

# BEST PRACTICES FOR TEACHING BOYS

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## Abstract

Boys are the ones in trouble, they say. They are trailing girls in reading and writing, are more likely to get in trouble or be labelled as learning disabled, and are less likely to go to college. Educators, citing emerging brain research, say that the two sexes learn differently and that schools are more geared to girls than to their ants-in-the-pants counterparts. But they are adopting strategies to help boys succeed, from playing multiplication baseball to handing out stress balls and setting up boys-only schools. Nowadays, there is an urgent call for a more significant presence of male teachers in primary schools. Here are the results of an extensive research concerning gender differences that occur in school learning. We illustrate them also in order to promote more adequate teaching methods. We analyze nine kinds of difference between boys and girls in learning and in school behaviour, that should be taken into account in the first cycle of education and that are derived from international researches carried out in Western countries: movement and physical activity within the regular classroom curriculum, cognitive skills, emotions and feelings, relationship with the authority, relationships with peers, metacognitive skills, commitment and perseverance in working, reaction to failure, self-esteem. In order to verify the results of these studies and to guide teachers in the design first and then in the storytelling of teaching practices that take into account gender differences, we analyze the spontaneous teaching actions of 44 teachers - with students aged between eight and twelve years old -, who claimed to be attentive to the enhancement of specific feminine and masculine traits in their teaching activities. We identified indicators of gender differences, that teachers should consider, partially changing their teaching activities, if they want to offer both to boys and girls equal opportunities of school success. This research will provide future teachers with an innovative opportunity to engage in hands-on activities, participate in content-based discussions, share classroom materials, learn about web-based teaching resources, and exchange best practices for teaching boys.

Keywords: personalized education, gender differences, learning indicators, educational practices.

## 1 INTRODUCTION

This paper explores the effects of specific teacher threshold knowledge about boys and gender on the implementation of a so-called 'boy friendly' curriculum at one junior secondary high school in Italia. Through semi-structured interviews with selected staff at the school, it examines the normalizing assumption and 'truth claims' about boys, as gendered subjects, which drive the pedagogical impetus for such a curriculum initiative. Experience and learning by doing was frequently cited by teachers in describing their learning style, as was relation to life experience (specifically sports and other common interests). While the specific measures did not produce responses strong enough for significance to be found, teachers do appear—to an extent—to be embodying methods that relate to research in cognitive differences. This research raises crucial questions about the need for the formulation of both school and governmental policy grounded in sound research-based knowledge about the social construction of gender and its impact on the lives of both boys and girls and their experiences of schooling. In examining how quality pedagogy might constitute best practice in boys education, this paper affirms the importance of teachers drawing on key research-based understandings and knowledges about gender. The Productive Pedagogies model is presented as potentially generative in enhancing boys social and academic outcomes. In facilitating a broadening of boys understandings of masculinity, but in particular in helping boys to construct affirmative masculinities.

## 2 THE MINDS OF BOYS

What, then, are some of the qualities that are generally more characteristic of boys' brains? Because boys' brains have more cortical areas dedicated to spatial-mechanical functioning, males use, on average, half the brain space that females use for verbal-emotive functioning. The cortical trend toward spatial-mechanical functioning makes many boys want to move objects through space, like

balls, model airplanes, or just their arms and legs. Most boys, although not all of them, will experience words and feelings differently than girls do (1).

Boys not only have less serotonin than girls have, but they also have less oxytocin, the primary human bonding chemical. This makes it more likely that they will be physically impulsive and less likely that they will neurally combat their natural impulsiveness to sit still and empathically chat with a friend (2).

Boys lateralize brain activity. Their brains not only operate with less blood flow than girls' brains, but they are also structured to compartmentalize learning. Thus, girls tend to multitask better than boys do, with fewer attention span problems and greater ability to make quick transitions between lessons (3).

