

by nctm a month ago

# Different teaching strategies in single-sex versus mixed maths classes? Surely not! Discuss.

Summary of the #mathscpdchat discussion on 13 March 2018, hosted by @Arithmaticks

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**Kathryn**  
@Arithmaticks

Good evening everyone! Welcome to another #mathscpdchat... Housekeeping, as ever: 1. Please use the hashtag in replies and posts so we can keep track of the conversation! 2. Please no polls in the tag during this time, as it breaks the official record!

 A MONTH AGO

What's your experience?



**Kathryn**  
@Arithmaticks

Tonight we're talking about teaching maths in a girls- or boys-only classes compared to a mixed-gender. I'm excited about this one as I have only taught in mixed-classes... though I went to an all girls school! First things first - which have you experienced? #mathscpdchat

 A MONTH AGO

If you've experienced both, which do you prefer? And why?



**Kathryn**  
@Arithmaticks

If you have experienced both - which do you prefer to teach in... & why? #mathscpdchat

 A MONTH AGO



**EzyMaths**  
@EzyMaths

@Arithmaticks Good question!! Mainly taught in the mixed system but have been lucky enough to have a couple of all male classes. Very different dynamic. #mathscpdchat

 A MONTH AGO



**Jon Tyndall**  
@BoogleChops

@Arithmaticks After two years in mixed, I have taught for the last 9 and a bit years in both. #mathscpdchat

 A MONTH AGO

**Martyn**

@martynyeouk

@Arithmaticks Same - ive only taught mixed, but was taught at all boys...#mathscpdchat

A MONTH AGO

**Kathryn**

@Arithmaticks

@EzyMaths I had an all male A Level class last year - it was very interesting - so different to my own school experience! #mathscpdchat

A MONTH AGO

**Miss Phillips**

@MissH\_Phillips

@Arithmaticks I have only ever taught mixed too! #mathscpdchat

A MONTH AGO

**EzyMaths**

@EzyMaths

@Arithmaticks I've had it at both ends. All male A level and all male lower set year 7s and 11s #mathscpdchat

A MONTH AGO

**Jon Tyndall**

@BoogleChops

We teach the diamond model: Mixed for KS1&2 Single for KS3&4 Mixed for KS5 #mathscpdchat

A MONTH AGO

**EzyMaths**

@EzyMaths

@BoogleChops How does that work out? Never heard of this model #mathscpdchat

A MONTH AGO

**Amanda Kirby**

@mathsteach2000

@Arithmaticks Sadly only experienced mixed gender. Interested in tonight's discussion though. #mathscpdchat

A MONTH AGO

What are the stereotypes about the 'other side'?



**Kathryn**  
@Arithmaticks

The majority of us will have only taught in mixed-gender class rooms... What are the stereotypes you wonder about on "the other side"? Maybe we can get those myths de-bunked!

[#mathscpdchat](#)

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

[@EzyMaths](#) Excellent. All pastoral time is mixed, so they get to understand 'the other' At A level they're over the worst hormonal storms [#mathscpdchat](#)

A MONTH AGO



**Kathryn**  
@Arithmaticks

[@EzyMaths](#) [@BoogleChops](#) Took the words right out of my mouth! [#mathscpdchat](#)

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

[@Arithmaticks](#) Happy to de-bunk any (hopefully!) [#mathscpdchat](#)

A MONTH AGO



**EzyMaths**  
@EzyMaths

[@BoogleChops](#) Does that mean you have mixed ability setting? [#mathscpdchat](#)

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

[@EzyMaths](#) Not sure what they do throughout primary, but we are mixed ability in y7, set for years 7 to 11, mixed at A level [#mathscpdchat](#)

A MONTH AGO



**Kathryn**  
@Arithmaticks

[@nicky\\_parr](#) That's interesting - girls tend to be the first with hands up in my classroom and the boys take a back seat, generally speaking! [#mathscpdchat](#)

A MONTH AGO



**Jacqui**  
@jacquikarin

[@Arithmaticks](#) When researching for my masters I looked at mindset and setting. Interesting finding related to gender in that girls would rather be at the top of a lower set, whereas setting impacted much less on the boys. [#mathscpdchat](#)

A MONTH AGO



**Mrs Atherton**  
@fmath75

[@Arithmaticks](#) Only taught mixed-gender classes - am in a Primary School though. [#mathscpdchat](#)

A MONTH AGO



**Kathryn**  
@Arithmaticks

[@jacquikarin](#) Oh that is so interesting! Did you gain insight into why? [#mathscpdchat](#)

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

[@jacquikarin](#) [@Arithmaticks](#) Is this in single sex or mixed sex? [#mathscpdchat](#)

A MONTH AGO

is there a different atmosphere in a girls vs boys only classroom? How does this change when they're together?



**Kathryn**  
@Arithmaticks

Is there a different 'atmosphere' in a girls only vs a boys only classroom? How does this change when they're in the room together? [#mathscpdchat](#)

A MONTH AGO



**Martyn**  
@martynyeouk

[@fmath75](#) [@Arithmaticks](#) Could you imagine a primary class of all boys! [#mathscpdchat](#)

A MONTH AGO

The messages from this research are:

- girls and boys have different perceptions of mathematics lessons; many girls (and some boys) dislike an emphasis on speed and closed answers.
- When girls feel they do not understand mathematics, this combines with socially-based feelings of exclusion to affect their participation. Teaching that allows group discussion and acknowledges multiple strategies for understanding and solving problems fosters understanding. Classrooms that use formative assessment, exploration and discussion, that do not proceed too quickly to assessment and that allow students to master concepts in depth are supportive for girls and boys.
- Teachers should be aware that students have different capacities in 3-D visualisation, and that students can improve their skills by practice. On average this would help girls more than boys.

