

Constructivist Pedagogy: Vital for Meta Cognitive Reflection (MCR)

Dr. Biswajit Behera

Abstract

The core of learning is to develop basic forms of understanding which is characterized by forms and processes of verification, validation and justification, knowledge creation and creativity. Both explicit and articulated knowledge as well as tacit and experiential knowledge, creativity and excellence are all integral to the form of knowledge and knowing. It is therefore to organize learning experiences to empower 'learners' and 'transform learning'. Reflection is critical to learning and transfer; it means to be embedded in assessment. A related approach is to require learning to serve a Meta cognitive reflection (MCR). This strategy is the presentation of multiple perspectives to learners by providing multiple representations on the content because there is no single schema. Therefore, Constructivist pedagogy can become the medium for practices of reflection. Strategies like reflective lesson logs, reflective journal, self assessment questions, wait time and group processing which provide opportunities for use of Meta cognitive reflection are suggested.

Key words: Constructivist pedagogy, Reflection, Meta cognitive reflection (MCR)

Constructivist Pedagogy: Vital for Meta Cognitive Reflection (MCR)

Introduction

The basic purpose of learning is to enable learners to make sense of life and develop their potential to a maximum extent. Therefore, NCF-2005 in its guiding principles has stipulated ideas like

- Connecting knowledge to life outside the school
- Making examinations integrated into class room life.

These are concerns to respond critical pedagogy in school education and teacher education in particular. An effective pedagogy can become the medium for

- a) Connecting classroom knowledge to the life experiences of the learners
- b) Facilitating a growing appreciation of cumulative human experience
- c) Knowledge and theories by building rationally upon the contextual experiences

‘Learning to learn’ is important as means of responding to new situations in a creative manner. The critical pedagogy needs to emphasize the processes of constructing knowledge. The effort should be to provide an ‘opportunity to learn’ to enhance the learner’s creative expressions and the capacity for cognitive and aesthetic appreciation

Pedagogy

The etymology of the word pedagogy comes from the Greek word ‘paidagogos, which means a slave who escorted children to school. Later the word pedagogue referred to a teacher, a person who leads a child. To escort or to lead is to walk a child through a journey. Thus, there is a pedis (Latin word for foot) dimension to teaching or a pedagogical characteristic inherent in the pedagogical. Pedagogy would be the study of walking alongside the student as a mentor or teacher. Using a pedagogical frame, one might ask, what does it mean to walk, to stand, to stand tall, to stand up to, to stand for, or to stand with? And who are the people who walk beside this man?

Critical pedagogy (CP)

The perspectives of Paulo Freire’s pedagogy make it clear that knowledge alone does not transfer life. Only the conversion of knowledge into action can transform the life. This concretely defines a dialectic movement between the conversion of transformative action into knowledge and the conversion of knowledge into transformative action. The transformation not only changes life but also the subject, making these subjects free beings able to think their individual and social praxis, articulating the local with the global and extracting from life experiences and from the various knowledge about life a strategic direction.

Thus, it is a commitment to create encouraging and vibrant space and environment in learning. The core of learning is to develop basic forms of understanding each of which is characterized by distinctive concepts, forms and processes of verification, validation and justification, knowledge creation and creativity. The pedagogy concerns itself with the development of capacities of work and action, forming and sustaining relationship. The ideology is viewed as cognitively significant to view the world, to understand, to engage and to act on it. Both explicit and articulated knowledge as well as tacit and experiential knowledge, creativity and excellence are all integral to these forms of knowledge and knowing. It is therefore to organize learning experiences to empower 'learners' and 'transform learning'. By this mean, teaching and learning should give learners a greater sense of 'ownership'. Thus, the notion of critical pedagogy is an 'empowering' and 'transforming' pedagogy. To say empowering and transforming is based on the following questions

- ✓ Empowering for whom and for what purpose?
- ✓ To what extent transferring is directed?
- ✓ Who will benefit from such transformation?

Constructivist pedagogy

Constructivism argues that learning occurs most effectively in context and that context becomes an important part of knowledge base associated with that learning. So, rather than decontextualizing learning in isolated school environments, we should create real world environments that employ the context in which the learning is relevant. A related approach is to require learning to serve a Meta cognitive reflection (MCR). The important strategy is the presentation of multiple perspectives to learners by providing multiple representations on the content because there is no single schema. An emphasis on case-based instruction which provides multiple perspectives is given. In order to design learning as more realistic and meaningful process, this paradigm is accepted today.

Constructivism claims that learning can only interpret information in the context of the learners' experiences and that what they interpret will, to some extent, be individualistic. We should intend to map a particular reality on to learners but ultimately they interpret our messages in the context of their own experiences and knowledge and construct meaning relative to their own needs, backgrounds and interests. Thus, we help them to construct their own meaningful and conceptually functional representations of the external world.

