Beyond the Critics: The Design Features of Effective Schools for Boys

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Pseudoscience of Single-Sex Schooling

- Little evidence of academic advantages
  - Problem is that students are not randomly assigned to mixed and single-sex schools
  - Many students enter either at bottom or at top
  - Students in inner city single-sex schools look much the same as those in comparable coed schools
- Problem is one of SES not SEX
- What is the real effect?
  - Novelty based enthusiasm
  - Sample bias
  - Anecdotes

What about the Brain?

- No relevant evidence from brain research
  - Only gender differences are the larger volume of boys’ brains and earlier completion of girls’ brain growth—neither relates to learning
  - State that opponents support differential teaching based on obscure and unrepeated research
    - However, their major sources are works published by several of the authors—self-referential
- Negative impact of focus on gender
  - Single-sex schools provide evidence to children that adults divide the world according to sex and that the groups differ in important ways
Is this similar to racial segregation?

- Data indicates that racially segregated schools promote racial prejudice and inequality
- If so, children in single-sex schools will become more stereotypical
  - Cite data of boys who spend more time with boys becoming more aggressive
  - Ignore studies that show that girls in single-sex schools more interested in STEM

Delusions of Gender

- Under close examination, gender differences disappear
  - Mental rotation, maths, stereotype threat
- In the workplace, behaviour that enhances his status, makes hers less popular
- Children divided by t-shirt colour believe they are different
- Brain scams
  - Differences multiply
  - Do the differences have meaning for pedagogy?

Where this approach fails

- Assumes that coed education results in equal treatment of students
- Not connected to reality
  - Does not include information from teachers just from educational experts
- Presumes that opponents link neuroscience to specific behaviours
- Discounts research from non-US sources that supports single-sex education
What is known about differences in brain development?

- Architectural differences
  - Right vs. Left
  - Amygdala and Hippocampus
  - Frontal lobe development
- Sensory differences
  - Hearing
  - Vision
  - Touch
- Pubertal differences
- Physical differences

Educational Effects of Neural Differences

- Verbal skills
  - Girls have verbal advantage at school entry
- Spatial Skills
  - Boys’ skills not seen as advantage until late
- Learning difficulties
  - Is dyslexia due to fundamental learning problem or to late development?
  - How do attentional issues affect child’s membership in class?

What are the real problems?

- High proportion of verbal/auditory teachers and curricula
- Lack of competitive activities in classroom
- High stakes testing
- Assumption that the academic track is the path to preparation for life
- Social forces that focus on money not knowledge as evidence of success
Focus on language concerns

- Reading
  - Developmental Laterality
  - Reading delay/dyslexias
  - Visual attention - saccades
- Writing
  - Dyspraxia/dysgraphia
- Social forces
  - Parents
  - Peers
  - Expectations

Problems with other School Skills

- Remembering
  - Hippocampus amygdala
  - Source: auditory, visual, kinaesthetic
- Listening
  - Emphasis on verbal skills – boys are visual
- Looking
  - Focus on things, not people
  - Spatial Skills
- Moving
  - Attending, hearing
  - ADHD – evidence

Emotional quality of boys

- Motivation
  - Peer effect
  - Competition and risk not participation
  - Fear of failure
- Masculinity goes (or doesn’t go) to school
  - Heritable traits
    - Aggression, achievement, independence
    - Positive agentic behaviours
  - Hegemonic Masculinity
    - Learned?
**Behavioural Issues**

- Decision making
  - Prefrontal lobes
  - Risk taking
- Intense responding
  - Amygdala processes and recognizes emotions
  - Extreme response: Fight-or-flight
- Understanding others’ perspectives
  - Theory of mind/Mirror neurons
  - Autism
- Maturing
  - 2 year difference in onset of puberty (at least)

**Social characteristics of boys**

- Competing
  - Fair bargaining
  - Coalitional competition
  - Group oriented, not task or individual oriented
- Playing
  - Rough-and-tumble play
  - Development of social skills
- Confronting
  - Bullying
  - Complication of technology

**What can schools do?**

- Include boy-friendly teaching techniques
- Plan for movement within the classroom though active pedagogical approaches
- Provide social support in varied group activities
- Encourage schools to offer music and art at every level
- Develop a sense of humour!
Meeting physical needs

- Physical activity
  - Kinaesthetic approach
  - Activity in the classroom
- Gross and fine motor skills
  - Handwriting
  - Use of technology
- Sports
  - Group competition
  - Leadership and followership skills

Meeting social needs

- Discipline
  - Boys are the identified classroom problem
  - Positive discipline which is clear and consistent
  - Difference in concept of fairness
- Use of groups to build social skills
  - Houses
  - Sports teams
  - Co-curricular activities
  - Service learning projects
  - Leadership opportunities

Need for Exercise

- Boys need lots of exercise
- Never use recess as a bargaining chip
- Encourage school to increase number/extent of recess sessions
- Boys need to risk – be careful that sports is not the only place
  - Playgrounds are too safe
  - Risky play helps a child learn to deal with anxiety
Writing comes first

- Boys seem to be more motivated to read what they or their friends have written
- Writing is physically engaging
- Use computers or AlphaSmarts keyboards
- Develop stories using class input
- Deconstruction of writing – taking sentences and paragraphs apart
- Short writing, use of random prompts (dice, bookmarks)

Phonological awareness

- Read to them
- Insist on clear speech
- Rhythms and rhymes
- Onsets and rimes
- Use programs designed to increase phonemic awareness
  - Earobics®
  - Read Australia

Writing Poetry

- Use Haiku, Cinquains, Diamante, Fibs, Limericks, or Sonnets
  - Advantage for boys is the mathematical format
- Let them find the format
  - Give them several of the same variety and find out what the poems have in common
  - Use color on white/SMARTboard to make rhyme scheme obvious
- Use poems with topics of interest to boys
  - At Shark Reef Sanctuary by Counsell, Haunted Seas by Rice, and In A Breath by Sandberg
Using Visual Skills

• Help turn the lesson into some form of graphical representation
• Weaving a story
  – Connecting characters with plot
• Comic strip
• Time lines – swap for review
• Family trees
• Story web or concept web

Specific Strategies for Boys

• Teach attention management strategies
• Assist boys to develop ways to use visual strengths to learn
• Include some measure of risk
• Use stress to advantage in class, get boys on their feet
• Connect behaviour to consequences
• Remember that if a boy is moving he may be paying better attention than if he is sitting still

The case for schools for boys

• Increasing evidence for neurocognitive gender differences
• Problems that boys have in school and in life
• Mixed schools slanted for verbal learners
• Emotional and social needs of boys
• Schools for boys provide:
  – Exploration of opportunities without limitations
  – Learning environment tailored for their skills with program to develop wider range of skills
  – Positive masculinity