

Report from the Critical Mathematics Education Working Group meeting

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This BSRLM working group met for the third time with the aim of discussing ways of promoting research that brings about positive social change through mathematics education. The meeting began with a presentation and discussion, led by Peter Gates, around recent developments in the field of CME and possible directions for future research. This was followed by a discussion, led by Hilary Povey, of the possible foci for future meetings of the working group.

Keywords: critical mathematics education; empowerment; equity; social justice.

What next for critical mathematics education?

A presentation and discussion led by Peter Gates (recently retired from University of Nottingham):

Peter highlighted how, since his recent retirement, he had never been so busy. One of the benefits of retirement was that, no longer being attached to an institution, he could speak his mind freely. One of his aims for the discussion was to be deliberately controversial. He highlighted how we are currently in a critical position in the UK, being on the verge of electing the most left-wing government since 1945. He believed that he, along with several other people in the room who were also members of the Labour Party, currently had important things to do in this country. The question he posed was what we, as a CME working group, should do in response to this situation.

The backdrop is that there are 3½ million children in poverty in the UK, as a result of the actions of the Conservative Party. According to the Child Poverty Action Group, this is 700 000 more than since Labour lost the last election. Many of these children experience the following in the classroom: high-mobility; hunger; repeated failure; low expectations; undeveloped language; clinical depression; poor health; emotional insecurity; low self-esteem; poor relationships; difficult home environment; a focus on survival; and no vision of the future. Yet how many of these issues seem to figure in the research that we do? Many of these issues don't seem to be a focus of research. Things do not appear to be different now to how Haberman (1991) described them with mathematics lessons characterised by giving information; asking closed questions; giving instructions; giving tests; going over tests; punishing noncompliance; settling arguments; monitoring working; and giving marks. The situation has changed little since the Cockcroft (1982) Report, which claimed that "*mathematics lessons are often about nothing at all*".

Peter described how, in discussions with PGCE mathematics students, they rarely know about their students' backgrounds or recognise that these might be important for learning. Georges (2009) highlighted how poverty has a stronger influence on achievement than instructional quality, yet we spend a lot of our money, time and effort on instructional quality rather than alleviating poverty. So the question

is what can we do to influence a socialist Labour government so that it pursues educational policies we would like to see put in place?

There is a significant amount of research in sociology on space, geography and neighbourhoods and how crucial area is for how well children do at school, but this doesn't often figure in research in mathematics education, even in Critical Mathematics Education. One exception is the work of Skovsmose, who has conducted research in this area on children's backgrounds and foregrounds. An example highlighted by Morrison's Supermarket is that poor people tend to spend more on food as they are not able to afford the larger and more economical packets.

Peter claimed that mathematics teachers engage on a daily basis in attacks on working class children and families, for example through ability grouping, homework, routines, social control, etc. He expressed surprise that people are not enraged by ability grouping. Social class is always present in what we do and research we do cannot be at all neutral. Yet many, otherwise excellent pieces of research, such as Watson and De Geest's (2005) ideas on 'principled teaching for deep progress', make no mention of class. The key variable that is ignored is 'poor children' with research tending instead to focus on 'low-attaining pupils'. What we need to do is acknowledge that mathematics education is a political endeavour and should be situated in the larger movement for social justice (Kitchen, 2003).

Peter referred back to the work of Bishop and Nicksen (1983) that highlighted the need to take into account family background in children's mathematics education, and to enable working class parents and children to 'play the game'. Critical Mathematics Education, over the years, has moved towards recognising that it is about how and why we use mathematics, rather than merely who invented it. What we should be doing is attacking the neutrality of mathematics and seeking change, rather than looking back at historical and philosophical positions on mathematics. We should be working to disrupt the current situation and to empower young people.

Peter argued that most people who consider themselves critical are either 'moderately critical', i.e. they recognise things as unfair but aim to work within the system, 'liberally critical', i.e. they recognise injustice and feel that the classroom can be made more just, or 'radically critical' (which is where he would place himself), i.e. they recognise structural inequality and believe it is necessary to disrupt the current education system.

Peter then proposed the following as a radical manifesto for the future:

- 1) We need to think about the current curriculum, which is too narrow and drives away teachers (resulting in a recruitment crisis). We need a just education system that empowers everyone to realise their full potential. We need to stop teaching to the tests.
- 2) We need to give teachers back their confidence and make their conditions of service better by bringing back collective bargaining. Get teachers much more involved in designing the curriculum and reduce teachers' workload. Reorganise where money goes so that it does some good (away from free schools and grammar schools).
- 3) Oppose the creation of academies. Introduce free school meals. Try to close the attainment gap (which might involve some children doing worse relative to others). Reduce class sizes.
- 4) Work with our research and teachers to engender positive relationships, i.e. treat working class children with the same high expectations as others.

This involves researchers and teachers changing themselves so that they expect more.

- 5) Recognise what working class children bring with them and the contribution they can make towards mathematics. Create meaningful tasks. Not all mathematics needs to be about real life but it should be about stimulation, interest and the spirituality of the world (which many working class children currently don't get).

Peter Gates then invited Heather Mendick to make a response:

Heather referred back to the first meeting of the CME working group two years ago when Jeremy Corbyn had just been elected as Labour Party leader. Whilst things have moved on, we still appeared to be asking the same questions about what we want to do. We need to decide whether the CME group should be a mutual support group or a group with an agenda for action.

Heather accepted it was true that we don't talk enough about class, but this should not be considered as separate from other social categories, particularly in light of recent sexual harassment cases. There is a problem on the left that social class is not thought about enough in terms of gender or race. Race is even more absent from discussions and research around mathematics education in the UK and we need a much stronger intersectional understanding.

