grade divide

Single-sex classes are back on the agenda in

some Queensland state schools. But do they improve a child's education or just reinforce gender stereotypes?

Story Mary-Rose MacColl

Back in primary school, I was taught maths using rods of different colours that represented basic numbers. My rods came in a green enamel box and I loved them, but by the end of Year 2 my concerned father went to see my teacher. I knew that black plus white was tan, he told her, but when it came to seven plus one I looked at him blankly. Symbolic thinking, the teacher assured him; soon it would all click into place. My maths never improved.

The "new maths" I studied, badly adapted from Georges Cuisenaire's rods, had replaced the rote learning and times tables of "old maths". In time, new maths gave way to "back to basics", which brought back rote learning and times tables. Back to basics was replaced by "whole maths" and I've even heard of "natural maths", which seems an oxymoron, and an insulting one at that, to someone who failed maths so thoroughly and repeatedly.

Teachers and educators are always searching for the best ways to reach children: phonics versus whole-language reading, rote learning versus actual thinking. And now, after years of co-educational public schooling, questions are again being raised over boys' learning versus girls' learning and the need for single-sex classes. It seems the more things change, the more they stay the same.

WHEN MY EIGHT-YEAR-OLD SON CAME HOME last October with a note from his Milton State School principal saying that, based on research, the inner-west Brisbane school was considering moving to single-sex classes for Years 4 to 7 this year, I wanted to know more about the research. I went along to a parent information session run by a consultant hired by the school, Michael Auden. He outlined the different learning styles of boys and girls which, he said, arise from differences in male and female brains. A few days later, a junior-school teacher told me it was scientifically proven that girls and boys learn differently.

Sex segregation in education is not a new idea – many Queensland private schools started as single-sex in the late 19th century and some remain so, a few from Prep. The first public schools in Brisbane were segregated by sex too, and as late as the early 1960s, even if the schools didn't split the sexes, the curriculum did: girls were prepared for roles as wives and mothers and boys for work. Co-educational schooling and a unified curriculum were part of broader moves to provide women with the same opportunities as men.

Then in 2008, single-sex public schools were back on the table in a leaked draft Education Queensland strategy supported by Premier Anna Bligh. EQ subsequently dropped the proposal and now says it's up to individual schools to decide how they assemble their classes. Victoria Point State School on Brisbane's southern bayside, Miami State School on the Gold Coast, and Earnshaw State College at Banyo in Brisbane's north have all had single-sex classes but EQ told me it was unable to provide a complete list of state primary schools that sex-segregate students. Nor, apparently, is there comprehensive data on the outcomes of single-sex classes compared with mixed-sex classes. Deputy Director-General Lyn McKenzie ▶

says there are no central records and there is no central policy on sex segregation; decisions are made by individual schools, which report to district or group managers. She says schools might split students to improve learning and behavioural outcomes, and in an interview on ABC Radio added that "research shows that girls and boys in the main have different learning styles".

It's a view promoted by family doctor-turned-author Leonard Sax, an influential US-based campaigner for single-sex education, who says differences in the way male and female brains develop mean tailored single-sex classes will improve outcomes. Other writers including psychiatrist Dr Louann Brizendine, family therapist Michael Gurian and psychologist Dr JoAnn Deak describe inherent differences in male and female brains that result in behavioural and psychological differences. Their work has been relied upon by others to support the argument that different learning styles arise from differences in the male and female brains. It's a persuasive argument for parents and schools anxious to do the best by their children. But the question remains: does brain science *really* demonstrate differences in learning styles? And if so, does it justify segregating boys and girls?

"We had boys wasting teaching time and studies showing boys and girls learn differently."

Single-sex class proponent … Victoria Point State School principal Lex Bowden.

"DO YOU KNOW THE MOST POWERFUL FACTOR in predicting reading ability at age nine?" I'm at Avid Reader bookshop and cafe in inner Brisbane's West End with the University of Queensland's Emeritus Professor Gina Geffen, one of Australia's most eminent neuro-psychologists. I feel constantly challenged, smart enough to know I'm in the company of a brain that's light years ahead of my own but not smart enough to follow where it leads.

"Parents reading at home?" I venture. She shakes her head. "Teaching approach?" No again. "Gender," I say, sure we've finally found a significant difference between girls and boys, which is what I'm seeking. "Peer group," she says. "Your peers, who you read with, have the central role in determining your reading level."

There is one of many long pauses in our conversation as she considers her words. I have learned to wait. She looks up suddenly, straight into my eyes. "You want to think twice before you start messing with the peer group."