The male brain is set to renew, recharge, and reorient itself by entering what neurologists call a rest state. The boy in the back of the classroom whose eyes are drifting toward sleep has entered a neural rest state. It is predominantly boys who drift off without completing assignments, who stop taking notes and fall asleep during a lecture, or who tap pencils or otherwise fidget in hopes of keeping themselves awake and learning. Females tend to recharge and reorient neural focus without rest states. Thus, a girl can be bored with a lesson, but she will nonetheless keep her eyes open, take notes, and perform relatively well. This is especially true when the teacher uses more words to teach a lesson instead of being spatial and diagrammatic. The more words a teacher uses, the more likely boys are to “zone out,” or go into rest state. The male brain is better suited for symbols, abstractions, diagrams, pictures, and objects moving through space than for the monotony of words (4).

These typical “boy” qualities in the brain illustrate why boys generally learn higher math and physics more easily than most girls do when those subjects are taught abstractly on the chalkboard; why more boys than girls play video games that involve physical movement and even physical destruction; and why more boys than girls tend to get in trouble for impulsiveness, shows of boredom, and fidgeting as well as for their more generalized inability to listen, fulfill assignments, and learn in the verbal-emotive world of the contemporary classroom.

### **3 BOYS AND FEELINGS**

The little boy would regularly blow up in class, then bolt out of the room and out of the school. The assistant principal would chase him and get him back into the building. The boy lacked the verbal-emotive abilities to help him cope with his feelings.

After attending male/female brain difference training, the assistant principal decided to try a new tactic. The next time the boy bolted, she took a ball with her when she went after him. When she found the boy outside, she asked him to bounce the ball back and forth with her. Reluctant at first, the boy started bouncing the ball. Before long, he was talking, then sharing the anger and frustration that he was experiencing at school and at home. He calmed down and went back to class. Within a week, the boy was able to self-regulate his behavior enough to tell his teacher that he needed to go to the office, where he and the assistant principal would do their “ball routine” and talk. Because he was doing something spatial-mechanical, the boy was more able to access hidden feelings.

It has been argued by some commentators that a contributory factor to boys' underachievement is the predominance of women teachers in primary schools which has led to classroom management and teaching styles that favor girls.

What are the tensions for boys between what the school expects from them as pupils and how they are drawn to behave as boys? How does a primary school produce certain masculine styles in its day-to-day routines? In what ways do girls respond to male practices and behaviors in the primary school classroom? Why all Boys?

Research confirms that young men, particularly minorities, are the most educationally at-risk.

### **4 THE EDUCATION OF BOYS**

In addressing the apparent shortcomings of boys, the research provides a strong caution about the limits of neuroplasticity (the brain's ability to be altered). Science shows us that brains develop thicker neural networks and greater dendritic connections with learning. With practice, girls and boys can develop strengths that do not naturally come easily to their gender. Thus, we are left with the need to accommodate gender differences without the hope of a universal education prescription for all brains. The question is: how?

Educational literature is rich with books and articles about how best to address gender differences through teaching methodology. In fact a Google search of “brain AND teaching strategies AND gender differences” yielded 160 000 listings! While some of the methods suggested in the literature may leave educators baffled (such as instructions to use pink in all-girls classrooms and soft blue for all-boys classrooms), many of the brain-based gender strategies will not seem particularly new, and have been in use within co-educational classrooms for some time. Other strategies are significantly different for each gender and suggest the need for a gender- specific education system.

The literature is clear that to address boys’ multivariate needs, one requires a multitude of strategies. For instance, practically all educational theorists encourage teaching through the provision of hands-on and experiential activities. For boys, this is particularly important because their brains (with their innate spatial-mechanical and gross motor skills aptitude) are highly geared toward the physical universe. When boys are engaged in kinaesthetic activities, such as using manipulatives in mathematics or building a model of a fur trading fort in social studies, they will not only be more interested in what they are doing, but they will also be strengthening neural connections within the most active areas of their brains. However, hands-on activities can also be designed to help improve boys’ fine motor skills, which are weaker than girls’. Activities such as beadwork, creating circuit boards in science, and detailed map sketching are engaging and will improve their small muscle hand-eye coordination.

