USE OF TECHNOLOGY IN ENHANCING TEACHING STYLES THROUGH JERE BROPHY'S PRINCIPLES – A PD SESSION CONDUCTED BY MRS.SHEELA ANAND AND MRS. BANANI CHOWDHURY

INTRODUCTION:

Today's children will enter a job market which will call in for different skills and abilities far different from traditional work place talents. The new era calls in for the students to crisply collect, synthesize and analyze information, learn how to learn, while responding endlessly to the changing technologies and social, economic and global conditions.

Traditional academic approaches – those that employ narrow tasks to emphasize rote memorization or the application of simple procedures' –won't develop learners to become critical thinkers, or effective speakers and writers.

What type of teaching and learning will develop these skills? Jere Brophy's research clearly demonstrates that students learn more deeply if they are actively engaged in activities that require classroom gathered knowledge to real world problems. Active learning practices have a more significant impact on student performance than any other variable. Students are more successful when they are taught how to learn as well as what to learn.

Vision statement: The aim of the professional development session is, to use technology in enhancing the teaching styles of teachers through Jere Brophy's principles

Instructional strategy used:

A workshop was conducted with the teachers of Middle-School Grade 7&8 on using technology with Jere brophy's principles to enhance their teaching styles.

Technology used for the PD Session: Mind Map, Power –point presentation and a Blog.

Method: The purpose of the session was to train teachers and make them understand ,that good teaching calls in for a thoughtful inter-weaving of all three key resources of Knowledge (i:e : Technology, pedagogy and content.)

In the two hour long session, the teachers were introduced to the teachings of Jere Brophy- a distinguished professor of Teacher Education Michigan State University, Fellow of International Academy of Education.

The findings of Jere Brophy were explained in a nutshell with the help of a well planned mind map, slide presentation –comprising of twelve important principles and followed by a blog to know how well it is implemented in the class.

First and foremost point was creating a conducive classroom climate using websites, you-tube or any other internet resource with less emphasis on teacher's role as disciplinarians. While planning the curriculum and establishing a learning orientation and in keeping students motivated, teachers were suggested to use wikis, mind map, smart art, podcast and vodcasts etc and help students to learn with a sense of purpose and direction.

As teaching requires developing a nuanced understanding of the complex relationship between technology, content and pedagogy, teachers were suggested to emphasize more on practice and application when a concept is taught in the class. This in fact will help the child to learn with interest and understanding

To improve on the student achievement, teachers were asked to use metaphors by using videos and other relevant websites which can help in understanding the concepts well.

For every principle taught the teachers were asked to use a different kind of technological tool which can help in enhancing their teaching styles and bring in innovativeness and creativity in the classroom.

Group activity subject-wise

Maths:

To teach Ratio and Proportion- the teachers were suggested to show a you-tube film of making steamed rice cakes -a south Indian delicacy and use it as a metaphor to explain the concept. The familiarity of the students with the ingredients helped them to understand the fact better. Teachers were advised to post a question on the blog to know how well they have understood the concept when a metaphor was used.

Science:

BIOLOGY

For teaching photosynthesis the teachers were advised to use a mind map in relating it to the making of vegetable pulav. Rice and water, the raw materials used were equated to Carbon di oxide and water. The pressure cooker functions as chloroplast and gas stove as sunlight. To make the class interesting it was suggested that the teacher can show them a video on how rice pulav is made in the pressure cooker.

Chemistry: A chemistry teacher brought a lot of excitement by podcasting a song on the valency equation and shared it with rest of her colleagues to be used in their classes too.

Discussions were also based on taking videos of the best classes and sharing it among everyone. The department has also introduced network lesson study on the google docs, so that teachers can share the lessons.

A blog was made to get a feedback on the workshop and how well the activities through technology were being implemented. Teachers were provided with the following link:: http://www.updating.edublogs.org/

Literature Review;

Research in the areas of multiple intelligence (Gardener 1983) as well as brain research and gender differences (Gurian 2001) show the need of continuous

professional development. Facility with computer and internet research has the capability of connecting students with up to date sources of information outside of the text book. Teachers need to be aware of the textbook. Teacher need to be aware of the benefits and risks of Internet projects.

Shulman (1987) suggests that the goal of teacher education is not to indoctrinate or train teachers to behave in prescribed ways, but to educate teachers to reason soundly about their teaching as well as perform skillfully.

TPCK is the basis of good teaching with technology and requires an understanding of the representation of concepts using technologies. Describing TPCK, Marks (1990) said "TPCK represents a class of knowledge that is central to teachers work with technology. We believe that developing TPCK ought to be a critical goal of teacher education.

Lea, Clayton, Draude and Barlow (2001) surveyed students on three areas of interest: general perceptions and opinions in relation to instructional technology: the frequency with which students use instructional technology: and their projected use. Based on the student's self-perceptions the use of instructional technology was believed to have made a difference in student learning. The incorporation of instructional technology in courses increased student interest in the class and their satisfaction with the courses taken. Students saw the role of faculty as having the ability to use instructional technology: the better equipped the teachers were with technology skills ,the more students believed the course to be instructive, but certain instructional technology techniques were seen better facilitating certain learning activities than others. Regardless of actual versus a perceived benefit to the use of instructional technology, students felt it was an integral part of today's learning environment.

Sankaran and Bui (2001) found that less motivated learners did not perform as well, on knowledge tests as motivated students. Similarly, Salili, Chiu and Lai (2001) found that students who were confident and motivated to learn, spent more time and effort and achieved higher levels of performance than those who were not confident and motivated.

According to Lim and Kim (2003) level of interest is another type of motivation factor promoting learner involvement during learning.

Teaching students how to think critically is an essential issue in education (Asletiner2002; Faclone2007: Paul1995) .This is because critical thinking is vitally important in workplace decision making, leadership, clinical judgment, professional success and effective participation in a democratic society.

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Benefits:

- Teachers framed lesson plans based on his principles and created activities with technology to make the lesson interesting and involve the whole class.
- Teachers were able to use You Tube Films, Websites, podcasts etc to create a warm supportive climate and bring in curriculum alignment and created opportunities to learn.
- Assessing students through blogs helped teachers to become learners and motivate students in co-operative learning.
- Using mind map, kiosk presentation in explaining the concepts helped in practice and application.
- By using wikis in submitting assignments, created opportunities to share information and learn.
- Using net vibes page during the club activities class helped in scaffolding student task engagement.
- As the teachers are getting trained on the global learning gateway (GLG) they may very soon involve parents to know and understand their child's work.

Challenges:

- In subjects such as Maths and physical sciences, teachers feel that the traditional method of lesson transaction is more suitable for the students to learn and understand the abstract theories and concepts
- Training ,Time –management, strength of the class , completing the syllabus within the time frame ,extra- curricular activities are other challenges which teachers raised.

Conclusion: The teacher as a facilitator should take the responsibility of creating the climate for learning and explain the tasks through a structured sequence by using the right kind of technological tool. As James Baldwin had said" children may not be good listeners, but they are good imitators". Teachers need to be good role models to the students.

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