems and remedial programs as well as costs incurred due to antisocial behavior, such as drug abuse, early pregnancy and most significantly of all, criminal justice involvement.

In the United Kingdom, KPMG reports, "the total resulting costs to the public purse arising from failure to master basic literacy skills in the primary school years are estimated at between £5,000 and £43,000 per individual to the age of 37, and between £5,000 and £64,000 over a lifetime. This works out at a total of £198 million to £2.5 billion every year."



“Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory... Education shall be directed to the full development of the human personality...”

Article 26, United Nations
Universal Declaration of Human
Rights

The UK is not alone in recording surprisingly low literacy levels at the end of primary school and into adulthood. The lack of basic literacy skills means that too many young adults lack the functional skills to make their way in the modern world.⁶

In countries where public services are limited, education becomes a luxury item that only the rich can buy to rescue their illiterate children. This flies in the face of Article 26 of the Universal Declaration of Human Rights adopted by the United Nations, which states that everyone has the right to free, compulsory education, at least in the elementary and fundamental stages and that education “shall be directed to the full development of the human personality...”

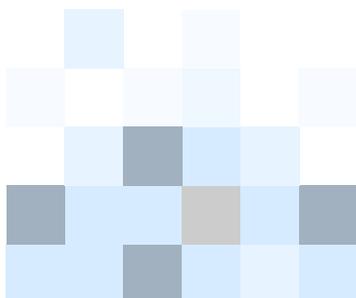
Even in wealthier countries where public education is available for children of all backgrounds, disparate resources can leave great gaps in services available for students with special needs.

If individual equality and societal success are to be achieved, students of all nationalities and walks of life must have access to teachers who are trained to recognize and address learning difficulties such as dyslexia.

Education System Constraints

Pringle Morgan identified dyslexia as “word blindness” more than 130 years ago, but education providers have not kept pace with the science. The key constraints that prevent education systems from effectively addressing dyslexia include:

- Limited knowledge about dyslexia – Dyslexia remains poorly understood as a serious condition that inhibits personal, social and economic development.
- Limited systematic teacher training in both pre- and in-service professional development.



- Lack of awareness of cost-effective, modern solutions – Open Education Resources (a worldwide network of free, online teaching and learning materials) focused on dyslexia are available at no cost for teachers and professional development programs, yet awareness of these materials remains limited.
- Lack of political leadership – Despite expressed political will, leaders have failed to provide adequate policies and practices that ensure teachers are systematically trained to identify and address dyslexia.
- Global lack of teachers – The UNESCO Institute of Statistics projects that “countries will need an extra 1.6 million teachers in classrooms to achieve universal primary education by 2015, and this number will rise to 3.3 million by 2030,”⁷ which will only exacerbate resource constraints for education providers.

In 2006, DI commissioned six reports (one in each of the six official UNESCO languages – Arabic, Chinese, English, French, Russian and Spanish) on “Good Teaching Practices” by experts in literacy and dyslexia.⁸ Each of these reports found that dyslexia needs to be more widely understood and better addressed worldwide through early intervention.

DI’s Research-Supported Approach

Again, research shows that when teachers are trained in early dyslexia identification and intervention, 90 percent of children with dyslexia can be educated in regular inclusive classroom settings.

Dyslexia International seeks to make that training freely available to educators around the world so that students in every school can be identified early and educated appropriately to manage their dyslexia.

Dyslexia International offers training and resources at no cost to help educators identify and effectively teach students with dyslexia, thanks to assistance from the UNESCO Participation Programme and other sponsors.



Toward that end, DI has assembled a global volunteer network of expert scholars, educators, government and non-governmental partners and supporters focused on three strategies:

- Making research-based information, tools and training in dyslexia identification and intervention available to education providers around the world at no cost.
- Connecting experts and educators for consulting and support.
- Convening world leaders, experts and educators who can drive better policy and practice.

Online Resource Center

DI has developed a robust and comprehensive website that serves as an online resource and networking center for global partners working to improve interventions for children with dyslexia.

