TEACHING-LEARNING STRATEGIES FOR THINKING CLASSROOM

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ABSTRACT

In recent years there has been growing interest and much research into the ways of developing children's thinking and learning skills. Many researches suggest that making meaning, developing the capacity for abstract thinking, reflective thinking, analytical thinking, problem solving, integrative thinking, and critical thinking are the most important aspects of quality learning (Singh & Rath, 2010). So if students are to function successfully then they must be equipped with lifelong learning and thinking skills necessary in 21st century. Many teachers now admit this fact that 'Teaching for Thinking' and 'Quality Learning' is desirable. Within the possibilities of schooling, teachers and their practices have greater influence on student thinking and learning. Here teachers who are in the school system need some innovative teaching-learning strategies or ideas for classrooms that invite and support thinking and learning. This article focuses on some innovative teaching and learning strategies which may help teachers to create thinking classroom.

LET US THINK?

Schools are one of the places where children are supposed to learn to think, and get various platforms which enable them to make full use of their potential. In today's fast changing world parents want their children to do extremely well in all kinds of activities, so that they can face the competitive world with great assurance and confidence. Hence they look for a school which employs innovative ways of teaching, so that a child turns out to be an all rounder, when he comes out of the school. In recent years there has been growing interest and much research into the ways of developing children's thinking and learning skills (Fisher, 2005). Many researches suggest that making meaning, developing the capacity for abstract thinking, reflective thinking, analytical thinking, problem solving, integrative thinking, and critical thinking is the most important aspects of quality learning (Singh & Rath, 2010). So if students are to function successfully then they must be equipped with lifelong learning and thinking skills necessary in 21st century. Several documents in the thinking skills literature offer support for infusion of thinking skill activities into subjects in the regular curriculum (Bransford et al., 1986). However, others provide support for separate thinking skills instruction. But findings emerging from various researches revealed that neither infused thinking skills instruction nor separate curricula are inherently superior to the other: both can lead to improve student's performance and elements of both are often used together with beneficial results.

Educators are not alone in their concern about the urgency of teaching and learning of different thinking skills. Various organizations and government all over the world are now more concerned than ever to promote life skills (Craft, 2005) needed in rapidly changing world. It is now realized that 'Higher Order' thinking skills are required, in addition to basic skills, because individuals cannot 'store' sufficient knowledge in their memories for future use. Information is expanding at such a rate that individuals require transferable skills to enable them to address different problems in different context, at different times throughout their lives. In recent years a number of articles, books, reports, seminars as well as NCF-2005 have highlighted the importance of 'Higher-order Thinking Skills' and hence appear in the support of teaching thinking. In India, the NCF- 2005 has strongly advocated the development of life skills such as critical thinking skills, interpersonal communication

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skills, negotiation/ refusal skills, decision-making / problem solving skills, and coping and self-engagement skills is very critical for dealing with demands and challenges of everyday life. Many teachers now admit this fact that 'Teaching for Thinking' and 'Quality Learning' is desirable. Within the possibilities of schooling, teachers and their practices have greater influence on student thinking and learning. In fact, many teachers in our schools are willing to change their practices. But one of the biggest problems for teachers when approaching thinking skills is that this is an invisible area of learning. We can not tell just by looking whether or not our students are actually thinking. Is that distant look in their eyes an indication that they are deep in thought? If they are in deep thought, exactly what are they thinking about? Are they thinking about the work that we have set for them? Either they are thinking what they might have for lunch (mid-day meal), or thinking about when the class will be over? Here teachers who are in the school system need some strategies or ideas to make their students' thinking processes more explicit. There is a need of well organized innovative teaching-learning strategies for classrooms that invites and supports thinking and learning.

TEACHING-LEARNING STRATEGIES FOR THINKING CLASSROOMS

In order to realize the vision of thinking classroom, a teacher has a significant role in enhancing thinking and learning in schools. The role of teacher in implementing thinking culture in the classroom includes examining the classroom environment, teaching practices, assessment or evaluation, and the personal qualities required of the teacher. Here some effective teaching-learning strategies are given which a teacher can apply to encourage thinking and learning in the classroom. These strategies can be generalized in different subject areas keeping in mind the objectives in hand.

CLASSROOM ENVIRONMENT

Learning takes place within a web of social relationships as teachers and pupils interact both formally and informally. Now the question arises that how can we organise the environment in the school and classroom so that such interactions support and enhance teaching-learning process? The physical and psychological dimensions of the environment are important and interrelated which significantly influence children's learning and thinking (NCF-2005). Classrooms that invite students to learn actively and think critically have some common features:

1. Seating Arrangement of the Classroom should be in such a way that allows students to talk to each other, work together and share the stage with the teacher, so that all can see and interact with each other meaningfully.

2. Shared Responsibility between Students and Teachers for Classroom Climate: Researches shows that positive classroom climate facilitate thinking abilities and teaching-learning process. Learners should have equal part in developing class rules for conduct, deciding goals, and identifying criteria for assessing progress. Teachers and students can create the success criteria together.