We have been together for an hour over lunch and I am asking her views on sex-segregating children in co-educational schools based on differences in the learning styles of boys and girls. "It's a bit like imposing the Taliban rule," she says. I have found Geffen thoughtful and measured, the very essence of a scientist, and this statement is so bald that at first I think I've misheard. "I say that because in my opinion it can only be based on prejudice, and to misquote science and do a disservice to what you're misquoting – dressing it up as having a scientific basis – is really irresponsible," she adds.

Geffen, who has spent 40 years studying the brain and how it works, says the science shows overwhelmingly that the similarities in the way males and females process information are much greater than the differences. There's a publishing bias to look at differences, she says, "but the highlighting of differences and translating them into policy based on something so ill-considered is absolutely frightening".

Geffen refers me to academic psychologist Dr Cordelia Fine, whose recent book *Delusions of Gender* is equally critical of claims linking brain science to learning styles. In it, she writes: "It is appalling to me that one can, apparently, say whatever drivel one likes about the male and female brain and enjoy the pleasure of seeing it published in a reputable newspaper, changing a school's educational policy or becoming a bestseller." Fine, who trained at Oxford, Cambridge and University College London and now works at Melbourne and Macquarie universities, suggests that it may not be brain differences at work so much as gender stereotypes – boys are no good at reading, girls are no good at maths, for example – old myths "dressed up in new scientific finery … helping to perpetuate the sexist status quo".

I recall what Auden told Milton parents: that newborn girls prefer to look at a human face rather than a picture, whereas newborn boys prefer the picture, proving that a swag of differences – boys learn with their bodies, are impetuous, aggressive; girls are more cooperative, like sharing, empathise – are inherent.

Fine says there were serious methodological flaws in the experiment on which this finding is based and that in a later experiment the outcome was different. But even if the finding was correct, Fine adds, "Why think that what a newborn prefers to look at provides any kind of window, however grimy, into their future abilities and interests?"

Auden also told parents that boys start school before they're ready. Sax claims that parts of the brain responsible for language and fine motor skills mature about six years earlier in girls, while those responsible for maths and geometry mature four years earlier in boys.

Fine argues that complex psychological skills cannot be pinpointed to a single part of the brain, and at any rate, "boys are clearly not four years ahead of girls in maths – they are not ahead of them at all, as it happens. Nor is the language ability of a 12-year-old boy comparable to that of a six-year-old girl."

The kinds of gender differences found in social, emotional, cognitive or language capacities in school-age children are either absent, Fine says, or so small that they are of no practical use to teachers. So, gender tells you essentially nothing about a child's skill on a particular task. "We're a long way from being able to translate any brain differences into educational strategies," she says. "This is where gender stereotypes come in handy – and now you've got just about everything you need for a self-fulfilling prophecy."

University of Auckland Professor of Education John Hattie, an internationally renowned expert on student learning, says there are few actual differences in performance between boys and girls in Australian and New Zealand schools, except in writing, where boys lag behind. "But if boys are taught to plan before they write," he adds, "the differences go away."

IT'S A WARM TUESDAY IN NOVEMBER AND I'M at Victoria Point State School, where single-sex classes have run most years for over a decade. "They smell quite good, Mrs Austin," principal Lex Bowden says when we arrive at the Year 7 boys' class just after 9am. Teacher Anne Austin agrees it's not too bad. "I didn't have to get the Glen 20 out," she says.

Drawings of bridges line the room, copied by the students from a painting. "Who was the ▶

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artist?" Austin prompts. "Monet." They're going to build bridges, Austin explains. Bowden has seen the girls' bridges: "They're very neat." Laughter. "They could hold four or five dictionaries. The challenge is out there."

In the girls' Year 7 class, Bowden jokes that normally they come to school with full hair and makeup. Model bridges line the room and the students say one of theirs held nine dictionaries. Bowden tells them the boys thought they'd only reach three or four; he'll have to let them know.

Bowden says the debate about whether boys and girls learn differently is already run and won. He first introduced single-sex classes when he was running Toowong State School in inner-west Brisbane in the 1990s. "We had boys disengaging and mucking up, wasting teaching time, and studies showing that girls and boys learn differently, not many back then – there's lots now." Bowden says in his experience single-sex classes consistently showed better academic outcomes than mixed-sex classes.