The website (www.dyslexia-international.org) features:

- An e-Campus, an Open Educational Resource (OER) that offers evidence-informed teacher-training materials, including a popular online course, *Dyslexia: How to Identify It and What to Do*, free of charge.

- An online meeting place where education authorities can share ideas, policies and actions.
- A directory of contact information for ministries of education, dyslexia organizations, and dyslexia research groups and universities in more than 190 countries.



Teachers complete the course in pairs to collaboratively learn material, discuss classroom applications, and practice teaching strategies.

The e-Campus offers content in English and French, with Arabic, Chinese, Russian and Spanish translations planned. A collaboration with University of London International Programme is under way to scale DI's online course to a MOOC (massive open online platform) on Coursera.

Supplementing the online content is direct, in-person training, promotional and research activities, including:

- Coordinated training visits to countries requesting further training.
- World Dyslexia Forums, held or planned in five regions of the world, convening educators, government officials and partners to examine policy and practice.
- A four-year University Twinning and Networking Programme (UNITWIN) for research into teacher training online, literacy and inclusion. UNITWIN is a UNESCO program that transfers knowledge across borders by building university networks and encouraging inter-university cooperation.

Online Training Course

A central component of DI's work is its free, online course, *Dyslexia: How to Identify It and What to Do*. The curriculum covers how the brain reads, how learning difficulties may be identified, and how teaching methods can be adapted to meet individual learning needs.

The course was directed by psycholinguistics expert and specialist in dyslexia and reading acquisition, Dr. Vincent Goetry of the Free University of Brussels, in collaboration with DI staff and representatives. Members of the Scientific Advisory Panel, consisting of 36 world experts in dyslexia, neurophysiology, cognitive psychology and literacy, were consulted at all stages of development.⁹ The DI e-Consultancy Team of teachers, trainers and parents also provided input to share their expertise.

The course is highly interactive, incorporating video clips, animations and testimonies to provide concrete examples that model effective methods of teaching. It invites participation in 26 activities and self-assessment questions. It also provides opportunities for course participants to pose online questions to a DI teacher training consultant. For students wanting to explore some of the topics more deeply, a second level of study material is available.

Feedback through open surveys is encouraged and evaluation forms are integrated into the course and subsequently analyzed. The findings are published on the website to provide ongoing discussion and insight on what works and how.

The course has been welcomed as an essential part of national and regional teacher training programs – most recently by Kenya, as recorded at DI’s Meeting Place for Education Authorities. Francophone Belgium has taken the lead, incorporating the course nationwide across its entire school system.

DI has received positive, enthusiastic feedback from teachers, trainers, ministries and academics. Here are some of their comments:

- “I must congratulate you on your phenomenal achievement in bringing together scholarship, evidence, exercises, illustrations and audio visual material. I am delighted to take part in this new departure.”
- “I particularly liked the breadth that you incorporated within the course, from neurology, definition, processes involved in reading and writing, the practical help for wider issues such as the social and emotional effects of such a diagnosis (or lack of one) on parents and child alike.”

DI encourages collaborative, experiential learning in which participants work in pairs to learn the material in the course, discuss applications, and practice strategies. Participants have reported great benefit from this component:

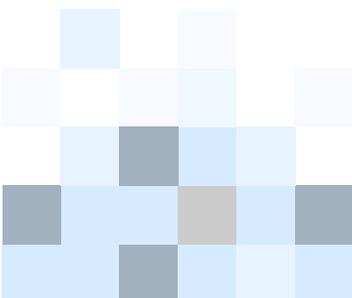
- “We enjoyed completing the activities together and found that the open-ended questions were especially effective because they led to many discussions and, as a result, a deeper understanding.”



“I must congratulate you [Dyslexia International] on your phenomenal achievement in bringing together scholarship, evidence, exercises, illustrations and audio visual material.”

Catherine Martinet

Professor, Department of
Psychology
University of Geneva,
Switzerland



- “Working in pairs made it possible to practice the various assessment strategies that were presented and will surely help us remember when we are in the classroom.”