Where possible, key lesson ideas should be conveyed using diagrams, charts, maps, symbols, analogy, and mental imagery to supplement verbal and written instruction. Gurian and Stevens (5) caution that the more words teachers use, the more boys lose track of meaning and become “bored” (p. 23). During physical activities teachers can ask boys to describe their experiences verbally and in writing. When physical activities are connected to communication, it becomes easier for boys to express themselves. This way the language areas of their brains that lag behind girls in development are also stimulated. Sax (6) states that verbal instructions should not be too long or too complex, especially for younger boys. Sax also reports that teachers in all-boys schools have found that verbal instructions should be delivered in a loud voice, since speaking softly puts boys to sleep, and may even demonstrate weakness or inferiority.

A rationale to explain why boys have a difficult time transitioning between topics might be their greater asymmetric brain activity. Gurian and Stevens recommend that teachers stick to one key idea per activity or give enough wait time to allow boys’ brains to switch modes. For high school-aged boys, a semester system may be more successful than linear ones, as it makes for fewer transitions during the day and fewer subjects to focus on during the week. Furthermore, increasing school day start times to begin a little later in the morning has been demonstrated to have positive effects on both boys’ and girls’ attendance rates, academic success, and focus in class (7).

The links between focus in class and academic success are easy to establish. One of the reasons why boys make up around two thirds of the diagnosed learning disabilities (such as ADD and ADHD) is because their brain physiology leads to lower attention spans, so they frequently find it difficult to sit still and listen. While classroom instructional methods are crucial to maintaining engagement and focus, attention to physical space and environment within the classroom is also important. Ergonomic specialists have found that boys learn better and stay more focussed when classrooms are kept cool. According to Sax (8), a temperature of 69°F is ideal for boys (too warm and they fall asleep), compared to 75°F for female students – a detail that he calls “six degrees of separation”. To maintain focus, boys should also be given more opportunities for movement in the classroom. This might be achieved through creating greater space between desks (for arms to swing out) or allowing alternative seating arrangements, including the possibility of sitting and stretching out on the floor during parts of the lesson. Repetitive pen tapping, leg swinging or arm flapping should not be thought of too harshly by the teacher. Such small physical activities are often unconscious and can actually help boys focus on lesson activities by engaging the spatial-mechanical areas of their brains.

Encouraging healthy competition (through sport and academic opportunities) is another good strategy for engaging boys’ energetic spirits. Males enjoy competing and can often be spurred on to greater performance when there are reputations and pecking orders at stake. When girls are seen performing some tasks at a much higher level, many boys see these activities as games they cannot win. Hence, they may not even try. From a physiological point of view, competition allows boys to work out some of their aggressive behaviour needs, caused jointly by testosterone and their growing amygdalae. Further, competition may be used to build camaraderie and create powerful memories. Opponents who worry that competition begets stress are reminded that brain studies indicate boys thrive under stress - at least manageable doses of it.

Competition is only one aspect of creating bonding opportunities for boys within the school environment. Forging emotional connections are crucial since relationship building is not students – a detail that he calls “six degrees of separation”. To maintain focus, boys should also be given more opportunities for movement in the classroom. This might be achieved through creating greater space between desks (for arms to swing out) or allowing alternative seating arrangements, including the possibility of sitting and stretching out on the floor during parts of the lesson. Repetitive pen tapping, leg swinging or arm flapping should not be thought of too harshly by the teacher. Such small physical activities are often unconscious and can actually help boys focus on lesson activities by engaging the spatial-mechanical areas of their brains.

Research also shows that many adolescent boys simply do not see the relevance school has for their lives, especially when there are high paying jobs available that do not require high school graduation (9). While improving their learning experience is one part of solving male dropout problems, increasing their emotional connections to school will also help. While the classroom teacher has an impact on student attitudes and commitment to academics, it is important to note that many boys lack positive male role models in their lives. This is especially true for younger children, as most elementary school teachers are female. One strategy to address this lack of male presence in the classroom includes exposing boys regularly and purposefully to male figures (other teachers, volunteers, and guest speakers), who can model healthy values, attitudes, and behaviours. Not only can this provide boys with positive visual images, but having same gender role models is thought to improve both attitudes toward school and academic success (10). To create further personal connections boys should also be given opportunities to individualize their work spaces (11). This might include decorating cubbies and desks for elementary-aged children or personalizing lockers for middle and high school-aged boys. Posting projects, art and pictures of boys and their friends throughout the halls can also foster school ownership and pride.

