

## INTRODUCTION

Schools and educators in the United States are struggling to teach all that they need to teach, maintain discipline, build character, and provide for the safety of the children in their care. They often have to deal with children who are not receiving the emotional, nutritional, and physical care they need; parents who are “too busy” to attend to their children’s school issues; pressure from legislators to raise test scores; lack of funding; and lack of parental support. More and more decisions about education are made by politicians, rather than educators, and few policy makers understand the differences between how boys’ and girls’ brains work, how they differ, and what they need in order to learn.

### Applying Brain-Based Research

Teachers who understand brain- and gender-based research (differences in anatomical structure, neurological development, and the chemical and hormonal climate in growing boys and girls) can help to ensure that the children in their care have a chance to find the attachment and bonding they need in order to learn and behave in the ways that are natural to them. This not only optimizes each child’s natural learning abilities but also helps to reduce the number of children who are labeled as discipline problems, slow learners, and attention-deficient.

Knowledge of research in brain-based gender differences in how children learn is one of the best tools a teacher can have. In the “ultimate classroom,”

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teachers' efforts are supported by administrators and parents, who are trained in and committed to gender-based education. But teachers can start now to apply what they have learned in their own classrooms, while urging greater changes at the school, school district, and state levels. This guide was developed to help teachers create and adapt techniques, activities, games, rituals, and other learning innovations that use knowledge of how boys and girls brains work and what they need at different stages of school life. With time and effort, we can institute gender-appropriate educational techniques that bring the greatest benefit to all our children.

### *Boys and Girls Learn Differently!*

This guide and *Boys and Girls Learn Differently!*—on which it is based—incorporate over twenty-five years of research pertaining to differences in the behaviors and learning styles of male and female schoolchildren. *Boys and Girls Learn Differently!* explains

- Neurological and endocrinological (hormonal) effects on learning and behavior
- Developmental psychology, especially the effects of natural human developmental cycles on learning and behavior
- Gender research on neurobiological and environmental differences (and similarities) between boys and girls

The biological and neurological information in *Boys and Girls Learn Differently!* comes from sources listed in the Notes and the Additional Resources of that book. Michael Gurian also studied thirty cultures to make sure that the conclusions presented in the book had worldwide validity. The book explains areas in which boys and girls are weak and strong, vulnerable and dominant, and tells how teachers and parents can apply the knowledge to classrooms and other child-learning environments.

## Using This Guide

To provide a background for planning brain- and gender-based classroom activities, techniques, and other innovations, the research described in *Boys and Girls Learn Differently!* is summarized in this guide, and many of the classroom

activities, techniques, and structural innovations offered by teachers and other educational specialists trained by the Gurian Institute are included.

In addition, this guide contains pertinent new background material; many new classroom techniques, activities, and other innovations used by teachers and school systems; and new, useful resources.

We hope that you will find ways to adapt these techniques and activities and create new ones suited to your own students, subjects, grade levels, and special needs. The goal of such innovations is to create the “ultimate classroom” in all grades from preschool through high school.

This guide also is structured differently from *Boys and Girls Learn Differently!* Many chapters are devoted to specific areas of learning, and grades from preschool through high school are discussed within those chapters, as appropriate.

Teachers will find that most of the background information and many of the techniques, activities, and other innovations appropriate to one grade level can be applied, at least in part, to other grades. Similarly, insights and innovations from one topical heading can be used by teachers who are primarily interested in other topical headings. Therefore, we urge you to read all sections rather than focusing only on the ones that, at first glance, may seem most pertinent to your classroom(s).

This guide also contains a new discussion of experiential learning—a way of helping children “learn how to learn”—and a format for designing new classroom activities, games, and educational innovations based on the research.

We hope that, as you work your way through this publication, you will find practical assistance in your efforts to better help the children in your care to learn and thrive. The ultimate classroom best fits the nature of each individual child. It involves changes in school and classroom structures, functions, and emotive opportunities, how senses and physical activity are used, and how parents are advised to help their children learn. We hope that you will find countless ways to create the ultimate classroom in your school.

## The Contents of This Guide

Chapter One, “Background: How the Brain Learns,” describes inherent differences between boys’ and girls’ brains; the reasons for these differences; and how the differences are manifest in boys and girls in terms of learning styles

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and various types of intelligences. It also describes how brain-based gender research indicates the need for change in our schools, in nine critical areas.

Chapter Two, “Bonding and Attachment,” explains the vital role of bonding and attachment in a child’s behavioral, psychological, and intellectual growth. It describes sources of, and techniques for dealing with, children’s emotional stress; the importance of mentors, community involvement, and rites of passage in a child’s life; and tips regarding communication and conflict resolution that maintain teacher-student bonds.

This chapter and each of the succeeding chapters is divided into sections devoted to preschool and kindergarten, elementary school, middle school, and high school. Each section presents successful techniques and activities that teachers and school systems actually use, and many of these are applicable to other grade levels as well.