Feedback from participants offers evidence that DI’s methods are effective in helping educators adapt their teaching to meet the needs of learners with dyslexia. Among the comments from participants:

- “I now understand why endlessly repeating phonics exercises with my dyslexic pupil was not working. Thank you.”
- “I have learned more about reading from this course than I did in three years in college.”



“Being dyslexic myself, I felt that here was a course that ‘got it’ – that understood how it feels emotionally, and the uncertainty it creates on cognitive confidence.”

DI course participant

Participant surveys indicate that teachers are eager to take DI’s training. Educators report that they struggle to meet the needs of their pupils with dyslexia and wish to become competent in instructing these students effectively. DI expects to gather more precise analytics about the course’s impact on teaching in coming years through its UNITWIN program.

Incorporating Best Practices

A meta-analysis of skill acquisition by teachers indicated that 90 percent will transfer a new skill into their teaching practices if the training includes components of theory, demonstration, practice and corrective feedback followed by job-embedded coaching.¹⁰

DI’s online course embeds each of these critical feedback and coaching components into its training strategies through the use of technology and DI’s broad consulting network. DI uses online demonstrations and videos to amplify and explain content contained in its course. Peer exchanges and forums provide opportunities for practice and corrective feedback. Access to DI experts allows for job-embedded coaching as well as a growing compilation of frequently asked questions.

Support for individuals varies based on the setting in which the course is used. When ministries of education are involved, such as in francophone Belgium, education officials work with the teachers on a Moodle platform (an all-in-one, open-source learning platform) with access to a DI consultant. In schools, the person in charge of offering the course ensures professional coaches are available to support the training. DI also offers support for individuals who contact it directly. In the MOOC project, members of the DI network of consultants will offer their services by responding to questions over the prescribed six-week program.

Evidence gathered from DI's pre-service and in-service training programs with nearly 1000 teachers shows that those participating in the e-Campus gain the competencies they need to be effective in reaching all their students. Moreover, these teachers continue their professional development through mutual support in online forums. They report becoming more confident and less stressed because they know how to better manage class dynamics. They are more patient and less likely to punish pupils by aggressive marking, for instance, because they have learned about the negative effects of such measures. Evidence of improvement in teaching comes from the extensive analysis made during the pilot phase of the course in a teacher-training college in Brussels, some international schools, a teacher-training initiative in francophone Belgium and a project at the University of Johannesburg. In total, more than 1200 evaluation forms have been received.

Course Content

For students with dyslexia, learning to read and spell can be a laborious and demanding task. DI's e-Campus course content is based on methods that are proven to assist learners with dyslexia, including multisensory, phonics-based, structured approaches that are consistent with the Orton-Gillingham model of reading remediation.

With a structured, cumulative multisensory program and a trained, sensitive teacher, dyslexic students can be given learning responses and strategies that will be effective and tangible and give them control over their reading and spelling.¹¹

Indeed, with even minimal remediation with trained, sensitive teachers and strategies that are effective and tangible, reading can progress much more rapidly

DI's e-Campus course content incorporates best practices and methods proven to assist learners with dyslexia, including multisensory, phonics-based, structured approaches.



and students can begin to close the gap between themselves and their peers. Again, early intervention is essential as soon as a reliable diagnosis is made.

Online Learning

Online learning is a cost-effective means of delivery for many countries. It allows for broad access to training, ease of modification to keep material up-to-date with educational research, and instant monitoring and evaluation procedures through advanced web statistics and participant surveys.

DI adheres to *A Guide to Quality in Online Education*¹² for its online coursework and, based on its university collaborations, also complies with user-specified quality standards.

Online learning also comes with some disadvantages. It requires access to broadband technology, which is improving but not available in all areas. Participants who are not familiar with training online may also fear the lack of immediate personal contact. However, technological advances and MOOCs can provide a more personal experience through face-to-face on-screen instructors, peer assessments and encouragement of small local gatherings face-to-face in addition to course meetings.

