

The Intermental and Intramental as Areas for Professional Learning

Teachers Developing Concept-Based Curricula to Engage Diverse Learners

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KEY IMPLICATIONS

- In aiming to develop deeper conceptual focus in lesson with inductive teaching strategies, there is a need for a focus on teachers' conceptual thinking. This is best done by considerations of both factual and pragmatic aspects of knowledge (Dewey, 1904) at the design stage.
- The social interaction and dialectical discussions with other team members over time and relevant feedback from knowledgeable others are crucial to helping the teacher establish meaningful links between the differing needs of the learners and the discipline.
- A cyclical process of professional learning (such as the Conceptual Inquiry Cycle) allows for critical engagement of the teacher's tacit knowledge with the demands made of curriculum and instructional processes, which mirrors connections between the intramental and intermental processes (Vygotsky, 1978).

BACKGROUND

It is known that concept-based instruction allows learners to acquire a deeper understanding of subject matter and that this is done by using inductive learning strategies that activate learners to inquire deeply into topics and think

deeply. The thinking skills and dispositions activated by inductive learning experiences builds life-long learning competencies and is able to serve the learner to deal with more complex learning experiences as they encounter more sophisticated ideas in the discipline.

While teachers see the significance of taking a conceptual approach to teaching a subject, they feel challenged as they have little experience with adapting existing units to concept-focused ones or with using inductive teaching strategies to achieve deeper thinking.

Furthermore, the teacher community in schools often experience issues with field testing curriculum and the implementation of teaching strategies, given that current professional learning in schools are not intended for sustained scrutiny.

FOCUS OF STUDY

This study therefore intended to investigate, with the conceptual inquiry cycle, ways to activate a concept-focused approach in the typical classroom. The study involved teacher-driven re-design of curriculum and lesson implementation focused on deeper conceptual understanding in the subject. The Conceptual Inquiry Cycle (CIC) was carried out over an 18-month period, with the research team providing in-depth feedback.

KEY FINDINGS

Three key findings were gained from the study about how to promote concept-focused instruction. The study firstly found that considering the factual and practical knowledge aspects together was crucial in the re-design process and that this enabled teachers to identify and implement inductive teaching for deep learning.

Secondly, the dialectical discussions amongst the design team and subject specific collaborators helped teachers negotiate different understandings that were raised in the redesign process.

Finally, being involved in the activities of the CIC (design, implement and refine) allowed interaction between the intermental and intramental processes which then results in meaning making for the teacher.

SIGNIFICANCE OF FINDINGS

The study has contributed to our theoretical understanding of how to go about articulating a greater conceptual focus in teaching and learning activities in the typical classroom. It emphasises the need for teachers to explore different knowledge aspects (factual and practical) to heighten conceptual thinking in the teacher. It also highlights the need for the CIC process to allow teachers to make meaning of concept-based instruction.

In terms of practice, this development research project has trialled the use of the CIC, as well as unit development and feedback tools. These tools, together with dialectical discussion with the teacher teams and the subject specific collaborators acting as knowledgeable others, is seen to provide intermental and intramental interactions necessary for internationalisation.

In terms of policy, the study suggests that field-testing supported by team-based discussion and knowledgeable others is critical to the process of internalisation and therefore can be more effective in bring about instructional change.

PARTICIPANTS

The main participants in the study were six teacher-implementers and students from their classes from two typical primary schools. Each teacher-implementer was also supported by a team of teacher-designers, with this group comprising 12 teachers in total.

RESEARCH DESIGN

Utilising a multiple case study methodology, concept-based unit development and implementation activities was carried out in two local typical primary schools over 18 months. Six units were redesigned, two for English Language, three for Science, and one for Mathematics. The CIC was used as a structure to design, implement and refine each unit, and each cycle was conducted over one year. In the second year, most of the re-designed units was re-implemented by another teacher-implementer. Data was collected in the form of lesson observation videos, field notes, teacher-implementer interviews, and student FGD and artefacts.

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