Also in the inner west, Rainworth State School, with more boys than girls in Year 3 in 2000, ran an all-boys' class but only for that year. Writing in a University of Newcastle 2001 Boys in Schools Bulletin, teacher Wendie Hirsch recalled her "special fondness" for the class while recommending against further sex-segregation. "I believe there is a balance to be gained by mixing the genders at this age, to give children experience of each other's range of styles and approaches, and to assist the development of more flexible gender identities and peer cultures," she wrote.

I ask last year's Victoria Point Year 7 students what they like about being in single-sex classes. The boys say they are more confident, learn faster and are not scared to talk. They get more done because they're not distracted by girls and they pursue more physical activity – go out for a run or to toss a ball – which, one boy says, the girls wouldn't like. "You can reach your full potential," another says. "When there's girls there, you don't want to act too geeky."

The girls also mention their increased levels of confidence and the lack of distraction from the boys. When asked what they don't like, the boys say it's noisy, they get more detention – and there are no girls to distract them. The girls say they feel weird around boys now, or it's difficult if they have friends who are boys. One girl wants to do more sport like the boys. And finally, there's the smell. "When you go into the boys' classroom, it's a big mess and it stinks," one girl pipes up.

Austin says she teaches the same curriculum to a boys', co-ed or girls' class – she has taught all three – but she teaches differently. She's learned by experience. "Girls are happy to sit and write out their spelling. Boys would rather get some chalk on the ground," she says. "Boys like short, sweet and routine, the girls not so much."

Miami State School, which has more boys than girls, runs a boys' Year 6/7 class program and from this year a Year 4/5 boys' class as part of a broader talented sports program. Year 6/7 teacher Greg Stanley says he and the boys solve problems together. "I'm the alpha male but I come to school every day and sit down with a bunch of mates," he says, adding you can do most things with a sporting focus. I ask him about boys who might be uncomfortable in an all-boys environment. "We had a little Asian boy in the class one year who had trouble fitting in socially. The boys just took him under their wing and when they threw a [football] pass at him, they always threw a softer pass," he says.

Several Brisbane private schools offer single-sex Prep to Year 12 education. St Aidan's Anglican Girls' School in Corinda in Brisbane's west is girls-only. Ros Curtis, who was its acting principal and is now principal at St Margaret's Anglican Girls School in Brisbane's inner north, told me she believes girls have different learning needs, best met in a girls' school: "In a co-ed classroom boys can be very demanding of teacher time and attention. Girls are more likely to take risks [in single-sex schools]. They do everything, from moving the furniture to topping maths and science."

Churchie Preparatory School headmaster Peter Collin says he sees advantages in single-sex education for boys that can challenge rather than reinforce gender stereotypes. "At Churchie, it's cool for boys to read, to draw, to embrace the arts, to be involved in all those activities that are more relevant to girls' development." Collin speculates that he might achieve the same ends in a co-educational school. "Curriculum-wise, we don't do a lot that's different. It's just easier to engage a group of boys."

Co-education is part of the mission of St Peter's Lutheran College in Brisbane's west, which offers Prep to Year 12 at its Indooroopilly campus. College Head Stephen Rudolph believes girls and boys should learn together just as they live and work together in families and society. Rudolph says the focus can be on class sizes, different learning styles or single-sex versus co-education, but "the most important factor in Australian classrooms is the quality of teaching and teachers. Our focus is on recruiting passionate and committed teachers and growing them."

Lex Bowden would like to see single-sex classes trialled with even younger children. He acknowledges concerns about reinforcing stereotypes but says, "My job is to teach kids things they don't know. If I have to resort to a stereotype that will get me through to girls to help them learn better, then I don't have a real problem with that. The girls like to be more organised in their work. If I can use that fact, gear lessons around that, I've got no problems with that. And the boys like to be a bit teamy, a bit matey. Their basic level of conversation isn't as in-depth."

Bowden says the average results in Year 7 NAPLAN tests in single-sex classes at Victoria Point are consistently better than the average results of students in the school's mixed-sex

Answers please … Last year's Year 7 class at Victoria Point State School in bayside Brisbane.

"Girls are happy to sit and write out their spelling. Boys would rather get some chalk on the ground."

classes, and individual students improved more than their mixed-sex class peers at the school.

But factors other than sex segregation may be involved. John Hattie, who drew on 50,000 studies and the experiences of 200 million students for his book *Visible Learning*, says single-sex classes tend to be more selective both in students and teachers "and it is not clear whether it is these selection factors rather than the gender of the student that account for any differences".

