

Foreword

by Dr. Leonard Press

A book on any topic oriented toward parents and professionals is a very ambitious undertaking. After all, one of the cardinal rules of writing is that an author must first have in mind the audience that she or he is addressing. Given the substantially different levels of awareness that parents and professionals have about vision and learning, one has to admire the work of Heike Schuhmacher, M.D. in succeeding to find a solid and informative middle ground. The book that you hold in your hands, or that engages your eyes through the screen, breaks new ground for a wide readership.

Dr. Schuhmacher's success in this venture is no coincidence. I was first introduced to her seven years ago at the Annual Meeting of the College of Optometrists in Vision Development (COVD) and was immediately impressed by her passion and commitment to advancing her knowledge in the field. She had undergone the rigorous process of attaining Board Certification through Fellowship status, a remarkable achievement. At that time she shared her desire to write a book that would enlighten parents and professionals about the gap in interdisciplinary services she encountered in both the public and private sectors regarding vision based learning problems. The unique experiences that Dr. Schuhmacher brings to this venture therefore makes it a rich and unparalleled resource. Initially trained as an orthoptist with certification from the German Ophthalmological Society, Heike Schuhmacher

obtained her M.D. while focusing on the visual perceptual disorders of children diagnosed with dyslexia.

There are additional blends of expertise that infuse this book with knowledge and experience. Having served as a consultant school physician before establishing her own private practice, Dr. Schuhmacher lends her insights to topics ranging from perceptual aspects of specific learning disabilities, to Individualized Education Programs (IEPs), to special classroom accommodations for children with perceptual disabilities. Assisted in her practice by a highly competent staff trained in both optics and developmental optometry, the book's contents reflects the international flavor and education of Dr. Schuhmacher and her team. I was thoroughly impressed with the German language version of the manuscript when Dr. Schuhmacher first shared it with me two years ago. Having taken a year of Scientific German in college, and through the richly illustrated graphics, a limited understanding of its message but wasn't able to fully appreciate what a masterpiece Dr. Schuhmacher had written. The translation into English now reveals the breadth and depth of the material to me, and I trust it will to you as well.

The tone of the book is established in **chapter one**, allowing us to see the struggles of an underachieving child through his eyes, and the eyes of his parents. It briskly transitions into an appreciation of visual perceptual development in forming the building blocks of letter recognition and written language development. Visual memory and auditory memory are explained in simple to understand terms, serving as the basis for constructing a sight word and phonemic vocabulary that supports reading and writing systems.

Chapter two builds a bridge into the neuropsychology of vision in a way that makes it easy for both parents and professionals to appreciate the interconnectedness of the components of visual perceptual processing. It ranges from laterality and directionality to spatial orientation, and from visualization to visual intelligence, finishing with a flourish on the significance of primitive motor reflexes. The checklist at chapter's end on visual and motor skill deficits in pre-school-age children is the first of several useful checklists that can be found throughout the book.

Chapter three, the neurophysiology of vision, is a topic which could potentially cause parents' eyes to glaze over. But Dr. Schuhmacher handles this in a style that makes it very palatable to the layperson. The key again is allowing us to experience clinical issues through the eyes of Laura, a first grader already struggling to keep her head above the academic waters. However, there is no shortcut to the visual heavy lifting that the reader will have to do in the middle of the chapter to understand basic concepts in eye teaming, focusing and tracking and the pertinent neurophysiology of the visual pathways. Professionals, including vision specialists, will appreciate the extent to which the material is explicit and well organized. The subject matter comes full cycle when the story returns to Laura's struggles with eye teaming or fusion of binocular vision, and finishes with an enjoyable discussion about the benefit of 3D vision.

The material in the preceding chapters is put into a very useful clinical format in **chapter four** by asking a series of questions about the child's competencies in each of the skill areas related to the neuropsychology and neurophysiology of vision. There is a significant and well placed emphasis in this chapter

on reading. But perhaps most importantly, we are introduced at the end of the chapter to a very useful construct in thinking about all these complex and interacting functions as piece of a puzzle. This allows us to conceive of the diagnostic process as a way of deciding which pieces of the puzzle appear to be missing, and how that can set the stage for effective intervention.

