OPINION OF SECONDARY SCHOOL TEACHER ABOUT PROBLEM BASED LEARNING

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Abstract

There is a paradigm shift in the role of teacher and there is a dire need to shift from centralized to decentralized, prescriptive to participative, rote memory to learning by understanding, monologue to dialogue, and content to context, where certain aspect like self learning skills through Problem Based Learning is must to sustain and bear the challenges of 21st century. As a learning environment "that result from solution of a problem", PBL focuses on setting up a learning context in which students take part in collaborative problem solving to learn beyond their potential with a deep understanding. The purpose of this study was to take the opinion regarding the use of PBL method in the classroom. The investigator has employed survey method using opinionnaire to collect the data from teachers secondary schools. To analyse the data, techniques like frequency, percentages were used. It was found that Problem Based Learning is significantly effective. PROBLEM BASED LEARNING will aid students to develop holistic development which will cater the needs of students of 21st century.

Keywords: *Teacher, Secondary school, Secondary school teacher, problem based learning*

The new millennium was ushered in by a dramatic technological revolution. Emerging technologies and resulting globalization also provide unlimited possibilities for exciting new discoveries and developments such as new forms of energy, medical advances, restoration of environmentally ravaged areas, communications, and exploration into space and into the depths of the oceans. We now live in an increasingly diverse, globalized, and complex, media-saturated society. Our students are facing many emerging issues such as global warming, famine, poverty, health issues, a global population explosion and other environmental and social issues. These issues lead to a need for students to be able to communicate, function and create change personally, socially, economically and politically on local, national and global levels. However, we believe that authentic education addresses the "whole child", the "whole person", and does not limit our professional development and curriculum design to workplace readiness. This is a dramatic departure from the factory-model education of the past. It is abandonment, finally, of textbook-driven, teacher-centered, paper and pencil schooling. It means a new way of understanding the concept of "knowledge", a new definition of the "educated person". A new way of designing and delivering the curriculum is required. Schools in the 21st century will be laced with a problem based curriculum for life aimed at engaging students in addressing real-world problems, issues important to humanity, and questions that matter.

This new context of the 21st century requires that we redefine "education", "school", "curriculum", "teacher" and "learner". It requires that we provide an education designed to help our students truly succeed. We offer the following new definitions for "School", "Teacher" and "Learner" appropriate for the 21st century: Schools will go from 'buildings' to 'nerve centers', with walls that are porous and transparent, connecting teachers, students and the community to the wealth of knowledge that exists in the world." Teacher - From primary role as a dispenser of information to orchestrator of learning and helping students turn information into knowledge, and knowledge into wisdom. Learner - Today we must see learners in a new context i.e. student interest, instill curiosity, flexibility in how we teach, excite learners to become even more resourceful so that they will continue to learn outside the formal school day.

We offer educators the knowledge, the understanding, and the tools to actually take their schools and classrooms into the 21st century. New workshops include: Green Education, Differentiated Instruction, Web Tools for the Classroom, Emotional and Social Learning, Multiple Literacy's Classroom Management and Student Motivation, and the Arts - Keeping Creativity in the Curriculum. Students are self-directed, and work both independently and interdependently. The curriculum and instruction are designed to challenge all students, and provides for differentiation. The curriculum is not textbook-driven or fragmented, but is thematic, problem based, project-based and integrated. Skills and content are not taught as an end in themselves, but students learn them through their research and application in their projects. Textbooks, if they have them, are just one of many resources. Knowledge is not memorization of facts and figures, but is constructed through research and application, and connected to previous knowledge, personal experience, interests, talents and passions. The skills and content become relevant and needed as students require this information to complete their

projects. The content and basic skills are applied within the context of the curriculum, and are not ends in themselves. Assessment moves from regurgitation of memorized facts and disconnected processes to demonstration of understanding through application in a variety of contexts. Real-world audiences are an important part of the assessment process, as is self-assessment. 21ˢᵗ century skills learned through our curriculum, which is interdisciplinary, integrated, problem based, and more, include and are learned within a problem based curriculum.

