BSRLM Conference – 1st March 2025 (online)
Critical Mathematics Education Working Group

Terms of reference:

The CME Working Group (launched in November 2015) is open to all and aims to promote research that brings about positive social change through mathematics education. CME aims to identify and challenge ways in which mathematics is commonly used to maintain the status quo and reproduce inequities in society. It proposes an alternative and empowering conceptualisation of mathematics, which enables people to better understand their social, political and economic situations, and to advocate and bring about changes leading to a more just and equitable society.

Critical Mathematics Education (CME) Working Group - discussion on ‘What are the implications of Dewey’s ideas for the mathematics classroom?’

This is an opportunity to discuss how researchers, educators and teachers might draw on Dewey’s ideas, including ‘democracy’, ‘experiential learning’, ‘inquiry’, ‘reflection’ and ‘transformative teaching’. We will unpack how these words are used in contemporary discourse and what other meanings might be available, and consider how they might inform our practice. Bring along your ideas to share or just come along to learn more about how Dewey’s ideas might inform your practice.

Discussion prompt 1

Aspects of Dewey's educational philosophy:

- *'democracy': an ethical ideal rather than merely a political arrangement, its essence being participation*
- *'experiential learning': students thrive in an environment where they are allowed to experience and interact with the curriculum*
- *'inquiry': learning through active inquiry*
- *'reflection': active, persistent, and careful consideration of any belief or supposed knowledge*
- *and 'transformative teaching': learning changes the learner*

What are the implications for existing practice in maths classrooms?

How do these relate to social justice?

Discussion prompt 2 **(Dewey, 1938/1997, p.8)**

The belief that genuine education comes about through experience does not mean that all experiences are genuinely or equally educative…

An experience may be such as to engender callousness; it may produce lack of sensitivity and of responsiveness. Then the possibilities of having richer experience in the future are restricted.

Again, a given experience may increase a person's automatic skill in a particular direction and yet tend to land him in a groove or rut; the effect again is to narrow the field of further experience.

An experience may be immediately enjoyable and yet promote the formation of a slack and careless attitude; this attitude then operates to modify the quality of subsequent experiences so as to prevent a person from getting out of them what they have to give.

Again, experiences may be so disconnected from one another that, while each is agreeable or even exciting in itself, they are not linked cumulatively to one another. Energy is then dissipated and a person becomes scatter-brained. Each experience may be lively, vivid, and "interesting," and yet their disconnectedness may artificially generate dispersive, disintegrated, centrifugal habits.

Is Dewey right about this? What experiences in the mathematics classroom might exemplify such experiences? What are the implications for socially just mathematics teaching?

Discussion prompt 3 (Hall-Quest, Ed. Foreword to Dewey, 1938/1997, p.4)

Where the traditional school relied upon subjects or the cultural heritage for its content, the "new" school has exalted the learner's impulse and the current problems of a changing society. Neither of these set of values is sufficient in itself. Both are essential…

The traditional curriculum undoubtedly entailed rigid regimentation and a discipline that ignored the capacities and interests of child nature. Today, however, the reaction to this type of schooling often fosters the other extreme--inchoate curriculum, excessive individualism, and spontaneity, which is a deceptive index of freedom. Dr. Dewey insists that neither the old nor the new education is adequate. Each is mis-educative because neither of them applies the principles of a carefully developed philosophy of experience.

Are the descriptions 'traditional' and 'progressive' recognisable? Are the terms helpful in understanding what socially just mathematics teaching might look like? Why or why not?

References:

- Dewey, John (1938/1997). Experience and education. Kappa Delta Pi

https://www.schoolofeducators.com/wp-content/uploads/2011/12/EXPERIENCE-EDUCATION-JOHN-DEWEY.pdf

- Dewey, John (1916/2011). Democracy and education. Simon & Brown.

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