Gender sensitivity might also require different discipline techniques for boys and girls. When girls have behavioural problems, it is typically a successful course of action to begin by asking them to express their feelings and explain their actions. In contrast, Sax (12) states that asking a 17 year old boy to discuss his feelings will garner about the same results as asking a six year old – the areas of the brain that deal with emotional intelligence and perspective taking are simply not yet developed enough. Gurian and Stevens (13) share the observations of an assistant principal, who found a way to deal constructively with a young boy, who would act out explosively and then run out of the classroom. Instead of talking with him in her office, the assistant principal took him outside to bounce a ball. While passing the ball between them, she asked the boy to explain what happened. The physical activity gradually calmed him down and allowed him to articulate his frustrations.

## **5 A BEHAVIOURAL AND LEARNING OBSERVATION SCHEDULE FOR USE IN PRIMARY SCHOOLS**

Teachers can collect data on their pupils in various occasions. However, proceeding in an intuitive, occasional, episodic way it is easy that the relevant information is incomplete or distorted with the consequent risk of organizing plans that respond only partially to the different educational needs of boys and girls: teachers are not always able to understand the differences in learning styles of males and females; besides teachers often don't succeed nor in grasping adequately the various aspects of the differences between boys and girls, or in identifying more effective strategies to enhance the specificity of each one form time to time.

In consideration of these observations and on the basis of an overview of child's development in primary school that focuses attention on the various psychological, relational and learning aspects and on the main theoretical framework, this paper aims to facilitate the teacher's task to observe and understand the behaviour and learning of boys and girls both in coeducational classes and in single-sex classes so that it can offer concrete suggestions in order to choose the best constructs and signs to change the teaching.

## **6 THE DESCRIPTORS' CHOICE OF BOYS' AND GIRLS' BEHAVIOUR AND LEARNING IN PRIMARY SCHOOL**

The dimensions and indicators are almost unchanged, while the descriptors were partially modified because the manifestation of behavioural signs is different in the various stages of development: teachers chose behavioural signs more and more closely linked to concrete situations typical of the

first two and the last three classes of primary school. At the end of the work of reflection 4 aspects, 24 indicators and a variable number of descriptors for each indicator were identified.

We found that boys and girls, when they can choose freely, tend to do different activities: the first are more dynamic-operational, the second are more static-relational.

Between seven and ten years-old, boys are more skillful in the perception of spatial relationships, while the girls are more successful in the performance of linguistic skills.

Overall the girls are more skillful in dealing with anxiety than the boys.

The frequency of interventions in the classroom is observed for both males and females at all ages but more often in boys; girls wait before speaking up and interrupt less while others are talking. They have more skill and patience in supporting the conversations of classmates.

Significant differences also exist in the affective manifestations of boys and girls. At the same age, boys have more difficulties than girls in expressing their feelings and emotions. Unlike the boys, the girls are able to express naturally and spontaneously their intimacy, and their mutual confidences and conversations that are linked to issues of personal spheres.

In general, we observe that boys and girls differ in how they begin, perform and complete school work. In the course of research work it grew the chance to verify the manifestation of the behavioural and identified signs.

In Table it can read the descriptors of behaviour and learning at the beginning of the pupils of the first and second class and then of third, fourth and fifth grade of primary school.

Table I. Descriptors of behaviour and learning (male of primary school).

INDICATORS		DESCRIPTORS
1. Physical movement		
1.1 Requirement of movement at school	+	1. He prefers dynamic activities
	+	2. He is physically active
2. Cognitive skills		
2.1 Ability to capture the spatial relationships	+	3. He knows and recognizes the topological concepts left-right, up-down, forward-backward, inside-out
	+	4. He recognizes and represents forms found in nature or that have been built by man
	+	5. He recognizes missing parts in objects or pictures
	+	6. He puts in order of size objects
	+	7. He follows with his eyes moving objects
	+	8. He captures the similarities between different forms
2.2 Ability of verbal expression	-	9. He has a rich vocabulary
	-	10. He uses an articulate language to ask for and to offer explanations
	-	11. He tells a personal story or something that happened in class