Researchers have spent considerable effort determining the PBL. Since 1993 many researcher like Ravi Shankar (2006) Integrating Subjects through Problem-based Learning M. J. Servan E. et-at (2009) Problem-based learning and action research in postgraduate teaching: the interdisciplinary core David Gijbels and Filip Dochy (2001) Effects of Problem-Based Learning: A Meta-Analysis From the Angle of Assessment Vernon, D T; Blake, R L(1993) Does problem-based learning work? A meta-analysis of evaluative research Suzy Edwards and Marie Hammer (2001) Teacher Education and Problem Based Learning:exploring the issues and identifying the benefits. Sheella Mierson(2001) A problem-based learning course in physiology for undergraduate and graduate basic science students Brian Trappler (2006) Integrated problem-based learning in the neuroscience curriculum Colliver, Jerry A. (2000) Effectiveness of Problem-based Learning Curricula: Research and Theory Nicola Jane Spalding and Anne Killett (2010) An evaluation of a problem-based learning experience in an occupational therapy curriculum in the UK Robyn Tamblyn et-at (2005) Effect of a community oriented problem based learning curriculum on quality of primary care delivered by graduates: historical cohort comparison study R S Donner and H Bickley(1993) Problem-based learning in American medical education Mathieu R. Nendaz; Ara Tekian (2001) Assessment in Problem-Based Learning Medical Schools: A Literature Review Giustina Secundo, Gianluca Elia and Cesare Taurino(2008) Problem-Based Learning in web environments Norman, G R; Schmidt, H G(1992) The psychological basis of problem-based learning: a review of the evidence White, H. B. and L. Richlin (1996) Dan Tries Problem-Based Learning: A Case Study

PBL represents authentic learning. Most "real life" problems – as opposed to "classroom" problems are ill-structured, poorly defined. Solving them is a difficult and complex task. PBL gives students experience and a methodology for engaging in such problems. It is engaging and motivating. Writing about project-based learning, a term often used interchangeably with problem-based learning. It increases the likelihood of transfer, a primary consideration in teacher education. Transfer

literature suggests that the salient qualities of transferable learning experiences occur in an environment that is characterized by meaningful activity, masterful guidance, and knowledge-building collaboration (Howard, 2002). It is a meaningful activity. If students perceive a situation as relevant to their lives, they are much more likely to put in the time and effort necessary to develop the rich knowledge base leading to deep understanding, a necessary ingredient for transfer. It's need expert guidance. Master teachers act as cognitive coaches, fostering the type of thinking that is essential for deep understanding and subsequent transfer. Without the guidance of a master teacher, students cannot be counted upon to make generalizations automatically, even in a rich, authentic context. It's a knowledge-building collaboration. As students and teachers work together, they learn from each other and knowledge builds as they synthesize information. This kind of endeavor involves metacognition, or the ability to monitor one's own thinking, evaluate progress, and adjust next steps accordingly. These skills, too, can be decontextualized and applied to other situations. It promotes desirable student outcomes i.e. intentional learning, Relational understanding, Critical thinking, Creative thinking, Effective collaboration and versatile communication.

Objectives

To know the opinion of the teachers regarding Problem Based Learning.

To know the effect of gender of teachers regarding Problem Based Learning.

To know the effects of Type of institute of teachers on Problem Based Learning.

The following hypotheses were formulated to test the objective of the present Study:

Ho$_1$ There would be no significant difference of gender of teachers' on their opinion of Problem Based Learning.

Ho$_2$ There would be no significant difference of type of institute of teachers' on their opinion of Problem Based Learning.

Scope and Delimitation

The present study is delimited to Gujarati medium secondary school teachers of Gandhinagar district of Gujarat state. In the present study the limitation of the tools used for the data collection would be the limitation of the study.

Operational Definition and Variables

Problem Based Learning (PBL): PBL is any learning environment in which the problem drives the learning. That is, before students learn some knowledge they are given a problem. The problem is posed so that the students discover that they need to learn some new knowledge before they can solve the problem. Students

acquire knowledge skills and understanding through a staged sequence of problems presented in sequence. In the present study gender and type of institutes i.e. granted and self finance were taken as variables of the present study.

