
Beyond Student-Centred Learning: Towards Socially Response-able Mathematics Education

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- “Beyond” does not mean rejection - but questioning the limitations
 - A “critical approach” tries to understand what *is* meant by the concept and what *is not* meant by it
 - Learning how it is helpful and its limitation
 - “Working *with* and working *against* the concept”
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Centre vs peripheral?

- Contrast between
 - Teacher centred
 - Teacher knowledge
 - Teaching methods
 - Content centred
 - Curriculum content
 - Sequence
 - Student centred
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3 Different understandings of student-centred approaches

- Learning theories
 - Teaching ≠ learning
 - Student active participant in learning
 - Learning results from action and reflection
 - Knowledge is not “conveyed” or transmitted
 - Knowledge is more meaningful if it related to student’s **interest** and past experience - **HILIG**
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➤ Human rights discourse

- The United Nations (UN) Convention on the Rights of the Child came into force in 1990.
 - The Convention is not a law but sets out standards which ensure;
 - all rights apply to all young people without exception
 - the best interests of all young people must be of primary concern (**KABUTIHAN**)
 - the views of young people must be taken into account
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➤ Critical education

- Education is not only about preparing young people for work or consumption
 - Education is about 'empowerment' and preparing young people for active citizenship
 - Democratic participation in education not only as preparation for life
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Challenges to student-centred approaches

➤ Social roles of teachers

- Teachers are legally and socially **responsible** for students achievement, learning and class management
 - School system encourages expectations by students as recipients of learning
 - Bureaucratic demands in setting curriculum and assessment
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➤ Reality of the classroom

- Large classes limited resources
 - Language of instruction
 - Focus on competition
 - Teacher training
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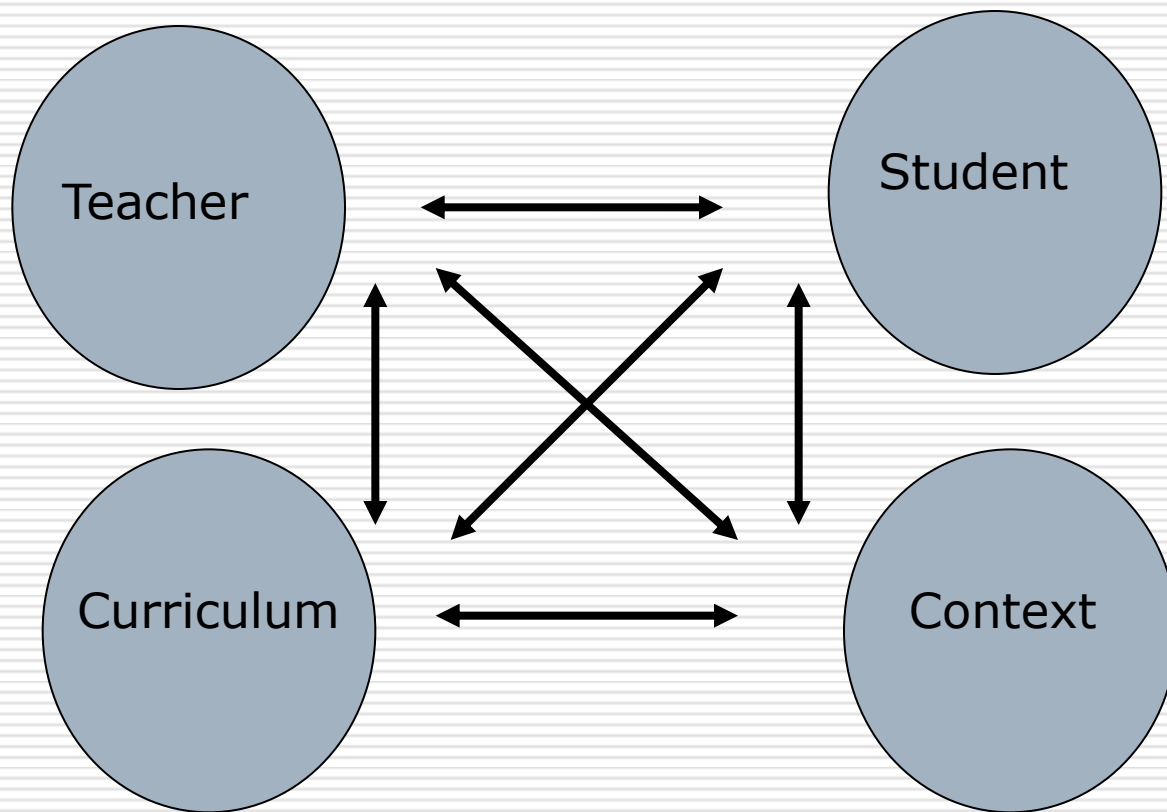
Limitations of student-centred approach

