

1

Gender Makes a Difference in the Classroom

But it is not about simply separating the sexes, said Wilmette [Illinois] District 39 Supt. Glenn “Max” McGee. “It’s about understanding how boys and girls are different, and then differentiating your instruction to reach them.”

—*Chicago Tribune* (Banchero, 2006, sec. 4)

Gender cannot be ignored as an issue in education. The question isn’t *whether* gender should be raised as an issue in public schools, but instead, *how* it should be raised. A growing body of research (Baron-Cohen, 2003; Deak, 2003; James, 2007, 2009; Kimura, 1999; Sax, 2005; Wilhelm, 2002) suggests there are important considerations about the differences in the ways boys and girls learn.

However, dealing with gender differences in the classroom is neither simple nor clear-cut. Effective educators know that the boys and girls in our classrooms have individual strengths and needs. Many schools already promote differentiated instruction to help teachers meet the needs of their students. Districts provide special education, and federal civil rights laws ensure that each student’s unique needs are met. New

technology enables school systems to deliver content to students in engaging ways and helps students access information in much more interesting ways. Some may ask, what more can the education establishment do? With all the resources teachers already have to meet the needs of students, why bring the issue of gender differences into the mix? The answer is that gender matters, and understanding gender differences can help students learn and teachers teach.

In the United States during the last several years, particularly since the federal government issued regulations in 2006 that modified Title IX and officially sanctioned single-gender classes and schools, many schools and districts have addressed the gender issue by instituting single-gender programs. The programs vary, and not one system fits every situation. But, regardless of variation, single-gender classrooms and schools are being implemented across the country.

As with most educational policies, there is controversy. At the time the federal guidelines were first issued, many groups and individuals voiced support for, and opposition to, allowing single-gender classes and schools. The debate continues on editorial pages of newspapers, during school faculty meetings, and among parents. Alice Ginsberg, Joan Shapiro, and Shirley Brown (2004), in their book *Gender in Urban Education*, highlight the issue: “Does gender equity mean the same things as being gender blind—that is, treating boys and girls exactly the same? Or does it mean paying closer attention to gender differences?” (p. 1).

Should I consider a single-gender program for my school?

Take a moment to consider your level of agreement with the following statements to determine your entry point into the conversation of gender.

- I believe students can perform better than they do now.
- I think that we, as part of the educational field, are not academically meeting the needs of our boys and/or girls.
- I think teachers can address the social needs of boys and girls better in single-gender classes.
- I think that the opposite gender negatively influences the behavior and performance of students.
- I think hormones play an important role in how boys and girls behave.
- I think there are some hard-wired differences that are important in the classroom.

STARTING POINT: EXAMINING GENDER INFLUENCES

Educators are certainly familiar with gender differences. They interact with boys and girls in the classroom every day, and most have heard about the “boy crisis” in achievement over the last several years. They are familiar with recent books on strategies for teaching boys and girls.

A balanced debate of gender in education includes four factors:

1. Data on student performance by gender
2. Socialization into male and female roles
3. Hormonal influences
4. Biological brain differences, often referred to as hard wiring

No one factor is more important than the others; they are simply ways to start the conversation about single-gender education. Certainly, they are not inclusive of all issues related to gender, and there is potential for overlap. But, for educators, these topics lead to observations about their own experiences and they stimulate thinking about how different students learn.

STUDENT PERFORMANCE

Can single-gender programs enhance student performance? Can they help teachers teach students more effectively? Teachers, administrators, and researchers are always looking at achievement and behavior data in classes and schools to improve learning results.

The first guiding questions are: How do boys and girls perform in relation to each other? Is there, in fact, a gender-based achievement gap in schools, districts, or states?

Take, for instance, the *Education Week* report, *Diplomas Count 2008*, which breaks down 2005 graduation rates (Table 1.1):

Table 1.1 2005 Graduation Rates by Gender and Ethnicity

	Males	Females
All Students	67.8	75.3
African Americans	48.2	61.3
Hispanic	52.0	62.7
White	74.3	79.8

Source: *Education Week*, 2008.