Research shows that boys experience maths in school in different ways from girls. The following quote is from an IOE paper here: [furthermaths.org.uk/docs/Gender\\_Li...](http://furthermaths.org.uk/docs/Gender_Li...) #mathscpdchat  
[pic.twitter.com/5Sdd9dNtNC](https://pic.twitter.com/5Sdd9dNtNC)

 MARY PARDOE @PARDOEMARY · A MONTH AGO



**Kathryn**  
@Arithmaticks

[@martynyeouk](#) [@fmath75](#) I wonder if anyone out there DOESN'T have to imagine it!?  
#mathscpdchat

 A MONTH AGO



**Martyn**  
@martynyeouk

[@Arithmaticks](#) [@fmath75](#) I once had a class of 75% boys! That was tough enough  
#mathscpdchat

 A MONTH AGO



**Jon Tyndall**  
@BoogleChops

[@Arithmaticks](#) Definitely can be a different atmosphere. Key difference is in behaviour management, but also differing skills. #mathscpdchat

 A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

[@Arithmaticks](#) [@martynyeouk](#) [@fmath75](#) Until I'd experience it I don't think I could ever begin to imagine it! #mathscpdchat

 A MONTH AGO



**Kathryn**  
@Arithmaticks

The point on spatial awareness here is really interesting! [#mathscpdchat](#)  
[twitter.com/PardoeMary/sta...](#)



A MONTH AGO



**EzyMaths**  
@EzyMaths

What I found fascinating was that in a mixed classroom with an 'open' seating plan, the girls and boys gravitated towards their own gender. Almost like teaching in single sex classes  
[#mathscpdchat](#)



A MONTH AGO



**Kathryn**  
@Arithmaticks

[@martynyeouk](#) [@fmath75](#) What do you think made it so difficult? [#mathscpdchat](#)



A MONTH AGO



**Jacqui**  
@jacquikarin

[@BoogleChops](#) [@Arithmaticks](#) This was mixed gender but it mixed ability everywhere other than maths. It seemed that the girls were actually very inwardly competitive (or compared themselves more to their peers). [#mathscpdchat](#)



A MONTH AGO



**Kathryn**  
@Arithmaticks

[@BoogleChops](#) Any examples of these differing skills? [#mathscpdchat](#)



A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

[@martynyeouk](#) [@Arithmaticks](#) [@fmath75](#) Did you see a huge difference in their engagement with maths? [#mathscpdchat](#)



A MONTH AGO



**Amanda Kirby**  
@mathsteach2000

[@BoogleChops](#) [@Arithmaticks](#) I think that is one of my fears on an all boys set - behaviour management [#mathscpdchat](#)

A MONTH AGO



**Martyn**  
@martynyeouk

[@Arithmaticks](#) [@fmath75](#) Less about the maths and more about the endless problems with football! [#mathscpdchat](#)

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

[@mathsteach2000](#) [@BoogleChops](#) [@Arithmaticks](#) I would fear this too I think! Not so much with an all girls class though... [#mathscpdchat](#)

A MONTH AGO



**Kathryn**  
@Arithmaticks

[@EzyMaths](#) That is actually what happens in my after-school sessions for the most part, though some of the friendship groups are much more mixed. Its very interesting! [#mathscpdchat](#)

A MONTH AGO



**EzyMaths**  
@EzyMaths

[@mathsteach2000](#) [@BoogleChops](#) [@Arithmaticks](#) When I had all boys, competitions and trying to put everything in context payed massive dividends in engagement levels [#mathscpdchat](#)

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

[@Arithmaticks](#) Not always the case (obvs) but it is often noticeable that b are better at special awareness, g better at structure and detail [#mathscpdchat](#)

A MONTH AGO



**Kathryn**  
@Arithmaticks

[@jacquikarin](#) [@BoogleChops](#) This is something I see a lot. They are obsessed with seeing what the other girls score is and place a lot of weight on this number as a mark of their worth in comparison to the others... I think females do this a lot more than males in lots of respects [#mathscpdchat](#)

A MONTH AGO



**Amanda Kirby**  
@mathsteach2000

[@MissH\\_Phillips](#) [@BoogleChops](#) [@Arithmaticks](#) Maybe size of a single sex class would change our minds - A class of 30 mixed ability vs a class of 15 single sex? [#mathscpdchat](#)

A MONTH AGO



**Kathryn**  
@Arithmaticks

[@martynyeouk](#) [@fmath75](#) !!! Oh lord... I'd be lost! Did it impact their maths ability/engagement at all? [#mathscpdchat](#)

A MONTH AGO

### Behaviour is managed differently with all boys



**Jon Tyndall**  
@BoogleChops

I find I manage behaviour differently. Without girls, boys don't 'lose face' so don't act up to a telling off [#mathscpdchat](#)

A MONTH AGO



**Jacqui**  
@jacquikarin

[@Arithmaticks](#) [@BoogleChops](#) I think I would agree. Very interested in this chat as in my current school the girls outperform the boys by a large margin. Wonder if anyone has any tips on how to combat this. [#mathscpdchat](#)

A MONTH AGO



**Kathryn**  
@Arithmaticks

[@EzyMaths](#) [@mathsteach2000](#) [@BoogleChops](#) I was actually talking about this at [#mathsconf14](#) this weekend - my speed dating chat was about my use of 'Revision Pong' and I mentioned how the boys had gone straight for it, and the girls sat and made revision cards or offered to referee! [#mathscpdchat](#)

A MONTH AGO





**Amanda Kirby**  
@mathsteach2000

@EzyMaths @BoogleChops @Arithmaticks I agree even in a mixed ability set when boys are given competitions they respond well - I've even tried a "league table" for homework which motivated the boys to be at the top, above their friends and avoid being at the bottom  
#mathscpdchat

A MONTH AGO



**EzyMaths**  
@EzyMaths

@Arithmaticks @jacquikarin @BoogleChops Generally, Girls are more conscious of their scores than boys. I hate it when boys treat a low score as a badge of honour #mathscpdchat

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

@Arithmaticks Oh cripes - SPATIAL awareness #mathscpdchat

A MONTH AGO



**Kathryn**  
@Arithmaticks

Anything we could do as teachers to combat both of these issues? #mathscpdchat  
[twitter.com/EzyMaths/statu...](https://twitter.com/EzyMaths/status...)