- “Student interest” has two meanings
 - Topics/activities that students are interested in
 - For the best interest of the student
 - How do we make judgements if what students are interested in **is** for their best interest?
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- Education is not only about the individual and their potential but also social needs and aspirations
 - Social needs and aspirations are not satisfied by preparing students for jobs and being consumers – but by being active and critical citizens
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Alternative models to centred education?

- Binary logic is limited here –focusing on one issue pushes others to the edges thus implies lower importance
 - How do we engage teachers in practices that engage students
 - How to focus on the student but ALSO make a focus on pedagogy central.
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From Responsibility to Response-ability

The challenge to mathematics education is learning how to support teachers' response-ability for supporting students response-ability

Implications of this approach

- The primary aim of mathematics education to enable the responsibility of the student in their current and future lives as citizens.
 - Mathematics is important for jobs and technological development of society.
BUT
 - Also mathematics is important for being active citizen in life of the students
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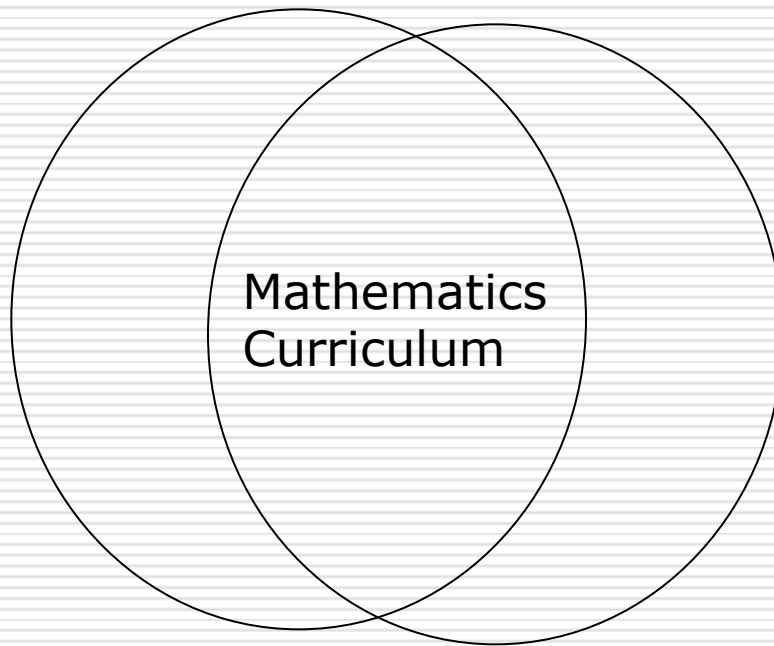
Developing mathematical knowledge and capacity helps the students not only, using Freire's terminology, to "read the world", i.e. understand it, but it should lay the foundation for their capacity to "write the world", i.e. change it.

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- Common wisdom in mathematics education is that you first develop the content in mathematics and then you try to apply it to solve problems.
 - Often the applications are taken from the natural world (ie physics). Less frequently from ecological life and even less from social life.
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This approach ...

- Develops mathematics knowledge **while** students are engaged in real world activities
 - Students are learning mathematics from their activities on the real world and **also** learning about their social world while learning mathematics
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Knowledge
about the
world



Mathematics
knowledge

Examples of activities..

- Is McDonald good for society? For your health?
 - Is deregulation of banks good for consumers?
 - Why students from certain backgrounds don't go to university?
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- Is traffic around our school safe?
 - World population and wealth and by continent
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More Implications

- Students are involved in real data to illustrate and develop mathematics
 - Students are often involved in projects not only in worksheets
 - Students can choose areas that they are interested in
 - Students are involved in control of their learning
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- Teachers responsibility in managing and directing students learning is maintained
 - Teacher as a co-learner
 - Interdisciplinary approach is encouraged
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- Mathematics teachers avoid dealing with sensitive and controversial issues in society
 - Mathematics is seen to be objective and does not address questions of values.
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