Based on these data, there is a gender difference in graduation rates across the United States. The difference exists across racial subgroups and is widest between African American girls and boys. Pedro Noguera (2008) summarizes:

Throughout the United States, Black males are more likely than any other group in American society to be punished (typically through some form of exclusion), labeled, and categorized for special education (often without an apparent disability), and to experience academic failure. (p. xvii)

While schools and communities are working to address this gap, single-gender classes may be a format where these efforts can reap better rewards. As educators and as a nation, we cannot simply accept graduation differences within the public education system.

Often, educators will look at the performance by gender on the National Association for Education Progress (NAEP) report, often called the Nation's Report Card. The change over time for fourth-grade and eighth-grade boys and girls follows a similar trend (see Tables 1.2–1.5 on pages 10–11). Boys and girls are improving on a very similar path (U.S. Department of Education, 1996, 1998, 2000, 2002, 2005, 2007).

In reading, there is an approximately 10 percentage point difference between the number of boys and girls who perform below the basic score at the eighth-grade level (see Table 1.3). Looking further back, boys have made progress: The difference decreased from 13 percentage points in 1992 to 9 percentage points in 2007. This is good news. However, girls consistently outscore boys at the proficient and advanced levels of reading. In mathematics, the performance of boys and girls is almost identical at every level (see Tables 1.4–1.5). In fact, the percentage of boys and girls who score at the below basic level are parallel each year. (For both reading and math, basic indicates students who have “partial mastery” of the expected knowledge, proficient indicates students who demonstrate “solid academic performance,” and advanced shows students with “superior performance.” Those students not scoring at least at basic are at the “below basic” level [U.S. Department of Education, 2008].)

NAEP data point to success for both boys and girls. After all, both boys and girls are improving in mathematics and reading. The gender gap in mathematics is essentially nonexistent, and the gender gap in reading is decreasing. As such, the story could go that there is no gender-based performance gap. In fact, this is the claim made by The American Association of University Women in its report *Where Girls Are* in May 2008:

Drawing from educational indicators from fourth grade to college, this report examines gender equity trends since the 1970s. The results put to rest fears of a “boys’ crisis” in education, demonstrating that girls’ gains have not come at boys’ expense. Overall,

10 Considering Single-Gender Education

Table 1.2 Student Performance on NAEP, Reading Grade 4, by Gender

Percent of Students At or Above Each Achievement Level for Reading in Grade 4, NAEP								
Year	Below Basic		At or Above Basic		At or Above Proficient		Advanced	
	Male	Female	Male	Female	Male	Female	Male	Female
1998	45	40	55	60	25	30	5	7
2002	41	35	59	65	26	33	5	8
2005	41	34	59	66	27	33	6	8
2007	38	31	62	69	29	35	6	9

Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.

Table 1.3 Student Performance on NAEP, Reading Grade 8, by Gender

Percent of Students At or Above Each Achievement Level for Reading in Grade 8, NAEP								
Year	Below Basic		At or Above Basic		At or Above Proficient		Advanced	
	Male	Female	Male	Female	Male	Female	Male	Female
1998	36	21	64	79	23	37	1	3
2002	30	21	70	79	26	36	2	3
2005	34	24	66	76	24	34	2	3
2007	32	23	68	77	24	34	1	3

Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.

Table 1.4 Student Performance on NAEP, Mathematics Grade 4, by Gender

Percent of Students At or Above Each Achievement Level for Mathematics in Grade 4, NAEP								
Year	Below Basic		At or Above Basic		At or Above Proficient		Advanced	
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>
1996	39	39	61	61	20	19	3	2
2000	35	38	65	62	25	20	3	1
2005	20	21	80	79	37	33	6	4
2007	18	19	82	81	41	36	7	4

Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.

Table 1.5 Student Performance on NAEP, Mathematics Grade 8, by Gender

Percent of Students At or Above Each Achievement Level for Mathematics in Grade 8, NAEP								
Year	Below Basic		At or Above Basic		At or Above Proficient		Advanced	
	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>	<i>Male</i>	<i>Female</i>
1996	40	42	60	58	23	21	4	3
2000	38	38	62	62	26	23	5	4
2005	32	33	68	67	30	27	6	5
2007	29	30	71	70	33	29	8	6

Note: Observed differences are not necessarily statistically significant. Totals might not add up to 100 percent due to rounding.