A MONTH AGO



**EzyMaths**  
@EzyMaths

@mathsteach2000 @BoogleChops @Arithmaticks Exactly the same here. Once did an alternative premier league table using football teams in place of students. Was great seeing the likes of Ipswich and Birmingham at the top #mathscpdchat

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

It would be really interesting to experience both to see the difference of overall behaviour in the classroom! Saying that, with the best behaviour management strategies and most effective classroom management class sizes of 30 shouldn't be an issue! #mathscpdchat  
[twitter.com/mathsteach2000...](https://twitter.com/mathsteach2000...)

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

@Arithmaticks This is girls demonstrating their competitiveness. The boys act like this to save face in front of girls, I think. #mathscpdchat

A MONTH AGO



**Alison Hopper**  
@AlisonHopper68

@EzyMaths @Arithmaticks @jacquikarin @BoogleChops If this is the case, why do we need to give scores? How do we develop an understanding of mathematical learning with boys and girls? #mathscpdchat

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

Great idea to motivate boys in the class! #mathscpdchat [twitter.com/mathsteach2000...](https://twitter.com/mathsteach2000...)

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

I agree. I think it's really important to encourage growth mindset in the classroom so that they do not see low scores as failure! #mathscpdchat [twitter.com/ezymaths/status...](https://twitter.com/ezymaths/status...)

A MONTH AGO



**Kathryn**  
@Arithmaticks

@BoogleChops Interesting view! I've found a lot of my Y11 girls place such inherent worth on their scores as being part of them, it feels very emotive! Whereas the boys are more like 'OK this is it - what can I do to make it better?' (at best!) #mathscpdchat

A MONTH AGO



**EzyMaths**  
@EzyMaths

@AlisonHopper68 @Arithmaticks @jacquikarin @BoogleChops Harking back to the days of having a mark in the markbook for marks sake. More modern approaches are removing this barrier I think #mathscpdchat

A MONTH AGO



**Rach Barnes**  
@MathsTeacher15

@Arithmaticks #mathscpdchat I've taught both. Mixed for 8yrs, now 2nd year of girls only. However girls only is private, so might prefer it for reasons other than it just being girls..

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

The sky is the limit! #mathscpdchat [twitter.com/ezy maths/status...](https://twitter.com/ezy maths/status...)

A MONTH AGO

There is some agreement in the research that many girls want a different kind of mathematics classroom, one that emphasises discussion and a quest for understanding (Boaler et al., 2011; Brandell & Staberg, 2008; Hollins et al., 2006). Top set year 11 classrooms are most relevant for Further Mathematics A-level continuers and these are found to have a consistent emphasis on speed, accuracy, competition and lack of discussion that marginalises many girls, although not the most competitive ones (Bartholomew, 2005; Solomon, 2009). Among undergraduate mathematicians, Solomon found that young women who could achieve in tests without really understanding felt that they were not really good at mathematics, while young men in the same position were more satisfied with the evidence from the tests. Solomon also found that top set classrooms gave opportunities for exploratory mathematics that engaged both boys and girls (although this was related to GCSE investigation coursework).

Research reveals that boys and girls 'prefer' different kinds of classroom atmospheres (doesn't imply that they learn better in their 'preferred' atmosphere - likely that both will learn best in a conjecturing atmosphere) ... #mathscpdchat [pic.twitter.com/M4KCILDZWs](https://pic.twitter.com/M4KCILDZWs)

MARY PARDOE @PARDOEMARY · A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

@MathsTeacher15 @Arithmaticks Do you have a smaller class size with your girls only class? #mathscpdchat

A MONTH AGO



**Kathryn**  
@Arithmaticks

GCSE Results day is jam-packed with stories like this one... [tes.com/news/school-ne...](https://tes.com/news/school-ne...) Last year, boys overtook girls for the top grades for the second year running in Maths! What has happened to cause this switch over recent years? Does single-sex teaching impact it? #mathscpdchat

A MONTH AGO

**McBec**

@MathsMcBec

@mathsteach2000 @EzyMaths @BoogleChops @Arithmaticks Out of interest how did you do this? Number of pieces in?, number of marks or something else? #mathscpdchat



A MONTH AGO

**Jon Tyndall**

@BoogleChops

@PardoeMary Do you have the source for this please? #mathscpdchat



A MONTH AGO

**Miss Phillips**

@MissH\_Phillips

Definitely! Pupils with a growth mindset are more likely to put effort in to their learning and challenge themselves, take risks in their learning etc. It's so important we as teachers encourage this and encourage them to see mistakes as learning opportunities! #mathscpdchat  
[twitter.com/webbmaths/stat...](https://twitter.com/webbmaths/stat...)



