

Cartoon: A Constructive Pedagogical Instrument

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Abstract

Our pre-historic ancestors have pictures of hunting activities on the walls and ceilings of the caves they inhabited. When modern humans find these pictures, they have a fairly good idea of what they depict because they represent an object or event directly and not symbolically. Today our National Curriculum Framework 2005 advises teachers to connect the curriculum to the child's lives' experience. Cartoons can make that connection with ease. This study tries to show how cartoon in a constructive pedagogical view helps in engagement, construction and dissemination of knowledge among students in curriculum transaction.

INTRODUCTION

"I hear and I forget. I see and I remember. I do and I understand."

Confucius

These words of Confucius clearly states what constructivism means. The National Curriculum Framework (NCF) 2005 of NCERT has proposed a shift in the approach of teaching and learning from the earlier behaviourist

approach to constructivist approach. Constructivism is basically a theory based on observation and scientific study about how pupils construct their own understanding through experiencing things and reflecting on those experience (Namdeo 2012). In the context of constructivist pedagogy, teacher plays the role of a facilitator while the student plays

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an active role in the learning process in everyday situation (NCF 2005).

Using activities by cartoon can be related to social learning theory and constructivism. Vygotsky's social learning theory (Kozulin 2003) says that mediating agents help the learner make sense of the environment, and facilitate learning. An appropriate learning and teaching environment should be created in order to make students actively involved in the learning process, help them question and assimilate the new information and construct their own knowledge. Thus, it is important that proper learning material is prepared and used for meaningful learning to occur and for students to be actively involved in the learning process. One of these learning materials is cartoons. According to Arunraj et al., (2014), a cartoon is a visual medium and a two-dimensional illustrated visual art with humour that can be in either the form of a single picture or a series of pictures, captioned or non-captioned, that appears in magazines, newspapers or books. There are seven types of cartoon which can be utilised in constructivist classroom. They are political cartoon, illustrated cartoon, gag, comic book or serial cartoon, commercial cartoon, concept cartoon, feature length animated cartoons Dhangsubhuti (2006).

CONSTRUCTIVISM AND ITS GUIDING PRINCIPLES

The latest catchword in educational circle is 'constructivism', applied both

to learning theory and to epistemology — both how people learn, and to the nature of knowledge. The term refers to the idea that individuals, through their interaction with the environment, construct their own knowledge and meaning (Fosnot 1996; Steffe and Gale 1995). Fosnot (1989), Audrey Gray Jonassen (1994), Katar Singh (2012), and NCF (2005) state various principles of a constructivist classroom, such as construction, collaboration, reflection, integration, negotiation, and activation. From the perspective of constructivist view, learning is supported by multiple experiences and social interactions, rather than by solitary rote memorisation (Dewey 1916, 1956; Piaget 1973, 1980; Vygotsky 1978), cartoon can give those experiences as it is aesthetically appealing, humourous, attention-attracting or motivating by fulfilling the cognitive role (Khulhavy et al. 1986). As Micheal and Wyk (2011) states, cartoons will support teaching in constructive learning, contextual learning, social skills, collaborative learning, critical thinking and small group learning.

CARTOON A TOOL OF CONSTRUCTION

Construction of knowledge is an active process involving mental action of the learner. Construction needs active engagement of learning in social setting. It involves enquiry, questioning, application and reflection leading to the theory building and the creation of ideas

(Bharati et al. 2012). Cartoons are effective tools in constructivist point of view as it is easily detected by children. In the process of construction, students first concentrate on the line in the cartoon, then think over every detail, make comments by establishing connection and weave a story in minds putting out the contrast and associations between objects. Kabapinar (2005) reported in her study that the concept of cartoon teaching was effective in constructing focussed discussion where reasoning behind students' misconceptions could be uncovered especially via teachers' thought-provoking questions. She says that, concept cartoons can be prepared as posters or be created in order to make students actively involved in work sheets that can be distributed to students in a classroom. Moreover, concept cartoons help students to construct their thoughts, solve the problem they encounter in their everyday lives, broaden their horizons and provide different perceptions for the events. Balim et al. (2008), in their research, used concept cartoons for Class VII science classes and determined that the concept cartoon have affected students' enquiry learning skill perceptions by helping students to enquire new knowledge with their existing experience. Srinivasalu (2016) by his study says that cartoon can be used as a very good teaching approach as it creates a new insight in reinforcing the

learning in classroom and highlight the interactive involvement of the students and gives the opportunity to recall, reflect and apply.