Source: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics.

educational outcomes for both girls and boys have generally improved or stayed the same. Girls have made especially rapid gains in many areas, but boys are also gaining ground on most indicators of educational achievement. (p. 3)

Despite the apparent clarity of the report, however, it was met with swift disagreement. As one *USA Today* (2008) editorial opined:

The facts show that gender gaps start to emerge in elementary school and widen in middle school. Over the past thirty years of federal testing, girls’ advantages on verbal tests have widened while the boys’ advantages in math have narrowed. Girls end up graduating from high school at higher rates, earning far better grades and reaping most of the academic honors. This trend continues into college—the key to economic success in today’s economy—where women are earning 62 percent of associate’s degrees, 57 percent of bachelor’s and 59 percent of master’s. (Yes, university, para. 4)

NAEP is a useful gauge of educational performance. However, principals and teachers from across the country continue to report that boys are doing poorly academically when compared to girls, and that boys have more discipline referrals than girls. The data that seem to really matter to teachers and parents are the performance of students in their own schools, rather than on national standardized tests.

NAEP data are only part of the story about gender; individual state data provide a more detailed picture of what is happening with our boys and girls. In South Carolina, for example, students take the Palmetto Achievement Challenge Test (PACT) in Grades 3–8 (see Table 1.6). From 2005–08 there is a consistent gender achievement gap on the percentage of students scoring Below Basic on the English Language Arts portion of the exam, with boys running behind by between 8 and 14%. Boys are simply not performing at comparable levels to girls.

Table 1.6 Data From South Carolina State Report Card, 2005–2008

South Carolina: Percent of Students Scoring Below Basic in English Language Arts						
	3rd Grade	4th Grade	5th Grade	6th Grade	7th Grade	8th Grade
Female	9.60	14.35	16.90	23.68	21.15	21.50
Male	17.28	23.03	27.25	36.93	35.58	33.68

Source: South Carolina Department of Education, 2005–2008.

Looking at state report cards from South Carolina, New York, Illinois, and Washington—states that were picked as samples from the southern, northeastern, midwestern, and western regions of the country—it becomes apparent that there is indeed an achievement gap by gender that is pervasive across the country (see Tables 1.7–1.9). Results from other state assessments show a similar pattern to those of South Carolina, with the percentage of boys not meeting basic levels of achievement consistently higher than the percentage of girls who are underperforming.

Educators should ask themselves why this gender achievement gap exists, and review their own classroom, school, district, and state data. Skeptics may argue that data can be found to support any position. However, given the undeniable gender gap across the country, shouldn't we start looking at education and instruction through a gender lens?

SOCIAL DIFFERENCES

Of course, there are other factors to consider, apart from the evidence of academic test scores. Some single-gender educators argue that boys and girls should be schooled separately in order to provide an environment that encourages full participation and opportunity to express opinions without the influence of opposite-sex students. They believe that in a classroom free of boys, girls will have the chance to be the leaders and speak their opinions without fear of being laughed at by the boys. Also, in single-gender classrooms, girls, they claim, are not overly concerned about their appearance in relation to the males. Many find the atmosphere liberating. Conversely, boys have the opportunity to be themselves in a single-gender class without worrying that girls will think they are “dumb” when giving an answer or worrying about getting in trouble because the girls complain about them.

Supporters also argue that single-gender classes allow teachers to focus on either boys or girls and create an environment that promotes students' learning. Text selections, video selections, lesson examples, teacher questions, and class projects can all be used to allow boys and girls to freely engage in learning by questioning stereotypes of femininity and masculinity as well as follow areas of interest.

On the other side of the debate, an often-cited report looks at the negative social effects of students in single-gender classes. In 1997, California Governor Pete Wilson funded several schools that started single-gender programs. Though there were difficulties in implementation, researchers found that “Traditional gender stereotypes were often reinforced in the single-gender academies. Boys tended to be taught in a more regimented, traditional and individualistic fashion, and girls in more nurturing, cooperative and open environments” (Datnow, Hubbard, & Woodly, 2001, p. 7).