Methodology

The survey method was used to find out opinion of teachers of Grant in aid and self financed secondary schools situated in Gandhinagar district. The sample of the study were 50 teachers (Male -25, Female – 25, grand in aid – 25 and self finance – 25) were selected from 10 secondary school by random sampling technique.The tool focuses on the opinion of the teachers' regarding the use of PBL method in the classroom. The tool consists of 15 items which were measured by opinionair in which only two options were given (yes and no). Each teachers were given photo copies of the tool to give their opinion about Problem Based Learning. A session with selected teachers were held and teachers taken in confidence and they were instructed not to write their name any other thing which can reveal their identity. So that the teachers could give their true opinion on Problem Based Learning without any hesitation. The responses of each teacher was evaluated by percentage which was pre decided. The data was classified according to the variables under investigation and were analyzed by using Excel program and overall frequencies were converted into percentage.

Discussion

The responses of the respondent were converted into score were computed, variable wise as well as overall. With the help of percentage were worked out and accordingly variable wise and overall classification were done with the help of Excel program. Frequency of each category were converted into percentage and it is presented in table no. 1. Above mention table indicate the percentage of data which were analyzed on the bases of opinion of the

teachers collected through the opinionaire. How could interpreted the above mention table it should be clear through following examples. The very first statement of the opinionaire was based on the effectiveness of PBL in the teaching learning process. From that 84% teachers were in favour of implementation of PBL in the classroom and very few of them were not in favour of PBL. From the 84% of the teachers 44% male and 40% female teachers. From44% male teachers 28% from Government and 16% teachers were from self finance schools and from 40% female teachers 16% from Government and 24% from self finance schools. This way we could interpreted the other statements of the tool.

From the table no. 1 *indicates that the result of these two statements require further study in this area. These statements were related to time consuming process and reframe of the curriculum. Remaining statements were in favour of PBL.

Major findings

From the analysis and interpretation of the data the following major findings of the present study were drawn. The opinion on PBL was found significantly effective in the government and self finance schools' teachers. The opinion on PBL was found significantly effective between male and female of the government and self finance schools' teachers.

Implication of the Study

The finding of this study shows that PBL is more effective than traditional method of teaching. If the teachers get the proper training this method is definitely helpful in bringing the new way in education. It also improves the confidence level, decision power and reasoning ability among students. Further, it indicates to examine and try out what you know, discover what you need to learn, develop your people skills for achieving higher performance in teams,

Table 1 : Variable wise and Frequency and its Percentage

Sr. No.	Content	Yes					No				
		Male		Female			Male		Female		
		Govt.	SFI	Govt.	SFI	Total	Govt.	SFI	Govt.	SFI	Total
1	Effectiveness	28	16	16	24	84%	4	4	6	2	16%
2	Curious	16	8	12	16	52%	16	10	10	12	48%
3	grasping power	20	16	14	14	64%	8	12	8	8	36%
4	teacher's training	10	12	6	8	36%	14	18	12	20	64%
5	more effective in maths and science	16	18	10	12	56%	16	8	12	8	44%
6	age group of students	18	18	8	16	60%	12	10	12	6	40%
7	Curriculum*	28	30	20	12	90%	4	2	2	2	10%
8	Decision power	16	12	14	8	54%	12	10	14	14	50%
9	Confidence level	14	12	12	14	52%	12	12	14	10	48%
10	Require computer skill	14	12	14	8	48%	14	16	6	16	52%
11	Library resource	10	14	16	20	60%	10	14	6	10	40%
12	Brainstorming	16	18	12	18	64%	12	10	8	6	36%
13	Time consuming*	26	24	22	18	90%	4	2	2	2	10%
14	Reasoning ability	22	18	18	20	78%	10	4	6	2	22%
15	Utility in their profession	26	16	8	10	60%	12	10	6	12	40%

improve your communications skills, state and defend positions with evidence and sound argument, become more flexible in processing information and meeting obligations and practice skills that you will need after your education

Conclusion

PBL is best understood not as a mere learning and teaching technique but as a total education strategy underpinned by philosophical principles. Currently there are some interesting developments in Problem-based Learning including using technology to support Problem-based Learning. Research that bridges theory and practice and extends knowledge about developing and improving PBL in everyday practice.

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