CARTOON AS A TOOL FOR COOPERATION AND COLLABORATION

The proponent of cooperative learning believes that knowledge is constructed by individual and groups. Cooperative learning is an innovation, where it is easy to organise students into pairs and triads (Jose and Paulose 2011). Constructivist learning environments are organised to include ample opportunities for students to collaborate and exchange ideas with peers and adults. Classrooms are set up to include cooperative situations so that students can talk together freely as well as ask questions and argue with each other about ideas. Separate tasks can be used by individual learners or in collaborative learning settings. However, social interaction is important, when the concept cartoons are used collaboratively. It is also valuable to the learners for clarifying what ideas they hold (Naylor and Keogh 2010). Naylor also says that, concept cartoons appear to be an effective stimulus for a form of argumentation in primary science. Children respond positively to them, engage in focussed discussions within a group and put forward and defend alternative viewpoints. The process of argumentation appears to be purposeful in a constructivist classroom leading

to scientific investigation and enquiry as a way of resolving the argument. Sexton (2010) by his research says that cartoons can be a successful learning and teaching tool for increasing student and teacher insight in the mathematics classroom. He concluded using of cartoons as an effective way to encourage collaborative learning to discuss the advantages and disadvantages of their preferred strategies for solving addition problems and to find out how students approach calculations. Using cartoons in the process of knowledge construction, students question other students' ideas and give their own ideas, formulate and test hypothesis, design experiments, interpret and discuss results; students verify and validate their own ideas by using the cartoons in the classroom.

Dabell (2004, p. 11) suggested how teachers might use cartoons in the classroom. His suggestions include: (i) to encourage discussion and invite small groups to see if they can reach consensus in a collaborative set up and to have a whole-class discussion in a collaborative set up in an attempt to reach a consensus. In the constructivist didactics, collaborative and interactive methods are used to encourage students to challenge and consider different perspectives (Woldab 2011).

CARTOON AS A TOOL FOR REFLECTION

Sharma (2005), states that a constructivist classroom should

provide students autonomy and initiative; the teacher should ask open-ended questions and allow wait time for responses. Higher-level thinking should be encouraged by engaging the students in experiences that challenge hypotheses and discussion. John Dewey (1956) and Fosnot (1989) believed education must engage with and expand experience; the methods being used to educate must provide for exploration, thinking and reflection. Teacher can present different cartoons in front of the learners and ask them to think critically and draw conclusions or classify the information. It helps here in eliciting students' thinking and provide as an appropriate stimulus for debate and discussion, and develop the learners' ideas, promote critical thinking and developing of conceptual thinking and reasoning. These type of activities helps the learners to ask their own questions and provide starting points for scientific investigation and enquiry, etc. Typically, a concept cartoon is used as the focus for a group discussion, which can then lead on to investigation to decide which of the viewpoints constructed is the most acceptable. Lochrie, (1992) suggested that, cartoons can be used to initiate classroom discussion and debate, and promote a deeper level of engagement with issues via 'critical thinking'. Oliveri (2007) elucidates that using cartoons can spark thoughtful conversation, and open

the doors for discussing current events, social and moral values in higher classroom. Turkmen (2012) states that cartoons are a door which opens to the imaginary world from the real world and explains that children can fictionalise. According to Stephenson and Warwick (2002), concept cartoons can be utilised generally for formative assessment and in this case, students can find out where their learning comes from, by looking back. Moreover, these tools provide opportunities for feedback in the classroom against alternative ideas throughout the learning process and give information regarding how student ideas have changed (Dabell 2008).