A MONTH AGO

**Rach Barnes**

@MathsTeacher15

@BoogleChops @Arithmaticks Yes I find girls very emotional over grades percentages etc. Particularly when it's a group of all girls. #mathscpdchat



A MONTH AGO

**Kathryn**

@Arithmaticks

@PardoeMary I find this interesting as this was obvious in my A Level when boys attended for Y12/13 only. It makes me wonder if we should be 'differentiating' like this or what the middle ground really is! #mathscpdchat



A MONTH AGO

**Jon Tyndall**

@BoogleChops

@MissH\_Phillips @MathsTeacher15 @Arithmaticks My boys only and girls only classes are similar sizes, and certainly smaller than state sector, and we're selective. #mathscpdchat



A MONTH AGO

**EzyMaths**  
@EzyMaths

Anyone else feel that girls tend to dominate be on par in discussions etc at ks3 then they drop off entering into ks4 then return in Ks5? #mathscpdchat

A MONTH AGO

**Rach Barnes**  
@MathsTeacher15

@BoogleChops @MissH\_Phillips @Arithmaticks Yes as its private it is much smaller than state mixed. Hence why I might prefer...! #mathscpdchat

A MONTH AGO

Teaching that recognises and even emphasises multiple strategies for solving problems and how to move between multiple representations of mathematical ideas can affect students' participation by deepening understanding. This affects all students, but may have particular benefits for girls' participation because negotiation and comparison of different perspectives is a feature of girls' interactions in friendship groups (Hey, 1997) that is reported as increasing lesson enjoyment for girls (Hollins et al., 2006), which is known to be less than for boys and significant for participation.

This is an interesting finding about the value of using multiple representations particularly with girls ... #mathscpdchat [pic.twitter.com/HnQ4P4jdMb](https://pic.twitter.com/HnQ4P4jdMb)

MARY PARDOE @PARDOEMARY · A MONTH AGO

**Miss Phillips**  
@MissH\_Phillips

I think often girls get competitive with each other and especially in friendship groups too even if they do not want to show it #mathscpdchat [twitter.com/mathsteacher15...](https://twitter.com/mathsteacher15)

A MONTH AGO

**Kathryn**  
@Arithmaticks

@MathsTeacher15 @BoogleChops Do you think this 'competition' gets heightened in an all girls scenario then? Do they support or make it worse for eachother? #mathscpdchat

A MONTH AGO

**McBec**  
@MathsMcBec

I taught both - a while ago now in my science days. Both 'character' classes. Much preferred the boys class. If the girls has fallen out then that grudge could last for days and could really affect a lesson. #mathscpdchat

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

@MathsTeacher15 @BoogleChops @Arithmaticks I think it's hard not to prefer smaller class sizes! #mathscpdchat

A MONTH AGO



**EzyMaths**  
@EzyMaths

@MathsMcBec @mathsteach2000 @BoogleChops @Arithmaticks Three points for excellent work for the week. Overall performances one point for flashes of good engagement. And nil for missed pieces disruption etc. Weekly updates. Was good for 37 weeks. Almost like premier league #mathscpdchat

A MONTH AGO



**Rach Barnes**  
@MathsTeacher15

@Arithmaticks @BoogleChops They are generally very supportive but there is often elements of a "pity party" when they all struggle, or jealousy of the "best" #mathscpdchat

A MONTH AGO



**Kathryn**  
@Arithmaticks

@EzyMaths In my current classes, girls definitely dominate at KS3.... but then everyone drops off and is scared to speak at KS4! 'Accidental' single sex class at Y12, so the boys HAVE to dominate the discussion there 😊 - hard work at times though! #mathscpdchat

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

Behaviour management is not necessarily easier in an all girls class. Boys bad behaviour is more readily visible though #mathscpdchat

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

I think so. I think girls take competition more personally than boys and so are more emotional over it. I think they can both support each other and make it worse at times #mathscpdchat  
[twitter.com/arithmaticks/s...](https://twitter.com/arithmaticks/s...)

A MONTH AGO



**Kathryn**  
@Arithmaticks

@MissH\_Phillips Its ingrained in us from a young age to 'be better' than other girls, and I'm not sure how or why. Societal shift needed here - we need to build each other up! #mathscpdchat

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

@MathsTeacher15 @Arithmaticks They do sometimes wind each other up. It's difficult to comment without it sounding like a sexist stereotype, unfortunately! #mathscpdchat

A MONTH AGO



**Mike Thain**  
@ThainMike

@Arithmaticks yes, definitely. Girls are much more collaborative generally, boys are much more competitive overall #mathscpdchat

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

I agree! I think at times inner jealousy can exist but they cannot necessarily control this #mathscpdchat [twitter.com/mathsteacher15...](https://twitter.com/mathsteacher15)

A MONTH AGO

How do pastoral issues affect your classes? Does this differ between single-sex and mixed classes?



**Kathryn**  
@Arithmaticks

How do pastoral issues affect your classes? Does this differ between single-sex and mixed classes? #mathscpdchat

A MONTH AGO



**Martyn**  
@martynyeouk

@Arithmaticks @fmath75 They were year 2, but they did do better at maths than in english...#mathscpdchat

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

I agree! Girl power 🤗👊👊 #mathscpdchat [twitter.com/arithmeticks/s...](https://twitter.com/arithmeticks/s...)

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

@ThainMike @Arithmeticks It looks like it superficially, but that's not my observation from teaching single sex. #mathscpdchat

A MONTH AGO



**Kathryn**  
@Arithmeticks

@BoogleChops Girls can be much more underhand in their bad behaviour, particularly in bullying scenarios (speaking from experience!) #mathscpdchat

A MONTH AGO



**Mike Thain**  
@ThainMike

@mathsteach2000 @BoogleChops @Arithmeticks I taught single sex boys class as an NQT. The behaviour management side of it was not a major issue. It was yr9 & taking girls out of the room really did change the dynamic of the room. Equally I recall the girl-only tchrs saying the same #mathscpdchat

A MONTH AGO



**Kathryn**  
@Arithmeticks

@BoogleChops @MathsTeacher15 Definitely - it is hard as a lot of this is learned behaviours on both sides. They learn from those stereotypes! #mathscpdchat