DI's panel of experts in Open Education Resources (OER)¹³ points out that there are good and bad examples of both face-to-face teaching and online learning. In this panel's view, however, many of the better online courses are superior to in-person classes because more thought has been allocated to the design and delivery of the material. Students also may be more focused and less distracted because they can pace their instruction as needed.

Taking DI's Work to the Next Level

Global Dissemination

At the first World Dyslexia Forum, coordinated by DI at UNESCO in 2010, keen interest was shown in DI's first cost-free, evidence-based, teacher-training online course. Forty countries reviewed the training for uptake/implementation in their own national teacher training programs. DI gained entrée into a wide segment of world educational systems. Participating countries agreed to adhere to DI's policy of engaging key players—policy makers, teacher-training officials, local universities and local associations—who can help ensure systemic and lasting benefit for trainers, teachers and students.

Web statistics captured and reported each month on the DI website's Support Us page show that in 2013, 240,000 pages were viewed and there were 1.7 million hits. The bandwidth used between 2010 and 2013 increased 20-fold. In 2013, the English version of the course was accessed from more than sixty countries, and even greater numbers of access to the French course were recorded.

The challenge now is to meet the demand of countries asking for special envoys to train in situ and ensure that quality, free online teacher training is readily available worldwide via DI's e-Campus.

With sufficient funding, DI plans to set up longitudinal and comparative studies to evaluate the effectiveness of teachers trained with its programs using an assessment instrument developed by its Scientific Advisory Panel.

Lobbying with UNESCO

The United Nations Educational, Scientific and Cultural Organization (UNESCO) officially recognized Dyslexia International in 2006 and granted DI consultative status in 2011. This is both an honor and a responsibility. DI now advocates with its associates for more than 10 percent of the world's population whose specific reading difficulties, if not addressed, put them at risk of life-long illiteracy.

Working harmoniously with ministerial officials, colleagues in universities and local associations, DI members and associates regularly attend meetings of the "Education for All" Working Party, hold exhibitions and speak at major events at which ministries of education are represented from more than 190 member states.

Conclusion

Dyslexia International has taken giant steps to advance its mission of making learning difficulties better understood and addressed systematically in educational systems around the world.

It has assembled a network of committed professionals and world experts in reading acquisition who donate their time to share evidence-based information and strategies for addressing dyslexia. Further, it has created an e-Campus that offers, for the first time, sustainable and scalable means of ensuring that free teacher training is available worldwide.

DI is now poised to expand its knowledge, consulting services, network and impact as a growing number of countries appear aware of and interested in incorporating dyslexia education and training into their teacher programs.

It now seeks partners and sponsors to maintain and develop its work and ensure its e-Campus is maintained to conform to high standards and expanded systematically to serve education partners around the world.

By arming educators around the world with basic knowledge, strategies and support, DI and its partners can transform the educational, social and life prospects of a generation of world citizens.

Acknowledgments

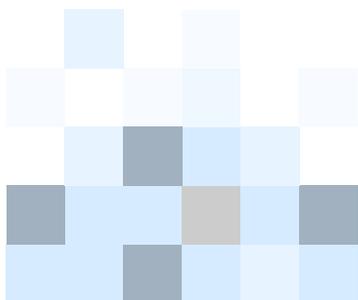
Dyslexia International warmly thanks the Oak Foundation for its continuing support, and all of its associates, partners and sponsors for giving so generously of their time and skills.

Endnotes

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- ¹² Ontario Online Learning Portal for Faculty and Instructors, <http://contactnorth.ca/tips->

tools/guide-quality-online-learning, commended by Ken Harley.

¹³ Ken Harley, Emeritus Professor, University of KwaZulu-Natal, South Africa. Neil Butcher, author and consultant, strategist with Saide, South Africa. Diana Laurillard, Professor of Learning with Digital Technologies, University of London, UK; Governing Board for the UNESCO Institute for IT in Education.



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