He refers to a powerful study of sex segregation – powerful because it randomly assigned both teachers and students to either single- or mixed-sex secondary maths classes to minimise unintended bias – which found there were no gains for boys in boys-only or girls in girls-only classes, and the only significant finding was that brighter students benefited more from mixed-sex classes.

In his analysis of factors that are influenced by education, Hattie finds that home, schools, principals and peers account for only 20 per cent influence on learning outcomes. What matters most is what the student brings in terms of prior achievement and ability (this accounts for 50 per cent) and what the teacher brings (30 per cent). While acknowledging the impact of socio-economic factors, Hattie says good education comes down to teachers and teaching methods, not the gender makeup of the class. "When you focus on gender, it implies the student can't do something because he's a boy. But if boys can't learn it's because teachers can't teach them. And boys can learn because teachers can teach them."

University of Queensland Education Professor Martin Mills also sees risks in adopting different teaching methods for boys and girls, but especially for boys. "These assumptions that boys can't sit still, can't do extended writing, need to do only short activities, are problematic. All kids learn over time how to engage in a task for a longer period. The skills and knowledge boys and girls need are very similar. They need to be learning in similar ways and performing similar activities."

Mills is concerned that segregation is sometimes seen as a cure for student disengagement. "The solution should be to deal with misbehaviour, not separate boys and girls," he says. He also worries that sex segregation could be damaging for children who don't fit a stereotype. "Some of the boys I've known would be horrified to be put into a class of boys. They get bullied and picked on because of their particular kind of masculinity."

Education Queensland's Lyn McKenzie initially said that only those students assessed as being suitable are placed in sex-segregated classes and parents always have a choice, although that's not the case at Earnshaw State College, where all Year 4 and 5 students are sex-segregated for science, maths and English but placed together for other subjects. EQ Director-General Julie Grantham later clarified that the Earnshaw State College principal, following consultation with parents, teachers and the wider community, made the decision about single-sex classes. This was also the process at Milton, which has gone ahead with sex-segregated classes for English, maths and science for Year 5 to 7 students, even in the school's temporary post-flood Toowong home, because, principal Paul Zernike told parents, research shows that this is where the most gains are to be made. The students will also be sex-segregated for other specialist classes where timetabling allows, but will have mixed-sex home classes.

At Miami and Victoria Point, parents have a choice, and Victoria Point only runs single-sex classes when there's enough interest. Most years there are a boys' class, a girls' class and two or three co-ed classes in Year 7. But this year there was not enough interest from boys' parents to make up a boys' class.

Mills believes Education Queensland should be more involved in school decision-making. "I'm not big on centralisation but I would have thought policy on an issue like this would come from the top," he says.

"The skills and knowledge boys and girls need are very similar. They need to be learning in similar ways."

Building bridges … Year 7 boys at Victoria Point, an early adopter of single-sex classes.

EVENTUALLY WE FACE A DIFFICULT DECISION about Australian schooling. For now we're in Canada, me on a writing residency, our son Otis attending Banff Elementary School where a lockdown is more likely caused by a bear in the playground than human threat. His Year 3 class is doing a unit on citizenship, looking to the Ukraine, Peru, Tunisia and India to discuss differences in rights, responsibilities and quality of life. Computers line the classroom for self-directed research on this and other projects. The students – girls and boys – play chess and volleyball, sing and organise class meetings, and explore binary code in maths because it's fun. Last week they put together a timeline of their lives. This week they're interviewing each other as aliens and PR managers to write news headlines. The classroom buzzes with happy, excited learners. Teacher Shaun McQueen makes them laugh and think hard and tells them he likes the noise because it's the noise of learning.

I think back to Milton, where we have been so happy. Before Otis started there, we met with Prep teacher Charmaine Brandon who told us about her approach. "Each week the children brainstorm ideas and decide what they'd like to do," she said, "and my job is to fit the learning objectives around what they decide. Last week, we had a circus."

And there, on the wall, on giant sheets of butcher's paper, in drawings and misspelled but abundantly clear to-do lists, were the makings of the Prep B circus, complete with clowns and monkeys and lion tamers and elephants and popcorn, and also boys and girls already reading, writing and adding up because they wanted to, they needed to, in order to create their circus. Brandon's eyes were wide. "It was such a wonderful circus," she said. It decided us on the school.

I think of these two teachers, Mrs Brandon and Mr McQueen, who have set for Otis and many children a clear course for that adventure of lifelong learning that should be their birthright. It's exactly what I'd hoped school in the 21st century might do. ■

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