A MONTH AGO



**McBec**  
@MathsMcBec

@Arithmeticks @BoogleChops Where with boys a flash of anger and its generally over. #mathscpdchat

A MONTH AGO





**Amanda Kirby**  
@mathsteach2000

@Arithmaticks @BoogleChops agree it can be harder to spot too making the teacher think there aren't any issues #mathscpdchat

A MONTH AGO



**Kathryn**  
@Arithmaticks

@BoogleChops @ThainMike Agreed - I think their preferred learning environments do look like this... but as we've been saying RE: results it seems to be the opposite! Difficult to decide which is the real truth of the matter... Very interesting! #mathscpdchat

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

@Arithmaticks Yes, this. If a girls class take against a teacher it can be really insidious. They don't misbehave, they complain to mgt #mathscpdchat

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

@Arithmaticks Thankfully not speaking from personal experience! #mathscpdchat

A MONTH AGO



**EzyMaths**  
@EzyMaths

Does organising a well spread out seating plan (girls all around) help to balance the room?  
#mathscpdchat

A MONTH AGO



**McBec**  
@MathsMcBec

@BoogleChops @Arithmaticks Although the all male group I took over had bullied their previous male teacher out of the class. Very experience teacher compared to me at the time as well. #mathscpdchat

A MONTH AGO

Have any stereotypes surprised you? Have you found any of them to be untrue?



**Kathryn**  
@Arithmaticks

We seem to be reverting to stereotypes and generalities a lot (which is fine! We have little else to go off!) Is there anything that you believed to be true about either single or mixed sex classrooms that you have found isn't? Or anything that has surprised you? #mathscpdchat

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

@EzyMaths I would think so! #mathscpdchat

A MONTH AGO



**Mike Thain**  
@ThainMike

@BoogleChops am finding that girls behaviour management is centred around passive learning. Some issues about hating maths but generally the issue is about getting them to motivate themselves and aim higher (not all, a lot are highly motivated) #mathscpdchat

A MONTH AGO



**Kathryn**  
@Arithmaticks

@BoogleChops Oh I definitely meant as a pupil rather than a teacher. But I have seen/heard about that kind of thing for teachers too! Very sad :( #mathscpdchat

A MONTH AGO



**Kathryn**  
@Arithmaticks

@MissH\_Phillips @EzyMaths I have a lot of colleagues that swear by boy-girl seating plans... must be something in it! #mathscpdchat

A MONTH AGO



**Amanda Kirby**  
@mathsteach2000

@EzyMaths Good question - not sure what the right seating plan is - I'm regularly changing mine to accommodate current friendship issues, moving away from students who's attitude is stopping them and those around them working #mathscpdchat

A MONTH AGO



**Speaky**  
@Aspeaky

[@Arithmaticks](#) I've taught in mixed, boys only and now girls only. [#mathscpdchat](#)

A MONTH AGO



**Mike Thain**  
@ThainMike

[@BoogleChops](#) [@Arithmaticks](#) I'm only a couple of months in to a new job at single sex sch but the girls are much more independent and supportive of each other than in my previous mixed comprehensive [#mathscpdchat](#)

A MONTH AGO



**Kathryn**  
@Arithmaticks

[@ThainMike](#) [@BoogleChops](#) I think sometimes girls are more inclined to not try for fear of failure, whereas boys will more readily correct something. [#mathscpdchat](#)

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

[@Arithmaticks](#) It is hard to not be stereotypical I agree! I was surprised how well the girls in my class worked so well with the boys for collaborative tasks. They seemed to motivate each other and listen well to each other's ideas! (primary school) [#mathscpdchat](#)

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

[@Arithmaticks](#) [@MissH\\_Phillips](#) [@EzyMaths](#) When we move to mixed sex again at A level from single sex at y11, I put them in a b-g seating plan. They do not like it! [#mathscpdchat](#)

A MONTH AGO



**Kathryn**  
@Arithmaticks

Absolutely loving everyone that is contributing questions tonight - often taking the words right out of my mouth... making my job very easy! [#mathscpdchat](#)

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

I think it is a great to get pupils working with people they may not necessarily choose to usually. I like to use fluid grouping though and mix them up a lot whilst ensuring a gender balance  
[#mathscpdchat](#) [twitter.com/arithmaticks/s...](https://twitter.com/arithmaticks/s...)

A MONTH AGO



**Kathryn**  
@Arithmaticks

[@Aspeaky](#) Wow - a very comprehensive view then. What are the main differences, do you think?  
[#mathscpdchat](#)

A MONTH AGO



**Mike Thain**  
@ThainMike

[@Arithmaticks](#) [@MissH\\_Phillips](#) [@EzyMaths](#) in a mixed sch this definitely has helped me with controlling a more challenging group in the past. Often however classes have not been evenly split by gender so this isn't always possible unfortunately. [#mathscpdchat](#)

A MONTH AGO



**Amanda Kirby**  
@mathsteach2000

[@Arithmaticks](#) [@MissH\\_Phillips](#) [@EzyMaths](#) I start the year with boy girl seating plans great for learning names but generally I don't find they work and end up switching! [#mathscpdchat](#)

A MONTH AGO



**McBec**  
@MathsMcBec

[#mathscpdchat](#) oops [twitter.com/MathsMcBec/sta...](https://twitter.com/MathsMcBec/sta...)