Chapter five addresses a set of complex issues which one does not normally encounter in books of this nature. As you read through the book I suspect you'll find at least one or two chapters after which you'll say to yourself: "It was worth buying the book for this chapter alone", and this chapter is no exception. There is much you will learn about the intricacies and relevance of Central Auditory Processing Disorders (CAPD). Most valuably, your eyes and ears will be opened to children who are plagued by deficits in both the auditory and visual realm. All too often when professionals or parents speak of multi-handicapped children, handicaps are considered in terms of severe impairment, and motor or cognitive systems are most heavily involved. This chapter places a spotlight on the more subtle issues of auditory and visual processing handicaps that can cooccur.

If you are a parent looking for the most useful chapter in this book, go straight to **chapter six**. The comprehensive checklists will organize your thinking and observations at the outset. But all professionals would do well to read this chapter thoroughly to gain a deeper appreciation of the issues that parents have to contend with. These include requesting accommodations in school, and optimizing the workspace for the child at home to cut down on the drama of homework. It is a well-elaborated version of recommendations for visual hygiene and visual optimization.

The **final chapter** assembles all of the puzzle pieces into a model for therapeutic intervention. The visually pleasing graphics in chapter seven will help you grasp a sampling of the options available for effective treatment of deficiencies and disorders identified in the preceding chapters. Neuroplasticity, motor and neurofeedback, binocular awareness and attention, and brain changes in learning are addressed and best of all, you get to see how Mario and Laura utilize their newly acquired visual skills to shine in their educational environments.

I'll conclude by saying that as familiar as I am with much of the material in this book, I came away from reading it with a very uplifting feeling. If you are a professional you will acquire a deeper appreciation for Dr. Schuhmacher's ability to connect the dots to form clear pictures. If you are a parent you will be illuminated by the graphics and find light bulbs going off as the puzzle pieces interconnect for you.

Whether you read the book cover to cover, or cherry pick your favorite sections, you will learn how undiagnosed vision problems cause learning difficulties and what you can do to unlock the academic potential of children like Mario and Laura. There is no greater gift that you can give to a child, and I hope that you share this information with as many people as possible.

**Leonard J. Press, O. D., FAAO, FCOVD
Optometric Director, The Vision & Learning Center
Fair Lawn, New Jersey, USA**

Introduction

There is no problem with Mario's eyes; his eyesight is perfectly fine. But he is struggling with reading and writing and cannot keep up in school although the school psychologist has attested to Mario's normal intelligence. The cause of his learning disability lies in an undetected problem with visual functions and processing.

Such a disorder cannot be diagnosed by a brief routine check of visual acuity, but can seriously affect Mario's school years and his educational opportunities in general.

Many children are struggling like Mario. In fact, one in four American school children suffers from undetected perceptual problems. They may have difficulty focusing, or their brain may be unable to adequately process visual or auditory perceptions. But how can you tell whether your child is affected by such disorders? What causes them? And most important of all: what can you do to help your child?

School children with learning disabilities and concentration issues are frequently diagnosed with ADD or dyslexia, but many suffer from undetected disorders in perceptual brain functions and end up misunderstood and mislabeled. Even though your eye doctor (optometrist or ophthalmologist) attests to perfect eyesight, your child is struggling and failing already in elementary school when faced with tasks that require processing of visual information, tasks such as writing and reading simple words.

Many of these kids do not acquire the ability to use reading as a tool for learning.

This deficit has a detrimental effect on their performance in all school subjects and limits their overall educational opportunities. In addition, these children develop spelling problems that have a devastating effect on their grades in both English and foreign language classes. Obviously, even perfect eyesight – 20/20 vision – is not enough. Neuroscience tells us 80 percent of our brain is dedicated to visual perception and processing. Our brain has six different centers for processing auditory perception and language but more than twenty different areas for processing visual information that enable us to identify and react to what we see – accurately and at lightning speed.