### 3. Emotional response

#### 3.1 Anxiety control during performance

- + 12. He can hide the tension caused by frustration in the game or by the calls of the teacher
- 13. He manifests performance anxiety in the conduct of school activities such as testing and delivery given by the teacher in the classroom

#### 3.2 Impulsive interventions

- + 14. He intervenes on its own initiatives
- + 15. He joins with frequent interventions
- + 16. He participates with no contextualized interventions
- 17. He does ordered interventions
- 18. He respects the turn-taking

### 4. Affective manifestations

#### 4.1 Manifestation of their feelings

- 19. He expresses with the words his/her moods
- 20. He expresses through drawing an emotion or an experience
- 21. He expresses his emotions

#### 4.2 Discretion and privacy

- + 22. He only tells stories, dialogues and experiences related to daily life
- + 23. He is reserved with peers
- + 24. He has a deep relationship with the teacher

## 7 THE PRACTICAL STRATEGIES

If boys really do “elicit” pedagogy that enables them to respond productively to teachers, why doesn’t this gratifying outcome always occur? There are a number of reasons, and they are worthy of serious consideration (13).

1. Boys and girls may elicit different and even contradictory teacher responses, resulting in muddy, only partially successful lessons.
2. School or state-mandated protocols may not allow teachers the flexibility to make adjustments that actually engage boys.
3. There may be insufficient openness on the part of schools or individual teachers to examine and reconsider actual student-teacher dynamics.
4. Teachers may lack the empathy or openness to consider the causes of student responses and instead proceed according to a prescribed method or an eccentrically established personal approach, punishing or even banishing those who resist or disrupt.
5. Other conditions bearing on students’ lives - troubled domestic circumstances, lack of physical and emotional safety - may make engagement in scholastic activity impossible. But if these factors are indeed the obstacles to boys achieving scholastically, the good news is that they are readily identifiable and correctible. And when such obstacles are removed, the “eliciting” process described above can begin to mold boys’ instruction into its distinctive contours.

Consciously or not, teachers of boys tend to modify what they teach and the way they teach in response to what engages the boys in front of them. Intentionally or not, those teachers find themselves “experts” at teaching boys.

Among the practical strategies in which their teachers have been trained and coached, these 10 constitute both a research and performance baseline for success. Teachers increase the use of graphics, pictures, and storyboards in literacy-related classes and assignments. When teachers use pictures and graphics more often (even well into high school), boys write with more detail, retain more information, and get better grades on written work across the curriculum. Classroom methodology includes project-based education in which the teacher facilitates hands-on, kinesthetic learning. The more learning is project-driven and kinesthetic, the more boys’ bodies will be engaged in learning—

causing more information to be retained, remembered, and displayed on tests and assignments.

Teachers provide competitive learning opportunities, even while holding to cooperative learning frameworks. Competitive learning includes classroom debates, content-related games, and goal-oriented activities; these are often essential for boy-learning and highly useful for the life success of girls, too.

Classroom curricula include skills training in time, homework, and classroom management. In order to feel competent, engaged, and motivated, many boys need help learning how to do homework, follow directions, and succeed in school and life; classrooms are the primary place these boys come for that training.

Approximately 50 percent of reading and writing choices in a classroom are left up to the students themselves. Regularly including nontraditional materials, such as graphic novels, magazines, and comic books, increases boys' engagement in reading and improves both creative and expository writing.

Teachers move around their classrooms as they teach. Instructors' physical movement increases boys' engagement, and includes the teacher leading students in physical "brain breaks"—quick, one-minute brain-awakening activities—that keep boys' minds engaged.

Students are allowed to move around as needed in classrooms, and they are taught how to practice self-discipline in their movement. This strategy is especially useful when male students are reading or writing—when certain boys twitch, tap their feet, stand up, or pace, they are often learning better than if they sit still, but teachers are often not trained in innovating toward more movement in classrooms.