A MONTH AGO



Institute of Education

UCL CORE 4


Gender and participation in mathematics and further mathematics A-levels: a literature for the Further Mathematics Support Programme

Cathy Smith


IOE Supporting Advanced Mathematics Project


[@BoogleChops](#) All my quotes tonight are from 'Gender and participation in mathematics and further mathematics A-levels: a literature for the Further Mathematics Support Programme' from the IOE at UCL. The link I think is: [furthermaths.org.uk/Gender\\_Literat...](http://furthermaths.org.uk/Gender_Literat...) Google it [#mathscpdchat](#) [pic.twitter.com/9ihY4t0hz0](https://pic.twitter.com/9ihY4t0hz0)

 MARY PARDOE [@PARDOEMARY](#) · A MONTH AGO


 **Kathryn**  
[@Arithmaticks](#)


[@MissH\\_Phillips](#) Do you think that would be different in single sex groupings? [#mathscpdchat](#)

 A MONTH AGO


 **Miss Phillips**  
[@MissH\\_Phillips](#)

[@BoogleChops](#) [@Arithmaticks](#) [@EzyMaths](#) Thinking about it... I remember hating being put in a b-g seating plan when I was in high school! It probably did make the teacher's life easier though... now I can relate 😂 [#mathscpdchat](#)

 A MONTH AGO

 **Jon Tyndall**  
[@BoogleChops](#)

That girls don't like competition, and that boys always have messy writing and don't care about algorithms! Both wrong! [#mathscpdchat](#) [twitter.com/Arithmaticks/s...](https://twitter.com/Arithmaticks/s...)

 A MONTH AGO



**Kathryn**  
@Arithmaticks

[@BoogleChops](#) [@MissH\\_Phillips](#) [@EzyMaths](#) Is this an age thing though so rebelling against any seating plan!? Or something else? [#mathscpdchat](#)

A MONTH AGO



**Mike Thain**  
@ThainMike

[@mathsteach2000](#) [@EzyMaths](#) I've taken increasingly to seating based on their pre-test. I sit by the scores they got based on their assessed level of ability on that topic. It makes supporting/differentiating easier. It changes when we move on to a new topic and I re-test [#mathscpdchat](#)

A MONTH AGO



**Kathryn**  
@Arithmaticks

[@mathsteach2000](#) [@MissH\\_Phillips](#) [@EzyMaths](#) What do you think causes them to fail - the B-G structure or something else? [#mathscpdchat](#)

A MONTH AGO



**EzyMaths**  
@EzyMaths

[@Arithmaticks](#) [@ThainMike](#) [@BoogleChops](#) This is where automated assessments helps. Have found that girls in particular tend to excel when able to operate independently and receive feedback on work in their own environment than a class environment giving them space to 'catch up'. [#mathscpdchat](#)

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

[@Arithmaticks](#) I don't see why not if there is a positive learning environment. I would like to experience it and find out though! [#mathscpdchat](#)

A MONTH AGO



**Kathryn**  
@Arithmaticks

[@ThainMike](#) [@MissH\\_Phillips](#) [@EzyMaths](#) This is an issue - most of my classes are very unbalanced in gender terms! [#mathscpdchat](#)

A MONTH AGO



**Mike Thain**  
@ThainMike

[@Arithmaticks](#) [@BoogleChops](#) I certainly saw evidence of that in mixed classes, I'm not yet sure about it with all girls. The bigger issue is the time spent keeping work immaculate and therefore not always getting on to the more challenging tasks [#mathsepdchat](#)

A MONTH AGO



**Ben Gordon**  
@mathsmrgordon

[@Arithmaticks](#) [#mathsepdchat](#) A great blog here from Mark Roberts about re-thinking the engagement of boys which dispels some myths and offers some practical advice [markrobertsteach.wordpress.com/2017/07/03/ret...](http://markrobertsteach.wordpress.com/2017/07/03/ret...)

A MONTH AGO



**Speaky**  
@Aspeaky

I have found that my single sex classes work very differently. My girls work in spells of silence with some relevant chatter - they discuss round the subject. Many of my boys would just like to complete the worksheet/task given. [#mathsepdchat](#)

A MONTH AGO



**McBec**  
@MathsMcBec

[@ThainMike](#) [@mathsteach2000](#) [@EzyMaths](#) That's my second seating plan. I have two for each class. [#mathsepdchat](#)

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

[@Arithmaticks](#) [@BoogleChops](#) [@EzyMaths](#) I think it's an age thing - I don't think pupils in primary school for example would think much in to it. I think in high school where social groups are formed, pupils just want to sit by their friends! [#mathsepdchat](#)

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

[@Arithmaticks](#) [@MissH\\_Phillips](#) [@EzyMaths](#) I think it's a token complaint, not real disappointment. I usually joke about it, telling them I'm trying to help love bloom! [#mathsepdchat](#)

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

[@Arithmaticks](#) [@BoogleChops](#) [@EzyMaths](#) This was my experience anyway! [#mathscpdchat](#)

A MONTH AGO



**Ben Gordon**  
@mathsmrgordon

[@Arithmaticks](#) [#mathscpdchat](#) blog here on gender effects in the classroom from [@HuntingEnglish](#) [theconfidentteacher.com/2018/02/girls-...](http://theconfidentteacher.com/2018/02/girls-...)

A MONTH AGO



**EzyMaths**  
@EzyMaths

[@Arithmaticks](#) [@mathsteach2000](#) [@MissH\\_Phillips](#) The ever changing social dynamics that you are unable to control. Friendships basically [#mathscpdchat](#)

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

[@mathsmrgordon](#) [@Arithmaticks](#) An amazing school with some of the best people! (biased, obviously!) [#mathscpdchat](#)

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

[@Arithmaticks](#) [@ThainMike](#) [@EzyMaths](#) I think this is often the case for most classes too! [#mathscpdchat](#)

A MONTH AGO



**Kathryn**  
@Arithmaticks

[@MissH\\_Phillips](#) Could do a little experiment within your own class on this - Boys v Girls tasks and then mixed vs mixed! [#mathscpdchat](#)

A MONTH AGO



**Speaky**  
@Aspeaky

I find the behaviour management very different, girls it is a more subtle/soft approach boys firm and fair approach [#mathscpdchat](#)