Certainly, the danger of exacerbating stereotypes is real within single-gender programs. And that is why, later in this book, the need for staff

Table 1.7 Data From New York State Report Card, 2007

New York: Percent of Students Scoring a 1 (not meeting standard) or 2 (partially meeting standard) on State Assessment, 2006–2007																								
Gender	3rd Grade		4th Grade		5th Grade		6th Grade		7th Grade		8th Grade													
	Reading	Math	Reading	Math	Reading	Math	Reading	Math	Reading	Math	Reading	Math												
Level	1	2	1	2	1	2	1	2	1	2	1	2	1	2										
Female	7	29	4	14	6	28	6	20	4	30	5	24	2	33	8	28	4	37	6	31	4	37	11	39
Male	11	36	5	15	10	35	6	20	6	34	6	24	3	30	10	29	7	47	9	35	8	48	13	43

Source: New York State Report Card, 2007.

Table 1.8 Data From Illinois State Report Card, 2007

Illinois: Percent of Students Scoring a 1 (not meeting standard) or 2 (partially meeting standard) on State Assessment, 2006–2007																								
Subject	3rd Grade		4th Grade		5th Grade		6th Grade		7th Grade		8th Grade													
	Reading	Math	Reading	Math	Reading	Math	Reading	Math	Reading	Math	Reading	Math												
Level	1	2	1	2	1	2	1	2	1	2	1	2	1	2										
Female	3.6	19.0	3.1	9.7	0.5	22.5	0.8	11.9	0.5	26.0	0.4	15.9	0.1	22.8	0.3	16.5	0.3	22.2	1.7	17.8	0.3	13.6	0.9	16.2
Male	7.0	24.3	4.3	9.4	1.5	27.9	1.5	13.1	1.0	33.0	0.7	18.0	0.3	29.9	0.7	19.5	0.7	29.9	2.8	18.8	0.8	21.6	1.5	18.8

Source: Illinois State Report Card, 2007.

Table 1.9 Data From Washington State Report Card, 2007

Washington: Percent of Students Scoring a 1 (not meeting standard) or 2 (partially meeting standard) on State Assessment, 2006–2007																								
Subject	3rd Grade		4th Grade		5th Grade		6th Grade		7th Grade		8th Grade													
	Reading	Math	Reading	Math	Reading	Math	Reading	Math	Reading	Math	Reading	Math												
Level	1	2	1	2	1	2	1	2	1	2	1	2	1	2										
Female	8.3	14.7	13.0	16.1	4.4	17.6	21.9	22.5	5.7	15.2	14.5	21.2	5.0	20.0	21.8	26.9	6.6	23.4	27.0	19.7	6.3	20.0	21.9	24.1
Male	14.4	18.7	15.3	16.4	7.7	23.1	24.5	22.0	8.9	17.2	18.3	21.7	9.3	26.0	25.6	25.6	12.0	29.2	30.1	19.6	11.5	26.2	25.1	22.0

Source: Washington State Report Card, 2007.

development before implementing a single-gender program is stressed. However, the assumption that keeping boys and girls together automatically eases stereotypes and social concerns for boys and girls is not supported by recent publications. Authors concerned with the well-being of students cite powerful data that show the vulnerabilities of each gender. Consider these statistics for girls:

- One in four girls will show signs of depression.
- One in four girls will be in an abusive relationship.
- Girls are two times more likely than boys to attempt suicide.
- Girls are five times less likely than boys to receive attention from teachers.
- By age 13, 53 percent of girls are unhappy with their body.
- By age 18, 78 percent of girls are unhappy with their body (Deak, 2002).
- Girls are three times more likely to be told to be quiet, speak softly, or talk with a “nice” voice (Simmons, 2002).

Consider these statistics for boys:

- Boys are three times more likely than girls to commit a violent crime.
- Boys are four–six times more likely than girls to commit suicide (Pollack, 1999).
- Seventy percent of special-education students are boys.
- Eighty percent of discipline referrals are boys.
- Up to 70 percent of the Ds and Fs are made by boys (Gurian & Stevens, 2005).
- One in 112 males were sentenced to prison, while one in 1,724 women were (Slocumb, 2004).