Heather highlighted that recent developments in the Labour Party and Momentum have involved political education, i.e. learning more about ourselves and through ourselves, and yet mathematics has mostly been absent from this.

Other members of the group were then invited to contribute towards the discussion and the following points were made:

A question was posed about a possible false dichotomy existing between structures and other aspects of education, as encompassing respect and other issues are not really helped by being called 'structural'. The Labour Party appears to be thinking clearly about structures, e.g. in opposing grammar schools, although less so on academies. However, it is less clear about how what happens in classrooms can help model a fairer world, which can have an impact on all learners, not just low SES learners, and focuses on how to get all learners to work together.

Peter responded by highlighting that the first three proposals from the above radical manifesto were more or less taken directly from the Labour manifesto (with some changes). However, this is where the Labour manifesto stopped and he had to look elsewhere for the 'important stuff'.

A question was posed about the Green Party manifesto, which it was claimed remained 'radical' during the Blairite shift in the Labour Party. Incorporation of Proportional Representation was seen as vital to avoid a shift back to the right in future. We should also consider the Green Party's policies when considering changes that need to be made in mathematics education.

We need to be promoting the kind of mathematical understanding that will enable learners to see through untruths and stop being taken in by politicians in future. Considering the high status that mathematics has in the curriculum, there is a lot missing in Labour Party policy in terms of what mathematics education should look like. The group should be in a position to step in and help out in formulating such policy, the question being what is the most strategic way of doing this?

Peter argued that the group needs to be thinking about how we change perspectives and relationships in society generally, not just in the mathematics classroom.

There is a problem in promoting mixed-attainment teaching that there are very few teachers left with past experience of teaching mixed-attainment teaching. We are still recovering from Margaret Thatcher's argument that 'there is no such thing as society'. This is reflected in most people wanting what's best for their own children irrespective of what's best for all children (conflicting with Diane Reay's notion of social justice). What we need to do is persuade people that what we need is what's best for all children, i.e. a paradigm shift in our thinking. What Jeremy Corbyn is offering is 'weak social democracy' and we need something more radical in education.

Even in systems where attempts have been made to reduce class sizes, offer free food, etc., the system can still 'fail'. For example, despite continuous changes in Kuwait, achievement of students and quality of teaching have not risen. The main issue is that mathematics teachers are never consulted before the changes are made. An issue here is what 'success' actually means - things might 'fail' according to conventional measures of success but that doesn't mean they are actually failing. How can we measure a population's critical understanding of government policy?

We should always return to the question of 'What is the point?' It is now morally acceptable to say we only want what's best for our own children. We have to return to the question of what are we educating children for? To pass exams? To be an economic success? Arguing that education is about producing self-actualising beings might be the right thing to do but would be unlikely to win any votes. So we need something between this and 'reality'.

A crucial function of education is to create citizens who have a passion about creating a better world. It is extraordinary that this kind of talk does have some purchase at the moment and we shouldn't under-estimate the extent to which this kind of idea is currently influencing a whole swathe of voters.

Possible foci for future meetings of the working group

A discussion chaired by Hilary Povey (Sheffield Hallam University):

In the second half of the meeting, members of the group were asked to consider possible foci for future meetings of the CME working group. The aim was primarily to come up with ideas for future meetings rather than attempting to frame an agenda for the group. Hilary suggested one way forward was for people to volunteer to lead a 40-minute discussion as the main part of the meeting. Another idea might be to decide to focus discussion on a key text and to ask members to commit themselves to reading this in advance of the meeting.

One idea was a discussion around intersectionality, what is meant by the term, and whether or not it contradicts other aims of CME.

It was suggested that the CME Group should be broader than just a BSRLM working group, in a similar way to a previous group that had existed, although it was recognized that having meetings within BSRLM had the potential to engage other people who aren't already in the group. Pete Wright pointed out that there was already a CME Group online discussion forum which existed outside of BSRLM.

Anna Bellamy raised the issue of EEF funding for research and how this promoted the dominance of a particular research methodology. It was suggested that a

separate website could be set up to promote blogs written by members of the group. Anna agreed to lead a discussion at the next CME working group meeting on a critique of the EEF from a social justice perspective, with a view to using this to generate blogs for a website. It was pointed out that the EEF are one of the few funding bodies that insist on addressing the attainment of low-income children. At the same time, it was noted that there are many different perspectives on social justice. Matthew Inglis agreed to work with Anna on preparing something for the next meeting. Heather Mendick also agreed to have an input into a discussion.

Conclusion

It was agreed that Anna Bellamy, Matthew Inglis and Heather Mendick would continue to communicate via email with a view to framing a discussion for the next CME working group meeting at the BSRLM Spring 2018 Conference. It was agreed that the first 45 minutes of the next meeting would be devoted to the above discussion with a further 15 minutes during which ideas for further meetings would be discussed.

References

- Bishop, A. and Nickson, M. (1983). *The social context of mathematics education: A review of research in mathematical education, Part B*. Windsor: NFER-Nelson.
- Cockcroft, W. (1982). *Mathematics Counts: Report of the committee of inquiry into the teaching of mathematics in schools*. London: HMSO
- Georges, A. (2009). Relation of instruction and poverty to mathematics achievement gains during Kindergarten. *Teachers College Record*, 111 (9), 2148-2178.
- Haberman, M. (1991). The pedagogy of poverty versus good teaching. *Phi Delta Kappan*, 73, 290-294.
- Kitchen, R. (2003). Getting real about mathematics education reform in high-poverty communities. *For the Learning of Mathematics*, 23 (3), 16-22.
- Watson, A. and De Geest, E. (2005). Principled teaching for deep progress: Improving mathematical learning beyond methods and materials. *Educational Studies in Mathematics*, 58 (2), 209-234.