3. Atmosphere of Inquiry and Openness: The teacher and students should use high-order questions i.e. 'Why or how something happens?', How one event, object, or idea might be related to other events, objects or ideas "What if?" and "Why not?" etc. Students should take certain roles in activities as they practice different kinds of thinking: they make predictions, gather information, organize the information, and question conclusions. Teachers should provide feedback about the particular qualities of students' work, with corrective advice on what they can do to improve. He should avoid criticism and comparisons with other students.

4. Supportive Classroom Ethos, Self and Peer Assessment: Teachers should pay close attention to what students are learning and how they are thinking, investigating, and communicating as they go about learning. Students should be involved not only in their

own but also in peer assessment. This gives children a central role in their own learning. It will be really an important shift from the teacher having all the responsibility for assessment to a position of sharing goals, self evaluation and setting their own goal. So in this way there should be emotionally secure environment in which students feel free to try new tasks, respects for different points of view, learn not only each other's ideas but each other's ways of thinking and where unsuccessful attempts, errors and mistakes are considered an integral part of learning process.

TEACHING PRACTICES

1. Use of Graphic organizer: Graphic organizers are known by variety of names, including knowledge maps, story maps, concept maps, mind maps, cognitive organizers, advance organizers, or concept diagrams, semantic webs, and T-Charts. Literature supports the use of organizers to facilitate and improve learning outcomes for a wide range of learners. Graphic organizers depict a visual, organized display that makes "information easier to understand and learn". Teachers use these as a resource to develop lessons and link new concepts with existing knowledge during a lesson leading to meaningful learning. The students' ability to organize and structure content can also be assessed at the conclusion of a lesson. Ultimately, graphic organizers allow for more than just content acquisition. Students learn processing skills, patterns for organizing information, critical thinking skills, and communication skills.

2. Learning Logs are journals in which children are required to record personal responses, queries, feelings, changing ideas, thoughts, and knowledge about the processes and content of their learning. They involve the children in identifying, analyzing and reflecting on aspects of their learning rather than simply describing the learning experience or activity. Learning logs can be used as a means of linking knowledge and learning to previous experiences, asking questions, self evaluating, synthesising information etc. Teachers also benefit from the children's use of Learning Logs as they are able to read about the child's perceived needs, strengths, and difficulties and respond accordingly. They are able to gain valuable insights into the thinking processes of each student and can often use this information to evaluate the effectiveness of a particular teaching-learning strategy.

3. K-W-L is a graphic organizer that can be used in different phases of a lesson i.e. in the beginning, middle and end of the lesson. In this strategy, students are asked to record/note what they already know? What they want to know? What they have learned now? It is very helpful strategy as it activates prior knowledge, engages curiosity and prompts reflection.

4. Concept maps are the tools that help students to make their thinking visible, provide opportunities to express their understanding about various concepts while developing concept maps. Students can learn from this technique from an early age and many find it motivating. Concept mapping motivate us to think, try more, and increase our ability to organise and represent thoughts. It can be used in various curriculum areas and is also a useful reflective learning strategy which enables learner to construct, consolidate, facilitate, revise, and assess their learning. If action is required and taken, students have been metacognitive. In addition to enhancing learning, concept mapping can assist teacher in planning and assessment also.

5. One Minute Paper is a simple, flexible and widely applicable technique requiring no technology. The One Minute Paper is typically assigned at the end of a class, and requires each student to briefly write down the answers of two questions, generally: (1) What is the most important thing you learned

in class today? (2) What question is unanswered or one thing that is still confusing for you? As the name suggests, students are given a minute or two to complete the exercise. After collecting the papers, the teacher reads the student's answers and responds to them in the next class. The characteristics of the One Minute Paper make it a useful learning tool for instructors and students across a wide range of disciplines. It encourages the active learning that is recognized as best practice teaching.

6. Use of Thinking Language in the classroom can enhance learner's ability to think and help them to be a thoughtful learner. Teachers should develop clear, precise and rich vocabulary of thinking in the classrooms by using words / phrases like think, imagine, guess, estimate, doubts, give reasons/ evidence, 'what if', "how else this could be done", give some alternative explanations etc. Students surrounded by a rich language of thinking are more likely to think deeply about thinking. Students learn more when they engage in talk that is interpretive and that analyzes and gives explanations.

7. Thinking Routines are useful tools for achieving thinking and learning goals. They are simple patterns that support and scaffold thinking actions. Routines like 'See-Think-Wonder', 'Claim-Support-Question', 'Listen-Think-Pair-Share' etc should be used in classroom as these provide structures through which students collectively as well as individually initiate, explore, discuss, document, and manage their thinking. They can be useful across different grade levels, subject areas and contexts.

8. Rubrics are the devices such as checklists, scales or description that identifies the criteria used to evaluate the quality of students' work. They are developed around several criteria for excellence, and are used because they are a form of assessment that shows students how to perform well. Rubrics can help a teacher to encourage students to

give better responses to reflective questioning and assessment.