Given these statistics, one must question whether we are meeting the needs of students in a coed environment; the coed classroom would not seem to be the only model to address socialized expectations and stereotypes. Any discussion about single-gender programs involving socialization, then, should include the reality of boys’ and girls’ school lives.

HORMONAL DIFFERENCES

JoAnn Deak, author of *Girls Will Be Girls* (2002), writes that several hormones play an important role in the lives of girls. She explains:

Although it is not known why, the fact is fairly well established that estrogen has an enhancing effect on some areas of the left

hemisphere of the brain, and testosterone has an enhancing effect on some areas of the right hemisphere of the brain. This means that most girls are slightly predisposed, and therefore more comfortable, with sequential, detailed, language-based factual tasks. (p. 83)

Imagine a lesson with clear beginning, middle, and end where the teacher leads students from the introduction, through modeling, to independent practice. If Deak is correct, then girls may prefer this form of learning and possibly respond better to this form of teaching. What about the boys? Perhaps they will get frustrated, be impatient with the process, or disengage from the lesson.

Deak is not the only author who puts forward the idea that hormones can influence learning. Melissa Hines (2004), psychologist and researcher on neuroendocrinology, states, "Gonadal hormones androgen and estrogen have powerful influences on the development of brain regions that show sex differences, as well as on behaviors that show sex differences" (p. 3). From this point of view, knowing how these hormones work and how they influence a boy's or girl's actions can benefit the instructional decisions of a teacher. Consider Thomas Armstrong's (2006) statement in *The Best Schools*:

Contrary to popular belief, it is not so much the direct influence of hormones on the body that is associated with the emotional turbulence of puberty. Rather, it is the impact that these hormones have on the development of the brain. Surges of testosterone at puberty, for example, swell the amygdala, an almond-shaped part of the limbic system (emotional brain) that generates feelings of fear and anger. Similarly, estrogen seems to affect serotonin levels at puberty, accounting for higher rates of depression among teenage girls. (p. 115)

No one disputes that the mix and levels of hormones in girls and boys differ. Authors vary in terms of the influence hormones have on learning. Some suggest hormones dictate everything (Brizendine, 2006). Doreen Kimura, in her book *Sex and Cognition* (1999), argues that hormones cause predictable performance differences, explaining:

Women undergo large variations in estrogen and progesterone levels across the natural menstrual cycle. Men experience changes in testosterone levels across the seasons, and within the course of the day. In both sexes, such hormonal changes are associated with predictable changes in cognitive strengths. (p. 115)

Psychologist Susan Pinker (2008) pushes the argument even further by claiming, “The level and type of hormones circulating in the bloodstream are linked with how well you solve spatial tasks, how expertly you read others’ emotions, how easily you trust other people, and, not surprisingly, the types of jobs you choose” (p. 219). To some, this may sound like justification for limiting the options of students. To others, this may provide liberation to finally understand the influences within one’s life and make informed choices.

Refuting the hormone argument altogether, Rosalind Barnett and Caryl Rivers, in their book *Same Difference* (2004), assert, “It seems laughable to believe that one hormone [testosterone] could be responsible for this cartoonish version of masculine behavior, and that the lack of it would disqualify one from positions of leadership” (p. 178). They say, “Blaming hormones for women’s ‘frailties’ is an old story” (p. 183). Hines (2004), while recognizing that there are hormonal influences, cautions, “Few data are available linking structural sex differences to functional sex differences. . . . Experience can alter sex differences in brain structure” (p. 221). In the rush to provide evidence for sex differences and explanations for performance sex differences, educators and authors sometimes make an uninformed leap from the emerging science of sex differences to advising instructional practices. Only by examining different perspectives of sex differences, and reflecting on these arguments in light of one’s own classroom experiences and students, can educators make informed decisions.

Clearly, hormones vary in males and females. In the context of single-gender education, the controversy centers on how much teachers should take hormonal fluctuations into account when planning lessons and interacting with students. Can the premise of hormonal differences help teachers make sense of actions within the classroom without limiting what boys and girls are capable of achieving? Should teachers consider boys’ testosterone levels as an excuse for aggressive behavior? Can teachers better understand girls’ interactions through the lens of the hormone estrogen?