A MONTH AGO



Mathematics is represented in popular culture as a form of rational masculinity that challenges physical and emotional forms of reasoning. Cultural studies research into images and identities in mathematics shows that representations of mathematicians are associated with maleness, Whiteness, middle-classness and heterosexuality. They are allied with heroism and unusual natural intelligence, as in the Bletchley Park codebreakers, but also with fragility and social incompetence. There is a relatively new media image of young, attractive women 'geeks' that contrasts with the old, male image of mathematics (Mendick, Moreau, & Hollingworth, 2008; Pomerantz & Raby, 2011) and is played on in youth culture. Mendick et al investigated how such gendered representations of mathematics were used and understood by students through 27 focus groups and 49 interviews with year 11s and undergraduates in England. They found that both male and female students use the strong default representations of male mathematicians but are aware that these are stereotypes. They are ready to accept that popular, attractive women can be mathematicians but mark these women out as unusual. The girls in the study were less likely than boys to identify themselves as good at mathematics, or to identify themselves with the media images of smart young women.

Stereotypes in media representations of mathematicians can have a negative effect on girls' willingness to engage in maths. Applicable in both all-girls and mixed-gender classes

[#mathscpdchat pic.twitter.com/6gyNnY7xP4](#)

 MARY PARDOE @PARDOEMARY · A MONTH AGO



**Miss Phillips**

@MissH\_Phillips

Yes this is definitely something I will try out in future! Thanks for the idea 😊 [#mathscpdchat twitter.com/arithmatics/s...](#)

 A MONTH AGO



**Kathryn**

@Arithmatics

[@ThainMike](#) [@BoogleChops](#) I do have some female students with the most beautiful books. One of them even takes her 'rough notes' home to copy up neatly again... I have advised spending that time doing exam questions, but I think it has fallen on deaf ears! [#mathscpdchat](#)

 A MONTH AGO



**EzyMaths**

@EzyMaths

In my PGCE project I studied a GAT class. 60/40 male female. Females would prefer to be NOT asked questions. Virtual environment is likely to work better for girls. [#mathscpdchat](#)

 A MONTH AGO



**Mike Thain**  
@ThainMike

@Aspeaky absolutely agree with this. Was one of the biggest learning curves when I started in Jan. Did lots of drop ins with other staff to see how they manage all girl classes. It is different to mixed #mathscpdchat

A MONTH AGO



**Kathryn**  
@Arithmatics

@BoogleChops @MissH\_Phillips @EzyMaths This made me giggle loads haha... I'm sure they love that! #mathscpdchat

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

This is the biggest challenge. No matter the positive talk or supportive and encouraging ethos, we are always struggling. #mathscpdchat [twitter.com/PardoeMary/sta...](https://twitter.com/PardoeMary/status/2511111111)

A MONTH AGO

**The researchers' message is that although some girls are willing to prove themselves by publicly aligning themselves with an image of mathematical femininity marked out as different, many more feel distanced by it. They recommend that schools make a much wider range of images available to students: of young and old mathematics users, attractive and not attractive, sporty and not sporty, with a particular focus on users of average ability and career success. Similarly, the most recent findings from work in science suggest that interventions based on the message 'STEM is for girls too' reinforce the existing STEM and gender stereotypes. Instead it should be replaced by a diverse set of images of STEM that focus on STEM being for everyone (CaSE, 2014).**

Positive images of female mathematicians can 'put-off' girls from maths! #mathscpdchat  
[pic.twitter.com/SPKDI6ITQr](https://pic.twitter.com/SPKDI6ITQr)

MARY PARDOE @PARDOEMARY · A MONTH AGO



**Alison Hopper**  
@AlisonHopper68

@MissH\_Phillips @Arithmatics @BoogleChops @EzyMaths Primary hate it too! I started the year B G B G but by Christmas last year Y6 sat in friendship groups so were often all boys or all girls. My expectations of learning behaviour were the same for all - same sanctions too #mathscpdchat

A MONTH AGO



**Kathryn**  
@Arithmaticks

@mathsmrgordon @HuntingEnglish You are the fount of knowledge on blog posts Mr Gordon! Thank you! #mathscpdchat

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

Agree 100% It's inappropriate for an adult male to shout at a teenage girl. #mathscpdchat [twitter.com/Aspeaky/status...](https://twitter.com/Aspeaky/status...)

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

I find our lower uptake from girls for further maths is due to their future career aims. #mathscpdchat [twitter.com/PardoeMary/sta...](https://twitter.com/PardoeMary/sta...)

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

Consistently is key! Do you find they work more effectively in friendship groups? #mathscpdchat [twitter.com/alisonhopper68...](https://twitter.com/alisonhopper68...)

A MONTH AGO



**Mike Thain**  
@ThainMike

@PardoeMary don't get me started about the sexist way that clothing and other manufacturers present maths for girls - "I'm too pretty to do maths" etc. YUK! I've campaigned on this before with EE and will do it again in the future. Makes me sick to see this #mathscpdchat

A MONTH AGO



**Kathryn**  
@Arithmaticks

@PardoeMary This is such a big thing - I have lots of mathematicians' quotes and the @solvemymaths Mr Men and have tried to have a good gender balance to inspire my students to see anyone can be a mathematician! #mathscpdchat

A MONTH AGO



**Mike Thain**  
@ThainMike

@Arithmaticks @BoogleChops the big thing is the time it takes to copy down even brief notes from the board. Am learning to have the next task ready on another board so that those who are quicker can get on. Can't stand dead time and am not the most patient person #mathscpdchat

 A MONTH AGO



**EzyMaths**  
@EzyMaths

@BoogleChops Never shout at any student. Remember having the best Cpd on behaviour management all about playing it cool and putting yourself in the power position #mathscpdchat

 A MONTH AGO



**McBec**  
@MathsMcBec

@BoogleChops Depends on your meaning of shout. If a student is in the wrong, then their gender shouldn't change the consequence nor should the teachers #mathscpdchat

 A MONTH AGO



**Kathryn**  
@Arithmaticks

This IS interesting! #mathscpdchat [twitter.com/PardoeMary/sta...](https://twitter.com/PardoeMary/status/988888888888888888)

 A MONTH AGO

**Cleverice**  
@MathsFutures

#mathscpdchat Sorry i know I'm late but just wanted to say i teach all girls and have found that you can create a more positive learning environment as there aren't any boys to impress!