9. Experiential learning: A generic term for activities conducted outside of the classroom in which students learn from direct experience. Service-learning is an example of experiential learning. It is a way of extending teaching beyond the classroom and out into the community. Students perform useful service work in some domain that is relevant to a subject they are studying in school, and are led to reflect on their service experiences both in terms of academic learning and personal growth.

10. Critical Incident Journal: A journal used to lead students to reflect upon experiences they have had during experiential learning activities. It focuses on salient experiences and leads the students to examine their responses to them.

11. Discussion Based Approach and Meta-cognitive Discussion: In this approach children are encouraged to state whether they agree or disagree with each other by giving reasons. For example, they are taught to say, 'I think...because' or 'I disagree with you because...' The activities are designed as problems to be solved thus creating a context for developing thinking. Children are given a challenge, required to work collaboratively, to plan, and evaluate their own and others thinking strategies. The teacher then gets the children to think about their thinking (metacognition) through asking such questions as 'what do you think we are going to have to think about?' and 'how did you get your answer?' rather than 'is your answer correct?' In this way teachers can make metacognition a priority in their classrooms by explaining students that thinking about their own learning will be necessary part of each day. Hence, it can be a productive way of generating children's thinking and learning.

12. Brainstorming is a technique of rapid, uncritical thinking which is used to get many ideas for discussion. The focus remains on

quantity; and unusual ideas are also acceptable. So it promotes creative thinking.

13. Encourage Questioning: Questioning requires students and teachers to reflect on their understandings. It leads to changes and improvements in learning, thinking, and teaching. The kind of questions asked, the way in which they are asked, and the manner in which responses are given, affect both self esteem and the participation of the student. Teachers should create an environment in the classroom which motivates students to ask questions about what they want to know without any negative reaction from the teachers. For example to encourage questioning among students, teachers may place the question box at one corner of the classroom, where students can put their questions. It is a wonderful technique which encourage questioning even from those students who due to some reasons hesitate to ask questions in front of all students in the classroom. Teachers may use the questioning matrix to design questions which will help students to understand the content meaningfully and guide in developing the child's critical thinking skills.

14. Cooperative learning: An approach to working in groups that makes students responsible for each other's learning, and each accountable for their own learning. Jigsaw, Mix/freeze/ Pair, One Stay, Three Stray, Reciprocal Teaching etc are some of the cooperative learning activities which can be used in the classroom to facilitate thinking and learning.

I) Jigsaw: A cooperative learning activity in which students work in home groups (relatively long term groups in which students learn together) and expert groups (ad hoc groups in which students prepare to carry out a task) and teach each other the material of the lesson.

ii) Mix/Freeze/Pair: A cooperative activity in which students circulate around the room and stop at the direction of the teacher, pair up with whomever is nearest, and discuss a topic.

iii) One Stay, Three Stray: A cooperative learning activity in which students from one home group visit different home groups and report those groups' ideas back to their own home group.

iv) Reciprocal Teaching is a co-operative reading and discussion activity in which group members take turns playing the role of teacher. Teachers should allow students to take turns "playing teachers".

15. Recognising and Celebrating Children's Work: There are lot of ways to celebrate the good work by the students. For example, teacher may display a chosen piece of work on the wall so that everyone can share that pupil's success. These types of activities give the teacher an opportunity to focus on work which shows improvement and an understanding of subject progression.

Keeping these practices in mind, teacher can encourage thinking and learning in the classroom.

ASSESSMENT OR EVALUATION

Assessment for learning as opposed to assessment of learning is part of ongoing learning and teaching process. Regular assessment is a key to improve both teaching-learning, because assessment at the end is no longer compatible with teaching-learning process in present day classrooms.

This approach brings with it a different relationship between teacher and learner than in traditional ways of assessment. Since the pupils need to become involved in discussions about the tasks (learning objectives), assessment criteria (success criteria), their performance, and what they need to do to improve: the relationship is more of a partnership with both pupil and teacher playing a role. The use of above mentioned strategies secure a wider range of assessments, as assessment is not a separate part but interwoven with teaching-learning process.

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TEACHER'S PERSONAL QUALITIES

Schools should be the places where teachers learn from experience in the same way as they intend their pupils should learn from the tasks and activities in which they are engaged. Teachers who regard themselves as learners in the classroom are likely to be more successful in facilitating the learning of their pupils. To encourage a thinking culture in the classroom, teacher himself should be learner, facilitator, flexible, sensitive to feelings, and should analyze their own thinking processes, classroom practices.

CONCLUSION

Transforming any classroom into a "Culture of Thinking", a whole school approach will be necessary whereby all stakeholders are fully committed to the school's aims and how they can best be achieved. Within the possibilities of schooling, teachers and their practice that have larger influence on student thinking and learning. With quality innovative approaches to the teaching of thinking skills, learning becomes a wonderful and thrilling experience for our students. Therefore in the 'knowledge society' of 21st century, the idea of thinking children & thinking classrooms is essential to the mission of education.

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