BRAIN DIFFERENCES

Perhaps no factor of the gender issue is more hotly debated than the idea that boys and girls are born with different biological brain makeup, sometimes referred to as “hard wiring.”

Leonard Sax, a family physician and psychologist, is probably the most outspoken advocate of brain-based differences between boys and girls. His book, *Why Gender Matters* (2005), is a treatise on how boys and girls are different and why these differences matter. He argues, “Stuck in a mentality that refuses to recognize innate, biologically programmed differences between girls and boys, many administrators and teachers don’t fully

appreciate that girls and boys enter the classroom with different needs, different abilities, and different goals” (p. 9). Sax is clearly charging educators to recognize that there are innate, biological differences in how boys and girls learn.

Brizendine (2006), from a neuropsychiatric perspective, also supports the idea there are brain-based differences between males and females. She claims:

The female brain has tremendous unique aptitudes—outstanding verbal agility, the ability to connect deeply in friendship, a nearly psychic capacity to read faces and tone of voice for emotions and states of mind, and the ability to defuse conflict. All of this is hard-wired into the brains of women. These are the talents women are born with that many men, frankly, are not. (p. 8)

Eric Jensen and David Sousa are widely published authors on brain development and its impact on learning. They are not gender-study authors, but they have found that gender impacts student learning. For instance, Sousa, in his book *How the Brain Learns* (2006), says:

Scientists have known for years that there are structural and developmental as well as performance differences between male and female brains. Studies begun in the early 1970s and subsequent studies by other researchers have shown some gender differences in brain characteristics and capabilities. PET scans and MRIs, for instance, indicate that males and females use different areas of their brains when accomplishing similar tasks. (p. 172)

Jensen agrees in his book *Brain-Based Learning* (2000):

Gender issues are extremely complex. The variations within the gender groups are as great as those found between genders. This does not negate the fact, however, that in general a variety of social and biological differences between men and women exist and they impact learning. (p. 91)

There are authors who argue there are no hard-wired differences between boys and girls that are meaningful. Deborah Blum, author of *Sex on the Brain* (1997), recognizes, “Gender biology has extraordinary promise if—and this may be an insurmountable if—we are willing to give it an objective hearing” (p. 279). Later, she asserts, “We have to get away from the outdated notion that biology assigns us a fixed place” (p. 280). Lise Eliot, an associate professor of neuroscience, and Susan Bailey, executive director of the Wellesley Centers for Women (2008), announced their opinion in a *USA Today* editorial that there were no hard-wired differences between girls and boys.

Rosemary Salomone, author of *Same, Different, Equal* (2002), played a key role in revising the federal regulations that ultimately made it legal to create single-gender classes in public schools while still adhering to Title IX legislation. However, recently, she has stated, “Every time I hear of school officials selling single-sex programs to parents based on brain research, my heart sinks” (as cited in Weil, 2008, p. 41). While supportive of single-gender schools and programs, Salomone dismisses hard-wiring differences in boys and girls as an argument for single-gender classes.

A brief dip into the literature on this topic reveals diametrically opposed viewpoints, and a discussion of hard-wired differences frequently turns into a vigorous debate about which research is valid. However, often when teachers are exposed to the research-based ideas of how boys and girls learn differently, they can’t help but reflect on their teaching and see their own students through that prism. Thus, they gain another framework of understanding why certain events may happen in their classroom and possibly use those observations to better meet the needs of their students.

GENDER IS AN ISSUE

How should your school address gender? This first step is to gather performance data and then reflect on stereotypes and social concerns of boys and girls in your school. Then, learn more about hormonal and brain differences debate between boys and girls. In fact, engaging in discussion about each of the four mentioned areas of gender will provide opportunities to grapple with the issue of gender and how to best educate your students. It is difficult to deny that gender plays a role in education, and whatever conclusions your school or district may reach, the issue of differential achievement needs to be faced and addressed whether in single-gender or coed settings.