 A MONTH AGO



**Mike Thain**  
@ThainMike

@BoogleChops so is it inappropriate for an adult female to shout at a teenage boy?  
#mathscpdchat

 A MONTH AGO



**Jon Tyndall**  
@BoogleChops

@EzyMaths No, a good general shout at a room or corridor does wonders, esp if it comes out of the blue and you revert back instantly #mathscpdchat

A MONTH AGO



**Mary Pardoe**  
@PardoeMary

Very many thanks to Kathryn, @Arithmaticks for her excellent hosting (as usual!) of #mathscpdchat tonight, and for everyone's very interesting contributions. Read it all tomorrow at [ncetm.org.uk/resources/41729](http://ncetm.org.uk/resources/41729)

A MONTH AGO



**Miss Phillips**  
@MissH\_Phillips

@ThainMike @PardoeMary I don't agree with manufacturers doing this at all. Maths shouldn't be seen as a negative subject for girls! #mathscpdchat

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

@MathsMcBec Not true entirely. Consequences and rules should be followed consistently, but the way you approach it shouldn't be #mathscpdchat

A MONTH AGO



**Kathryn**  
@Arithmaticks

Time flies when you are having fun! Our (official) time is up for this evening - thank you so much for joining in. We've branched out in many different directions and I hope it has been helpful, no matter your setting! Please look out for the summary tomorrow #mathscpdchat

A MONTH AGO



**Mike Thain**  
@ThainMike

@BoogleChops @EzyMaths I love 'faking' a shout at someone and then immediately switching back to normal calm voice. Haven't had to do that in a girls only setting, it hasn't been necessary and I don't expect it to be based on the first few months #mathscpdchat

A MONTH AGO



**EzyMaths**  
@EzyMaths

[@BoogleChops](#) See what you mean now. The surprise shout. Very effective. Was thinking about one to one. [#mathscpdchat](#)

A MONTH AGO



**McBec**  
@MathsMcBec

[@MissH\\_Phillips](#) [@ThainMike](#) [@PardoeMary](#) I think there was change in this last summer which will hopefully last. Parent pressure made a lot of places change the clothes/shoes offered. [#mathscpdchat](#)

A MONTH AGO



**McBec**  
@MathsMcBec

[@BoogleChops](#) Agreed but that should be down to know the students not down to gender [#mathscpdchat](#)

A MONTH AGO



**Jon Tyndall**  
@BoogleChops

[@Arithmaticks](#) Thanks [@Arithmaticks](#) Interesting discussion. [#mathscpdchat](#)

A MONTH AGO



**Mike Thain**  
@ThainMike

[@MissH\\_Phillips](#) [@PardoeMary](#) It gets me angry every time I see it. I work hard everyday to encourage all students regardless of gender to see the importance of learning all subjects but esp. maths. To see this hard work belittled by senseless idiots who make sexist products is deeply upsetting. [#mathscpdchat](#)

A MONTH AGO



**Mike Thain**  
@ThainMike

[@MathsMcBec](#) [@MissH\\_Phillips](#) [@PardoeMary](#) not based on what I see both in shops and online. There has been every little change. [#mathscpdchat](#)

A MONTH AGO

**McBec**

@MathsMcBec

[@ThainMike](#) [@MissH\\_Phillips](#) [@PardoeMary](#) I will have to look more closely. My daughter is a teenager and if I buy her (or she lets me) clothes I buy the outfit that I hate the most. Works most of the time. [#mathscpdchat](#) I was thinking of some of the outfits for younger ones that I saw over the summer. ☐



A MONTH AGO

**Alison Hopper**

@AlisonHopper68

[@MissH\\_Phillips](#) I did! They were mixed ability too so lots of explaining and they learned about learning and how telling each other the answer wasn't any use. They were a really lovely bunch and realised that mutual trust was needed. I did sanction by moving them if needed [#mathscpdchat](#)



A MONTH AGO

**McBec**

@MathsMcBec

[@ThainMike](#) [@MissH\\_Phillips](#) [@PardoeMary](#) Well done. If you see something else don't forget to involve the power of [#mathscpdchat](#) and [#mathschat](#). There is nothing like an outraged teacher. I'm more than happy to join in - I'm currently campaigning about payday loan ads and their incorrect use of numbers.



A MONTH AGO

**Georgia Patrick**

@Georgiaclairee\_

[@Arithmaticks](#) This year, I have more girls than boys in my maths...the girls definitely lack confidence when comparing to the boys [#mathscpdchat](#)



A MONTH AGO

**mathscpdchat**

@mathscpdchat

Next week the [#mathscpdchat](#) discussion will be about supporting teachers with maths-knowledge anxiety, and it will be hosted by Martyn Yeo [@martynyeouk](#).



A MONTH AGO

**Martyn**

@martynyeouk

Really looking forward to hearing about teachers experiences of this and how they have supported others...[#mathscpdchat](#) [@CentralMathsHub](#) [@HyperHelga](#) [@ClaireCraddock2](#) [@NCEM](#) [twitter.com/mathscpdchat/s...](https://twitter.com/mathscpdchat/s...)



A MONTH AGO