Chapter Three, “Discipline and Related Issues,” includes a discussion of aggression and its role in development (especially male development). It offers insights into how to deal with aggression in young children through empathy nurturance and verbalization and how to teach conflict management and anger management to older students. It presents the reasons for many disciplinary problems (including the effect of the media on student behavior), techniques for motivating all students and preventing disciplinary problems, and successful disciplinary strategies and techniques used by educators at all grade levels. In addition, it discusses the need for schools to deal with harassment and cruelty and to offer character-education programs.

Chapter Four, “Math, Science, and Spatial Learning,” explains why boys tend to do better than girls in these areas and what educators can do to help all students learn more easily and effectively. Topics include self-directed activities; use of the physical environment in teaching math and science; and how to make math more “hands-on” with the use of manipulatives, games, and other activities that encourage spatial and logical-mathematical thinking. This chapter also highlights the need to vary teaching media and strategies in order to help girls and nonspatial boys to process math calculations and science data. Special sections on the use of computers make recommendations about computer usage and education at the different school levels, and the importance of encouraging students to learn math, science, and other technologies is reinforced.

This chapter also introduces an important theme, the use of learning pairs and groups; this theme is continued in subsequent chapters.

Chapter Five is “Language, Reading, Writing, and Social Science.” As in the other chapters, the use of movement and manipulatives in learning and the need to use multisensory stimulation and a variety of learning modalities in order to teach to children’s visual, auditory, and kinesthetic learning modes are discussed. Structural techniques include peer tutoring, cooperative groups, same-sex learning, scholarly discourse, and connecting language arts and history to other experiential processes. This chapter also discusses how to tie language, reading, writing, and social-science classes into character development.

Chapter Six, “Physical Learning and Nutrition,” explains why young children, especially boys, need to move around as they learn. It describes the current crisis in the United States from the lack of proper nutrition and the lack of vigorous physical activity that is necessary for full physical, intellectual, and psychosocial development. It presents activities and techniques for developing fine motor skills and using the outdoor classroom. In discussing the proper roles of sports, athletics, and competition in child development, the authors make recommendations for physical activities that should be included in the curriculum for different age levels. They tell how athletics can help cut down on discipline problems among adolescents and also why mixed-gender sports in which teen-aged males and females (who are already undergoing the gender-driven stresses and confusions of adolescence) have to engage in tactile contact are not advisable. Finally, this chapter describes the detrimental effects of obesity in children; explains the effects of carbohydrates, proteins, and omega-3 fatty acids on the developing body and brain; and makes recommendations for the intake of these foods based on the time of day and physical needs.

Special education is discussed in Chapter Seven, which explores why so many students diagnosed as having learning disorders or attention deficits are boys. It also notes the need to pay attention to the special needs of girls, whose disabilities often are not as marked as those of boys. Discussions cover the use of psychotropic medications; the special ed student’s need for emotional bonds, safety, consistency, and discipline; and the school-home alliance. Activities and innovations that teachers use in their special ed classes are presented, including those that highlight the use of movement, a multisensory approach, and motivational techniques.

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Chapter Eight, “Planning Your Own Experiential Activities,” explains the rationale for experiential learning, which is exemplified in most of the techniques and activities described in this guide. It also describes the six stages of the natural learning process and how knowledge of this process can help students “learn how to learn”; the role of the teacher as facilitator; and the types of activities and learning technologies that can be used to encourage lasting learning. Important factors to consider when planning experiential-learning interventions are presented. The chapter concludes with a checklist to use in planning and developing personalized learning experiences and a summary of the developmental themes in this book, categorized by school level.

Chapter Nine makes a case for needed *structural innovations* at all school levels. Structural innovations are included here because gender-specific innovations are easier to implement when major structural innovations are in place. Recommended school-wide innovations include more parent involvement, year-round schooling, change in the timing of the school day, changes in class size and number of teachers, separate-sex education, school uniforms or dress codes, teacher teams, multigenerational mentoring, psychosocial and gender education for adolescents, changes in standardized testing, and an end to grade inflation. Classroom innovations include increased use of learning pairs and learning groups, rite-of-passage experiences, multigenerational learning, breaks from didactic learning, and more experiential learning. As with all chapters, examples of things that teachers and schools are successfully doing to bring these changes about are presented.

The Appendix, “Working with Parents,” contains lists of actions that schools and teachers can take to involve parents and community members in the education and welfare of students. This involvement can make or break a school’s or a teacher’s ability to implement the changes, innovations, and techniques that are mandated by gender- and brain-based research and our knowledge of what we can do to improve and enrich our children’s development and learning.

“References and Resources” contains a wealth of information about publications, programs, services, Websites, and organizations that can help teachers to apply what they know about the learning needs of boys and girls in their schools and classrooms.