Teachers use boys-only (and girls-only) group work and discussion groups in core classes such as language arts, math, science, and technology. Some boys and girls who do not flourish in the busyness or social distraction of coed classes get a chance to flourish in new ways in single-sex groupings.

Teachers and counselors provide skill building for sensitive boys (approximately 20 percent of males fall somewhere on the "sensitive boy" spectrum), and special education classes are taught by teachers trained in how to teach boys specifically. This is crucial because approximately 70 percent of learning-disabled students nationwide are boys.

In all gender initiatives in which we and our team are involved, we encourage schools and districts to conduct parent involvement sessions so that parents can work together with teachers. Research-driven, science-based, and strategies-focused innovations need teamwork from everyone, including the students themselves. The alienation of boys in our classrooms is not a one-teacher issue: it is a problem in education culture as a whole, and a problem for which there are specific solutions.

Boys are wonderful learners and can learn as well as girls. Through the disruptions they cause in classrooms and the low grades they get on report cards, through their glazed eyes and tapping feet, through their aggression or confusion on the playground, they are pleading: "We need a lot of help. We need teachers to understand how to teach us effectively, so that we succeed. We need schools to harness and challenge our powerful energy. We need everyone to remember: we're not just 'kids' or 'students'—we are boys."

Boys who don't read or write as well as we'd like come in all kinds.

"There's G. who's perpetually in motion, his fingers drumming the desk. He's not focusing on his reading and pokes the student in front of him. He's becoming a discipline problem. There's M., who stares into space, failing to fill more than a few short lines with words. There's D., who turns in rushed and sloppy work and receives failing grades. When it comes to fulfilling the kinds of assignments that we call "literacy," boys are often out of their chairs rather than in them".

Drawing from the best practices of these successful small schools, will provide a high-quality alternative for the students most at risk of falling between the cracks. To ensure that each of its students attain mastery in the fundamental subjects of English language arts and mathematics, will offer two hours of instruction in composition and literature daily; 90 minutes of math instruction daily; and will set-aside substantial time each day for tutoring and other instructional assistance. All students will receive weekly instruction in preparing presentations and in public speaking. Students also will be able to contact their teachers at any time, seven days a week, via cell phone for help with homework or other issues. This level of direct interaction is unheard of in Italy's district schools.

## 8 CONCLUSION

The teachers involved in the research, although operating in different organizational and institutional contexts, were unanimous in recognizing the differences between male behaviour and learning and expressed their awareness of how this is useful to organize an educational intervention that can promote the originality of each individual.

Teachers frequently reported their especially effective approach grew out of adjustments made to unsuccessful efforts. In none of the teachers' narratives was there any hint of wise and all-knowing practitioners applying time-honored and proven techniques. To the contrary, many teachers acknowledged earlier frustration and even outright failure. Successful adjustments more often revealed a feedback dynamic in which ineffective practice disengaged boys, which caused teachers to adjust pedagogy until student responsiveness and mastery improved.

Consciously or not, teachers of boys tend to modify what they teach and the way they teach in response to what engages the boys in front of them. Intentionally or not, those teachers find themselves "experts" at teaching boys.

The monitoring was interesting for teachers as issues arose very useful to set educational planning and interventions in the classroom, identifying strategies, taking into account gender differences, can make it more engaging and interesting learning/teaching processes.

It was possible to collect proposals for new aspects, indicators and descriptor of behaviour that may contribute to the formulation of new hypotheses for each time evolution of the sample chosen.

Many teachers in our study had figured out how to emphasize the relational dimension regardless of the subject being taught. Many of the lessons teachers reported were invested with a healthy measure of their personalities and passions, as if they had determined they could best engage boys by drawing them into a relational connection. And the boys took special pains to acknowledge and appreciate teachers' openness to what interested, excited, and worried them. In the presence of attentive teachers and their refined lessons, boys seemed to find it difficult to resist engaging in learning.

They shared stories of being uplifted by their teacher's humor, passion, and care and of seeking, finding, and submitting themselves to the inspiration of mentors. Many wrote of responding well to a highly structured, demanding, "no-nonsense" teacher, especially when they found that teacher to be "fair" and to want the best for them. Others praised the teacher who was kind, a "friend."

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