CARTOON AS A TOOL FOR NEGOTIATION

Selly (1997), says in constructivist terminology, encouraging rather than teaching is used more frequently because individual development cannot be forced. When students worked in small groups on the cartoon activities, they encouraged each other and discussed ideas, which enhanced their learning. The cartoons as a teaching strategy provide structure for interactions, reward students for collaboration and problem solving. Furthermore, cartoons promote class discussion, cooperative learning, individual accountability, positive interdependence, group processing and feedback (Arunraj et al. 2014). Barker (2009) explains that the best

way to keep our students interested and engaged in lesson is by making them interactive. Additionally, adapting comics and cartoons into our classroom with correct and applicable activities can encourage students' observational, analytical, and higher thinking skills. In addition, in a constructive classroom, cartoons promote diverse interactions among students and provide a way to reach and engage the students who may have a variety of learning styles. According to constructivist learning theory, in order to learn, students must engage with information and process it deeply enough to fit the new concepts into their views of how the world works. As students interpreted, edited, completed and created cartoons, they interacted intensely with the content, organising, recognising and internalising the concepts. They self-assessed their learning as they tried to put ideas. They made numerous connections to prior knowledge as they searched for appropriate parodies or situations for their original cartoons. These activities reinforced the learning, allowing them to outperform students in the control condition who were not as engaged with the material.

CARTOON AS A TOOL FOR ACTIVATION

Ramakrishna and Sonia (2012) emphasised various elements of teaching and learning process in a constructivist classroom. Among them developing a situation and

bridging plays an important role as in learning cycle idea *Engage* of Bybees's (1997) 5E models. Developing a situation refers to developing a situation for the students related to the learning process and bridging is done to develop a bridge between what the students already know and what they are expected to learn. The main emphasis here is to stimulate curiosity and activate previous knowledge of the students. Dabell (2004) suggested that cartoons can be used at any point during a class to introduce the topic, to employ a particular situation, to encourage whole class discussion, and to shepherd ideas together. McLaughlin (2001) and Cookson (2003), state that humour is the easiest form of engagement available to teachers because students must pay attention to understand the jokes. Not only can humour maintain student attention, but also it can increase motivation by breaking tension and decreasing anxiety (Guthrie 1999). Using cartoons was an effective pedagogical technique because they created a learning environment in which students experienced a high degree of motivation, enhance memory (Rule 2003), make numerous connections between the new material and prior knowledge through parody and analogy (Furletti 2004). Giunta (2010) accurately explains that humour, such as found in cartoons and comics, which is an important factor for making learning an enjoyable and more importantly, memorable

experience. Thus, cartoons are also considered excellent teaching tools in a constructive pedagogical perspective because they not only add humour to a topic but also illustrate the idea in a memorable way additionally, adapting cartoons into our classroom with correct and applicable activities can encourage students' observational, analytical and higher thinking skills.

CONCLUSION

Research has proved that cartoons can be employed in variety of ways in constructive pedagogical classroom. These include the development of reading skills (Demetrulias 1982) and vocabulary (Goldstein 1986); problem solving (Jones 1987) and enhance motivation (Heintzmann 1989); resolving conflict (Naylor and McMurdo 1990); eliciting tacit scientific Knowledge (Guttierrez and Ogborn 1992) and making scientific ideas accessible (Peacock 1995).

Hyde (2007) says with his brain research that teachers who embrace a variety of learning activities that appeal to multiple learning modalities (auditory sequential, kinesthetic-tactile and visual-spatial) are more likely to get early success for all students. So providing a variety of resources, such as cartoons help them to learn and appeal to multiple learning modalities. By this study we can conclude that cartoon helps the learner as an active participant rather than a passive recipient, and makes learning as a participatory

process, and connects knowledge to outside the school. Based on Vygotskian perspective, the teacher's role is fundamental as the mediator of this process in helping the students to develop the lesson (Sharma 2012) by creating or choosing appropriate cartoons related to the context and tries to stimulate interest and encourage the learners.

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