Instructional goals and objectives are negotiated, not imposed. Task analysis should concentrate more on considering appropriate interpretations and providing the intellectual tools that are necessary for helping learners to construct knowledge. It is a kind of learning paradigm where the learners become active learners rather than teacher controlled intellectual undertakings. The curriculum for a learning paradigm is learner centered, the teacher is a guide, not a dictate, and the sequence of learning often conflicts with the prescribed learning. The learning is less linear

and more nested in the learner's experiences. It requires more progressive, learner centered with strong elements of collaborative and reflective learning. Not only learning outcomes but also learning experiences are evaluated. Exercises, both individual and collective can be designed to enable them to reflect on and assess their learning experiences. Such experiences also provide them with self-regulating capabilities essential for 'Learning to Learn' (Behera, 2015). Every class room interaction with learner requires evaluation of their own work and a discussion about what should be tested and the ways of finding out whether the competencies are being developed or not.

Meta Cognitive Reflection (MCR)

Learners display great difficulty in applying knowledge and skills to new situations. Cognition is important, but Meta cognition helps the learners to integrate their facts and apply them to solve problems in the real world. Meta cognition is basically 'thinking about one's thinking' and becoming more aware of one's own thought processes. Learners who can label their own thinking such as 'analyzing the experiment to see what went wrong' show they are learning from the past in order to prevent the same problems from occurring in the future. Doing 'more of the same when the same does not work' is not Meta cognitive. Noddings (2008) distinguished thinking categories as critical thinking, reflective thinking, creative thinking and higher order thinking. He advocates thinking as 'mental activity' using facts to plan, order and work toward an end. Seeking meaning or an explanation and using reason to question, claims and make judgements is self-reflective.

Teachers today, while knowing how to encourage their students to think are often constrained by the amount of time required. It takes time to engage learners in inquiry and to allow them sufficient opportunities to construct knowledge and gain deeper understanding on their own. It is a great challenge on the part of teacher to promote learners reflection due to lack of conversation, dialogue among them. The teachers should focus not on what learners think but on how to use learners' developing thinking skills to promote learning. Learners need to learn ways to self-reflect regularly in order to navigate monitoring, assessing and improving their own thinking and performance.

Why MCR?

Meta cognition calls on emotions, ideas, beliefs, values, character qualities and inferences. When confronted with perplexing, ambiguous situations, learners engage in an internal mental dialogue that helps them to decide intelligent actions. Teachers can foster reflection by posing a series of self-reflective questions to help students think about their own thinking such as:

- What do I already know about this?
- How can I break this problem into more manageable chunks? (Analysis)
- Do I need help from others to solve this problem?

By encouraging learners to verbalize their plans and strategies teachers actively monitor their progress, evaluate their results and offer constructive feedback to improve their thinking processes.

Transfer of knowledge plays an important role in reflection. Understanding what a word or concept means in one context helps students realize how it could be used in a similar context. It is almost axiomatic that the more information learners can transfer from their schooling to the context of everyday life, the greater the probability that they will be critical thinkers, good communicators and successful problem solvers (Sousa, 2001). The more linkage learners are able to make between past learning and new learning, school learning and life learning, the more likely they are to be successful in both life and school. When learners make connections among topics, themes or concepts, they begin to see the bigger picture and begin to answer the essential questions and grasp the big ideas.

How should we use MCR?

Since reflection is critical to learning and transfer, it means to be embedded in assessment. The following strategies provide opportunities for use of Meta cognitive reflection.

➤ Reflective lesson logs

Reflective Logs consist of brief, factual and objective entries that contain mathematics problem-solving entries, observation of science experiments, questions about the lecture or readings, home assignments an etc. to keep records. It increases interaction and collaboration among peers and learners connect ideas and use inquiry to explore points of further interest to meet their needs and extend their learning.

➤ Reflective journal

The reflective journal is written in descriptive form and is more subjective which deals with feelings, opinions or personal experiences. Journal writing provokes more reflection and encourages learners to take ownership of their learning. Learning logs and journals are helpful for processes of learning as well as for formative assessment. A sample of indicators can be used to assess logs and journals on a rubric as per the followings:

Table-1: Rubrics

✓ Descriptive words	✓ Originality
✓ Use of metaphors	✓ Length of response
✓ Appropriate dialogue	✓ Linkage o other contexts
✓ Use of special examples	✓ Creativity
✓ Thoughtfulness	✓ Insight towards generating an idea

➤ Self assessment questions

A series of questions can be outlined to help individuals and group processes and reflect on their individual work or their group work

Table-2: Rubrics

Q1.What were you expected to do?
Q2. What did you do well?
Q3.What would you do differently?
Q4.What help do you need?

Implications for Research

Research on the creation of learning environment improvement community can provide practical guidance. A key aspect of MCR is that sharing, decision making leading towards the shared goal contribute towards the practice of reflection.it maximizes the learner’s engagement. Thus, ‘how the process of sharing and reflection in a broader learning community is initiated and promoted’ can be spelled out through research.

References

Behera, B. (2016) A Case-study of development of socialization through social constructivist approach of learning-A vital concern to Teacher Education, Journal of Indian Education, 62 (1), P.141-148, May

Behera, B. (2015) Reflection in Learning in Science, paper presented at Regional meet on Science Education, Regional institute of Education, Bhopal, February 28

NCERT (2005) The National curriculum Framework, NCF-2005, New Delhi

Noddings, N (2008) All our students thinking. Educational Leadership, 65(5), 9-13

Sousa, D.A. (2001) How the brain learns (2nd edition) Thousand oaks, CA: Corwin

Websites:

- www.merriam-webster.com/dictionary/pedagogy
-