Educators and parents alike will want to know what the differences are that matter for their children: What do gender differences mean within the classroom? For teachers, this is an area for professional development and is explored in Chapter 10. It is beyond the scope of this book to explore the topic of gender differences in detail, but a summary is included in Table 1.10, along with resources for further reading and ways that teachers might use the information within their classroom. The table organizes gender differences into six categories—seeing, hearing, engaging, processing, responding, and choosing—that seem to be most helpful for educators and parents. The table is not an exhaustive list, but something that can be used with parents and teachers as an introduction. Of course, caution is necessary whenever talking about gender differences, making sure that stereotypes and absolutes are not reinforced.

Table 1.10 Summary of Gender Differences

Category of Difference	Summary of Difference	Further Reading	Insight Into Classroom
Seeing	Boys' eyes tend to focus on the motion of objects and cool colors; girls' eyes tend to focus on the description of the objects and warm colors.	<p>Baron-Cohen, S. (2003). <i>The Essential Difference</i>: pp. 76, 79</p> <p>Deak, J. (2003) <i>Girls Will Be Girls</i>: p. 42</p> <p>Fletcher, R. (2006). <i>Boy Writers</i>: pp. 91, 119</p> <p>Hall, J. (1984). <i>Nonverbal Sex Differences</i>: p. 27</p> <p>James, A. (2007). <i>Teaching the Male Brain</i>: pp. 20, 32, 39</p> <p>Jensen, E. (2000). <i>Brain-Based Learning</i>: pp. 56, 95</p> <p>Kimura, D. (1999). <i>Sex and Cognition</i>: pp. 91, 95</p> <p>Newkirk, T. (2002). <i>Misreading Masculinity</i>: pp. 65, 170, 172, 183</p> <p>Sax, L. (2005). <i>Why Gender Matters</i>: pp. 19, 20</p> <p>Sousa, D. (2006). <i>How the Brain Learns</i>: p. 175</p>	<p>Teachers may use their own movement as an instructional tool.</p> <p>Teachers may focus on presentation and details of a project without emphasizing colors.</p> <p>Teachers may be aware of their own use of colors as well as student choices.</p>
Hearing	Girls tend to hear better than boys and hear tones better than boys.	<p>James, A. (2007). <i>Teaching the Male Brain</i>: pp. 19, 37, 43</p> <p>Jensen, E. (2000). <i>Brain-Based Learning</i>: pp. 69, 95</p> <p>Kimura, D. (1999). <i>Sex and Cognition</i>: pp. 81–82, 89</p> <p>Sax, L. (2005). <i>Why Gender Matters</i>: pp. 17, 18</p>	<p>Teachers may be aware of their own volume and tone during instruction and question/answer.</p> <p>Teachers may check to see if students are being distracted by loud work time before correcting students.</p>

(Continued)

Table 1.10 (Continued)

Category of Difference	Summary of Difference	Further Reading	Insight Into Classroom
Engaging	Boys' engagement tends to be more dominant with the sympathetic nervous system (known as the fight or flight system); girls' engagement tends to be more dominant with the parasympathetic nervous system (known as the rest and digest system).	<p>Dart, A. et al. (2002). <i>Gender, Sex Hormones and Autonomic Nervous Control of the Cardiovascular System</i>: pp. 2–3</p> <p>Jensen, E. (2000). <i>Brain-Based Learning</i>: pp. 162–163</p> <p>Newkirk, T. (2002). <i>Misreading Masculinity</i>: pp. 42, 67</p> <p>Sax, L. (2005). <i>Why Gender Matters</i>: p. 69</p>	<p>Teachers may be aware of students' need for movement and these moments as instructional opportunities.</p> <p>Teachers may incorporate a variety of ways for students to complete tasks and demonstrate their learning.</p>
Processing	Girls tend to process events and information in analytical and emotional aspects, considering differing perspectives more often; boys tend to process events and information in an either/or perspective.	<p>Deak, J. (2003). <i>Girls Will Be Girls</i>: pp. 43–44, 55–57, 197</p> <p>Fletcher, R. (2006). <i>Boy Writers</i>: pp. 54, 83</p> <p>Ginsberg, A., et al. (2004). <i>Gender in Urban Education</i>: pp. 78, 114</p> <p>James, A. (2007). <i>Teaching the Male Brain</i>: p. 18</p> <p>Jensen, E. (2000). <i>Brain-Based Learning</i>: pp. 203, 208</p> <p>Jensen, E. (2006). <i>Enriching the Brain</i>: p. 102</p> <p>Newkirk, T. (2002). <i>Misreading Masculinity</i>: p. 39</p> <p>Sax, L. (2005). <i>Why Gender Matters</i>: pp. 29, 93</p> <p>Simmons, R. (2002). <i>Odd Girl Out</i>: pp. 30–31</p> <p>Sousa, D. (2006). <i>How the Brain Learns</i>: p. 173</p>	<p>Teachers may be aware of the overall climate of the classroom environment.</p> <p>Teachers may provide opportunities for students to make connections between content and applications to their own lives, and raise questions about the material.</p>

