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Revisiting Thinking Curriculum

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ABSTRACT

Thinking is a process which occurs in context. Thinking discussed here is not confined to critical thinking but a combination of learning strategies and skills, creative thinking, metacognition and social skills. It is crucial to note that this is not a new subject fighting for a place in an already overcrowded curriculum but a distinct pedagogy strategy which is an important aspect to the approach of learning as well as teaching in all areas. The existing structure of a curriculum may remain but what needs to be done is to radically change the nature of the structure. It can be concluded that the understanding of thinking is crucial than the knowing of thinking.

Keywords: Curriculum, Critical Thinking, Learning, Pedagogy

1. Introduction

"No curriculum can be regarded as acceptable unless it can be shown to make a contribution to the teaching of thinking."

John Nisbet

Teacher: Gary, what are you doing?

Gary: Thinking.

Teacher: Well, stop thinking and listen to me.

Robert Fisher

The quote and anecdote above shows the importance of thinking and how this process is most of the time curbed especially in children. The term thinking curriculum was coined by Lauren Resnick (1987) in Education and Learning To Think. In the 19th century, the study of classics and mathematics was seen as a mental discipline for strengthening the faculty of reason. The 'faculty' theory was discredited and the notion of inborn intelligence dominated educational practice until the 1960s. Bruner, Vygotsky and others developed a constructivist psychology that sees learners as active creators of their own knowledge and interpretation. According to Bruner (1960), "the most general objective of education that it cultivates excellence. It here refers not only to schooling but also to helping each student achieve his optimum intellectual development "(p. 9).

1.1 Notion of thinking

Firstly, thinking discussed here is not confined to critical thinking but a combination of learning strategies and skills, creative thinking, metacognition, social skills and so on (Harpaz, 2005; Duron and Waugh, 2006). Secondly, thinking should not be confused with intelligence; it is a skill that may be improved in everyone (Walsh and Paul, 1988). It is not something that necessarily develops with maturity and so should be taught to all ages. Thirdly, this is not a new subject battling for a place in an already overcrowded curriculum. It is a distinct pedagogy strategy which is an important aspect to the approach of learning in all areas of the curriculum. It is not a matter of adding to the existing structure but of radically changing the nature of the structure (Lane and Lane, 1986). Thinking is actually a process that we have to learn. Fourthly, the thinking curriculum discussed here is not to be confused with Bloom's taxonomy that is hierarchical in nature where higher order skills are built upon lower order thinking skills. For example, reading is seen as a lower order thinking skills while evaluating the text is seen as a higher order skill.

2.0 Crucial guidelines for a thinking curriculum

Most of us have heard of problem solving and critical thinking, which appears prominently in the new curriculum guidelines. For example, Nuffield programmes in the 1960s advocated a problem approach in Mathematics and Science (http://www.nuffieldfoundation.org). Progressive education introduced projects where children are expected to think for themselves. In management, medicine and law, case studies and simulations are used to teach problem solving and decision-making. The latest developments of computers in schools open up new possibilities for practice in independent

thinking as well as the inquiry approach.

Some of the ideas discussed here are drawn after Fennimore and Tinzmann's (1990) article on What Is a Thinking Curriculum? which is found to be more comprehensive and learner-friendly. There are five innovative ideas in the thinking curriculum which helps to develop a learner who is knowledgeable, self-determined, strategic and empathetic. All these qualities in a learner are of paramount importance. Knowledge refers to acquiring a substantial and organized body of knowledge that learners can use to make sense of the world, solve problems and make decisions. They can also evaluate the limitations of their knowledge and their perspectives of the world. Self-determination is the capability of continuously striving to acquire and use the strategies learnt. Finally, empathy is the ability to view themselves and the world from perspectives other than their own. These will be the main objectives of a thinking curriculum.

2.1 Features, rationale and advantages of a thinking curriculum

The features, rationale and advantages which can serve as a basis for a thinking curriculum as proposed by Fennimore and Tinzmann (1990) are further discussed in the section below.

2.1.1 Feature 1

Thinking curriculum emphasizes in-depth learning.

Rationale

A thinking curriculum does not aim to churn students enveloped with facts, figures, definitions and formulas. Knowledgeable students may possess such information but more importantly they possess key concepts and tools for making, using and communicating knowledge in a field.

Advantages

Students learn how to learn, how to organize information and how to distinguish between important and less important pieces of information. Students develop a deep understanding of essential concepts and processes for dealing with those concepts. They design experiments to answer their questions about natural phenomena, they write for real audiences and so on. The thinking curriculum gives students the tools, perspectives and methodolo-

gies and concepts they need to carry out these authentic tasks.

2.1.2 Feature 2

Content and process objectives are situated in real-world tasks.