If your child has normal intelligence and a learning problem that is not remedied after a few weeks of practicing, practicing, and some more practicing, an in-depth analysis of these brain functions is absolutely essential.

THE GOOD NEWS

Once your child's disorder of visual functions and processing has been diagnosed, you can address the issue of what to do to help your child. Fortunately, visual functions respond very well to active treatment. The good news is: vision is an acquired brain function, and thanks to our brain's neuroplasticity, we can improve visual functions by learning. Children and even adults can learn how to train their eyes. With some training, children in elementary school can definitely improve their ability to concentrate, increase their speed in reading and comprehension, perceive and "scan in" spelling details already while reading, and develop the visual-spatial conceptual framework essential to mathematical thinking and excellent visual memory.

This Book

- **informs** parents, teachers, and therapists of children affected by disorders of visual functions and processing about the connections between vision and learning;
 - **describes** in a clear and understandable way what the neurophysiological processes underlying our visual functions are, what "processing of visual information" means, what this has to do with intelligence, concentration, and the ability to learn;
 - **explains** the role of visual perception in reading and writing and how certain forms of dyslexia are caused by disorders of perceptual brain functions;
 - **describes** the typical symptoms of disorders of visual functions and processing in school children;
 - **explains** how such disorders can be diagnosed;
 - **explains** how "Optometric Vision Therapy" works,
 - **provides** caregivers with advice on how they can assist children affected by visual problems.
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Help for Parents, Teachers & Therapists

If you are holding this book in your hands you are probably a teacher or therapist who would like to gain greater insight into the nature of these disorders and the treatment options for children entrusted to your care so you can better help them.

Or perhaps you are a parent and suspect that your child has an undetected vision problem causing the struggle your child experiences. You want to better understand your child, and above all, you want to be able to help your child. In that case, the comments following below may be familiar to you.

"EVERY AFTERNOON I SPEND HOURS AND HOURS STUDYING."

→ CHILD *I often wonder what's wrong with me. Other kids do their homework quickly after school, study for tests, get A's and B's, and go play sports in the afternoons or play with their friends - why can't I?*

Every afternoon I spend hours and hours studying. Even when I try very hard, I'm glad if I get even a C- on my work. Often I get a D and a comment that I should try harder and study harder!!

My teacher often complains that my writing is so hard to read, or she scolds me because I cannot even copy anything from the blackboard without making mistakes.

Reading is so hard for me. Often, I don't understand the assignment and don't know what I'm supposed to do or what the question is in the first place. Often, I have to read an assignment two or three times before I understand what it is about, and then I don't have enough time left for answering the question even if I do know the answer.

"I CAN SEE THAT HE IS EXHAUSTED AND STRESSED WHEN HE COMES HOME FROM SCHOOL"

→ MOTHER *He shows me his school notebooks, and I see that letters end up above or below the lines and that the numbers are again halfway outside the little squares. His writing looks very sloppy, and I can tell that my son feels hurt by the teacher's comments for I know how long he worked on his assignments and how much effort he put into his homework.*

Every afternoon we spend time doing homework together, which really takes hours and hours. Doing homework is stressful for both of us, and sometimes it's just a nightmare. Again and again, I find myself having to spur him on, having to be the one who forces her son do his homework. I can see that he is tired and how exhausting some homework assignments are for him. Of course, I would love to let him go play instead of laboring away at his homework. But if I let him do that, he would fall behind in school even more, and his grades would suffer.

So I just keep pushing him and endure his bad mood and the temper tantrums as calmly as I can, and every day I renew my efforts to work with him and help him out as much as I can. But I have to admit that I scold him too often and even yell at him sometimes and threaten to punish him, and I feel just awful doing that.