Category of Difference	Summary of Difference	Further Reading	Insight Into Classroom
Responding	Boys tend to respond to appropriate instructional stress with alertness and action; girls tend to respond to appropriate instruction stress with anxiety more often than boys.	<p>Baron-Cohen, S. (2003). <i>The Essential Difference</i>: pp. 1, 50, 57, 66</p> <p>Hines, M. (2004). <i>Brain Gender</i>: pp. 16, 17</p> <p>Slocumb, P. (2004). <i>Hear Our Cry: Boys in Crisis</i>: pp. 17, 37, 64, 69, 77</p> <p>Baron-Cohen, S. (2003). <i>The Essential Difference</i>: pp. 30, 32, 44, 46</p> <p>Maccoby, E. (1966). <i>Development of Sex Differences</i>: pp. 32–33</p> <p>Rimm, S. (1999). <i>See Jane Win</i>: p. 12</p> <p>Sax, L. (2005). <i>Why Gender Matters</i>: pp. 68–69, 89</p>	Teachers may be aware of competition, time, and pace as instructional factors within the classroom.
Choosing	Girls tend to underestimate their abilities and see success as a result of hard work; boys tend to overestimate their abilities and see success as a result of being smart.	<p>Deak, J. (2003). <i>Girls Will Be Girls</i>: pp. 223, 229</p> <p>Maccoby, E. (1966). <i>Development of Sex Differences</i>: p. 32</p> <p>Newkirk, T. (2002). <i>Misreading Masculinity</i>: pp. 38, 79, 94, 110, 120–121</p> <p>Pollack, W. (1999). <i>Real Boys</i>: p. 8</p> <p>Sax, L. (2005). <i>Why Gender Matters</i>: pp. 42–43</p> <p>Simmons, R. (2002). <i>Odd Girl Out</i>: pp. 46, 84</p> <p>Slocumb, P. (2004). <i>Hear Our Cry: Boys in Crisis</i>: p. 38</p>	Teachers may be aware of the need to structure opportunities for students to develop responsibility and self-efficacy.



CHAPTER 1 PLANNING TOOL: REFLECTING ON GENDER

Use the following prompts (from the questions posed at the beginning of the chapter) to help reflect on the main ideas of the chapter and organize a plan of implementation. Agreeing with any one of these statements provides motivation to consider single-gender programs. The remainder of this book is to help those who are taking that journey.

<p>Indicate the level of agreement you have with each statement and why.</p> <p>SD = Strongly Disagree, D = Disagree, SWD = Somewhat Disagree, SWA = Somewhat Agree, A = Agree, SA = Strongly Agree</p>	
<p>I believe students can do better than they do now.</p> <p>Reason:</p>	SD–D–SWD–SWA–A–SA
<p>I think that we, as part of the educational field, are not academically meeting the needs of our boys and/or girls.</p> <p>Reason:</p>	SD–D–SWD–SWA–A–SA
<p>I think the opposite gender negatively influences the behavior and performance of students.</p> <p>Reason:</p>	SD–D–SWD–SWA–A–SA
<p>I think teachers can better address social needs of boys and girls in single-gender classes.</p> <p>Reason:</p>	SD–D–SWD–SWA–A–SA
<p>I think hormones play an important role in how boys and girls behave.</p> <p>Reason:</p>	SD–D–SWD–SWA–A–SA
<p>I think there are hard-wired differences in students.</p> <p>Reason:</p>	SD–D–SWD–SWA–A–SA