Rationale

Rather than focusing on simple skills, students should engage in complex and holistic thinking. These tasks must be situated in meaningful processes of making decisions, solving problems and evaluating situation. It is also to be shared among individuals involved carrying out the same task and aided by the use of tools such as reference books, computers and other forms of technology. It is also connected to real world objects, events and situations. In addition, this thinking is often interdisciplinary, cutting across many school subjects (Resnick, 1987; Paul and Elder, 2007).

Advantages

Students learn to collaborate with their peers, teachers, parents and society as a whole thus developing their interpersonal skills and at the same time using tools and resources to perform real-world tasks (Paul and Elder, 2007).

2.1.3 Feature 3

Tasks are sequenced as holistic performances in an increasingly challenging environment.

Rationale

Learners should always be engaged with a whole task. The thinking curriculum involves holistic performance of meaningful, complex tasks in an increasingly challenging environment. It promotes a sense of efficacy and confidence in students. Materials and content are prepared in such a way that students regulate their own learning so that learning is always meaningful and make sense. These goals are promoted in a variety of ways. For example, it encourages students to clarify their purpose/s in performing a task, to assess what they already know and to predict what is to be learned. It helps them highlight what is most important and thereby foster feeling of control over subject matter. It provides opportunities for students to assess difficulties they have in learning and consider strategies they could use to

overcome learning difficulties. It stresses continuing to work in the face of ambiguity, solving problems despite unexpected difficulties and looking at problems as challenges to learn more and better.

Advantages

Researchers like Palinscar and Brown (1984) indicate that all students including young children and low achieving students can succeed when a holistic approach is employed. In addition, holistic learning is much more likely to be interesting to students and to promote a sense of control over their own learning.

2.1.4 Feature **4**

A thinking curriculum actively connects content and processes to learners' backgrounds.

Rationale

Educators can begin to create a thinking curriculum by first considering the experiences and knowledge that students bring to school and then expanding upon and refining these experiences and knowledge by connecting them to new learning. The content and processes learned build on students' family, community and cultural experiences. The knowledge students acquire is meaningful and applied. In addition, students are motivated to learn when curriculum considers their experiences and the issues and problems with which they are concerned as well as their patterns of processing knowledge. The content in a thinking curriculum is relevant to important issues and tasks in the lives of students (Paul & Elder, 2008).

Advantages

When students can relate school learning to important real life issues, they are more likely to value the perspective of others (peers, teachers, parents, community members and experts). In doing, so they develop interpersonal competencies for creating and participating in dialogue with individuals who have different perspectives and backgrounds. Thus, they not only connect content to their own backgrounds but also learn how different people interpret and organize content based on their different perspectives. As a result, the thinking curriculum builds multicultural understanding while encouraging philosophical understanding of different kinds of knowledge. Students will thus be better prepared to participate in an increasingly global society. At the same time they are able to understand and value multi-

cultural perspectives.

2.1.5 Feature 5

The thinking curriculum not only involves cognitive skills but also affective elements.

Rationale

Attitudes and motivation play an important role in the thinking process. This happens because thinking requires effort. Knowledge about effective thinking is not enough, we also need to have the will to use the knowledge and develop the habit of thought. Can such attitudes be taught? Yes, when facing difficulties we may react by increasing our thoughts and effort. Thus it is not a matter of teaching thinking skills but rather creating powerful learning environments for thinking.

Advantages

It encourages learning that is tolerant of questioning and builds students' confidence, discouraging memorising and an authoritarian regime.

3.0 Some pertinent issues in relation to the thinking curriculum

There are some controversies as to whether thinking should be taught as an independent course (content approach) or within established courses (infusion approach). Those who favour process approach say it deserves separate instruction (Lipman, 1988). They argue that the process approach will not confine thinking to a specific subject matter and would avoid repetition of introductory principles in each subject. This will also encourage the application of cognitive skills to other disciplines.

Advocates of the infusion approach argue that certain cognitive skills are specific to a particular discipline and should be taught in context (Ashton, 1988). This method requires teachers have extensive knowledge of their own discipline and how it differs from others. They can then instruct students on how to apply cognitive skills in their areas and when to make contextual links with other areas (Chambers, 1998). This approach enhances content-domain learning (Resnick, 1987) and eliminates the problems of scheduling and extra courses for students as well as teaching staff (Martin, 1983).

4.0 Conclusion

In conclusion, implementation of the thinking curriculum helps to produce competent knowledge workers in various disciplines. By uniting process and content, students learn the strategies they need to acquire, produce, use and communicate knowledge and finally by looking at subject areas from personal, cultural and historical perspectives, students develop empathy for the experiences, feeling and world view of others. This new definition of learning can serve as the framework for restructuring the existing curriculum.

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