

Notes from the Critical Mathematics Education Working Group meeting held at the BSRLM Conference on 5th June 2021 (virtual)

Fifteen colleagues attended the eighth meeting of the CME Working Group.

Julian Williams (University of Manchester) led a discussion around the following question:

'How is mathematics education critical to understanding and practice in the environmental crisis?'

The meeting provided an opportunity to discuss how researchers, educators and teachers can contribute to the sustainability agendas locally and globally. Participants were invited to bring along their ideas to share or just come along to learn more about how mathematics and mathematics education might contribute to humanity's crises and inform their practice/activism.

Julian introduced a number of ways in which mathematics can be critical to understanding the global crisis, which he takes to be an amalgam of the crisis of sustainability, abuses of the environment, and inequality. First, we have the problem of understanding 'modelling' which has become so prominent in the pandemic: predictions made from mathematical models are only as good as the assumptions on which they are built (which has often been not very good in the pandemic as we now know). Second, inequality and poor health systems have undermined the health of many places for socioeconomic as well as ideological reasons: good political and social decision-making demands good data handling/statistics practices. Third, one-size-fits-all policy and practice based on generalisations (akin to attending to the average rather than distributions) have led to poor policy and practice that needed to be both global and local in its implementations. Finally, the argument for emphasising problem solving in social as well as technical contexts has been strengthened. It seems likely that these four will all become even more prominent as global climate crises mature over the coming decades.

Critical Mathematics Education for sustainable futures

A quick intro to the Manchester Institute of Education "Green Research in Education Group" founded 18 months ago and some of its activities in GM (e.g. 'save our soils' at www.meen.org.uk and PGCE work with teach-the-future). The global crises raise a number of questions

1. Modelling: Cummings' evidence and graphicacy/data; missing data
2. Inequality: the data the State collected, and those it chose to miss; selling your NHS data
3. Generalisations: the universal and particular (eg linearity)
4. Problem solving: interdisciplinarity, being "knowingly undisciplined".

Finally, what does it mean to be actively critical in this era/epoch? I argue that we need to see three types of activity: **understanding, action, and activism**. For example:

Understanding that the government plans to centralise the country's personal data histories from GP files and possibly sell it to private businesses to do research and development.

Taking action personally: e.g. to opt out of allowing your personal data to be shared (complete and send the proformas to your GP and NHS asap and not later than June 13)

Become an activist: tell all your family and friends to do the same, and join the campaign to stop the government privatisations of the NHS.

Appended: a letter to my GP, plus links two opt out forms:

The text I sent to my GP-practice:

Dear Doctors, nurses, and all staff

I am writing to express my dismay at the implications of the population's personal (and my own) data being sold by the government/NHS to ... whoever without my informed consent.

<https://www.theguardian.com/commentisfree/2021/jun/03/gp-nhs-digital-data-patients-records-england>

I have filled in the opt out forms which you will receive by post - but it is clear that these forms were written in a deliberately misleading way (I have to say I did not want my data being used for research purposes ! How much more disingenuous can that be?)

But more to the point, what fraction of the population, or your patients, will be even aware that this is going on and that they need to be proactive in the next few weeks. Surely if we are complicit in this the trust that many of us have in the NHS will be yet further undermined.

I appeal to you as a GP-practice to join the resistance to this move.

Best wishes to you all: I am sorry this is yet another call distracting from the cause of public health, but to act is to feel empowering.

Julian Williams

Type one opt out

The data held in your GP medical records is shared with other healthcare professionals for the purposes of your individual care. It is also shared with other organisations to support health and care planning and research.

If you do not want your personally identifiable patient data to be shared outside of your GP practice for purposes except your own care, you can register an opt-out with your GP practice. This is known as a Type 1 Opt-out.

Type 1 Opt-outs may be discontinued in the future. If this happens then they may be turned into a National Data Opt-out. Your GP practice will tell you if this is going to happen and if you need to do anything. More information about the National Data Opt-out is here: <https://www.nhs.uk/your-nhs-data-matters/>

You will also need the NHS optout link here: <https://your-data-matters.service.nhs.uk>