I often think that his siblings are definitely getting less attention because I need to spend so much time to help him with his homework. Luckily, the other kids have an easier time learning and don't need me as much. But that doesn't keep me from feeling guilty.

And then, when after all this work – really too much work – my little one goes off to school, full of hope for the next class test or essay, I often prepare myself already in that moment to comfort him when things go wrong once again.

I suffer with my child, and after each of the many parent-teacher conferences in school, I go home with a heavy heart, make up my mind to support my son even more and more effectively. I often feel that I am responsible for his mistakes, and my husband and the grandparents also blame me. They often say that the boy just needs to work harder and make more of an effort and that I need to do a better job of helping him.

I keep hearing people talk about concentration disorders! I don't understand why concentrating on his school work is so difficult for my child even though he doesn't have this problem all the time or in every case. Why does my son have such great difficulties concentrating on writing, arithmetic, or doing his worksheets and doing them correctly? And why is reading especially difficult for him?

He is a very good listener. When I read to him, he understands immediately what the text is about and remembers every detail. He would love it if all his books could be audiobooks. In his general studies class he is often one of the most engaged students. He is interested in so many things. When I've read to him at home what he needs to know, he remembers what I've read, has lots of questions, and is clearly excited and eager to learn more.

Are there concentration disorders that occur only in connection with certain activities? And if so, is that really ADHD?

"I AM VERY WORRIED ABOUT MY CHILD'S FUTURE"

→ FATHER *Sometimes I dread coming home after work, because I know the scene awaiting me there: My wife and my child are totally exhausted again but are still not finished with his homework. Both will be in a bad mood, and once again tempers will have flared, and they'll have had a quarrel. When I see my child's poor performance and see that the latest test turned out badly again even though my wife and child say they studied hard for it and prepared diligently – well, I can't help wondering what they're doing all afternoon.*

I know that my child is not stupid. I know that my wife is desperate and makes every effort to supervise our child's learning closely and that, of course, she loves our child more than anything else in the world. But when I look at the results of their efforts, I cannot help asking: "What is going on here?"

When I study with my child on the weekends, we are both perhaps a bit more relaxed then, but I also experience the kinds of things that my wife tells me about. I have to accept that I cannot really help my child either. I am very worried about my child's future and must admit, "I'm at a loss and don't know what to do next."

"I KEEP LEAVING WORDS OUT WHEN I READ"

→ CHILD *In my remedial class I often have to do exercises to improve my handwriting, and I'm embarrassed that I can't do a better job. My teacher keeps telling me: "Write another 0, concentrate more when you practice your next curves, then you will eventually develop nice handwriting." I try hard, but nothing changes.*

When I read, I keep leaving words out or getting the word endings mixed up. Sometimes I read words that aren't even there, and then the text seems so

strange to me that I cannot understand anything. I hate reading! When I have to read aloud, I always feel sick because I already know that I cannot do it right, and I'm afraid the other kids will laugh at me.

It takes me so long to write one page, and then what I've written is full of mistakes. Most of the time I try to write only very short essays because it takes me forever to correct all my mistakes. And I can never find all of them by myself. I just don't notice when a word is spelled wrong. My parents always say that I'm just not paying attention and don't concentrate; they say if I'd only look carefully I'd see what I misspelled again, for the hundredth time, even though yesterday I still could spell it correctly.

I've told my parents that my eyes hurt when I read and that sometimes the letters are a bit wobbly and sometimes I can't clearly recognize them. I often have headaches after school and when I'm doing my homework.

Mom took me to the eye doctor right away because we thought that maybe I'd need to wear glasses. I'd have worn glasses even though I think they're ugly. But the eye doctor said I have eyes like a hawk and can see even the tiniest letters just fine!

And now my parents think I'm just looking for an excuse to get out of having to do my homework, so I'm simply not saying anything about this anymore. I know I'm not lazy or stupid, but sometimes I think that perhaps that is what I am after all because I simply cannot get my homework done the way I want to.



HELP!!!