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A STUDY OF THE PRESENT STATUS OF TEACHING OF PHYSICS AT SENIOR SECONDARY LEVEL.

Education

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Abstract

The paper attempts to study the present status of teaching of physics at senior secondary level in government and private based RBSE and CBSE schools of 5 Regional Headquarters of Rajasthan which had science stream. The Researcher observed the classroom transaction of 20 PGT's (Post Graduate Teacher) for one period using a self made observation schedule. The sample for study included teachers chosen by random sample method. The method employed was descriptive survey. The data was analyzed using percentage method. The study can be useful for the students, teachers, administrators and curriculum developers.

Introduction

To develop quality in higher education is the need of the hour. The teachers are the creators of heaven or hell in the classroom. The school is the photocopy of the society. The

future of India is being shaped in the classrooms. The teachers themselves have to begin and to act in support of the development in education.

Science is nothing but knowledge so obtained by observation, reading, experimentation and realization. Knowledge so obtained is systematic and channelized. A careful analysis of the history of the progress of science reveals that theory and experiment forms the foundation of growth and development of science.

National Curriculum framework 2005 (N C F) gives the criterion for an ideal science curriculum for different stages viz. primary, upper primary, secondary and higher secondary.

Senior Secondary Level

At this stage science should be introduced as a separate discipline with emphasis on experiments / technology and problem solving. The student may be given free option to choose the subject of their own interest. The curriculum load should be rationalized to avoid steep gradient between the secondary and senior secondary levels. Core topics of a discipline should be carefully identified and treated with appropriate rigor and depth.

Physics, like religion is a search for truth. A classroom is a place of worship where this search is carried out. It is necessary to emphasize that for a systematic and scientific training of young minds, a genuine classroom interaction is a must.

It is a general observation that the students and teachers have to spend large amount of time in classrooms. Practical work brings in behavior changes in the students. The scientific temperament, curiosity, interest and creativity form the basis of this change. The CR interaction attempts to provide a body of knowledge through procedures that are demonstrated objective but today they are often done in a subjective context. The researcher herself is a teacher and student of physics. She has taught for more than 10 years at senior secondary level in public schools of

Udaipur. On the basis of her observation she felt the need to work upon the same and following research questions aroused in her mind:

Research Questions

1 What is the present status of teaching of physics the senior secondary level?

2 What is the present status of planning and preparation of the lesson?

3 What is the level of classroom transactions?

With this background and the urge to know the answers of the above questions the need to work upon this area was felt.

Statement of the problem

To study the present status of teaching of physics at senior secondary level.

Objectives

1 To study the present status of teaching of physics the senior secondary level?

2 To study the present status of planning and preparation of the lesson?

3 To study is the level of classroom transactions?

4 To study the nature of recapitulation and evaluation done in the CR transaction?

Hypotheses

The researcher had relatively no idea regarding the outcomes of this research. Thus null hypotheses was designed

1 There is no significant difference in status of teaching of physics in different schools.

2 There is no significant difference in the CR transactions in CBSE and RBSE schools.

Significance of study

The researcher has stern belief that for effective physics teaching / learning proper theoretical and experimentation facilities should be provided to the students by the administrators, curriculum framework personnel's and teachers.

The present research work may determine whether the present status is enough to develop a sense of enquiry, spirit of enthusiasm to investigate and to create favorable conditions for efficient teaching learning experience.

The study may also focus on the transactions done by teachers in CBSE and RBSE senior secondary level.

Delimitation

Considering the time and resources available the study included 20 PGTs from government and private RBSE and CBSE senior secondary schools of 5 regional headquarters of Rajasthan state.

Sample

The unit of sample had PGTs one from each:

Divisional headquarter	CBSE		RBSE	
	Gov	Private	Gov	Private
Udaipur	1	1	1	1
Jodhpur	1	1	1	1
Ajmer	1	1	1	1

Kota	1	1	1	1
Bikaner	1	1	1	1
		Total 20		

The sample was chosen by random sample method.

Method

Keeping in mind the nature of the problem descriptive survey method was suited for the study.

Tool

The tool used was

Observation Schedule for classroom (CR) observation.

Statistical technique

The statistical technique employed was percentage.

Related Studies

The following are some of the related studies conducted in India from 2001 to 2010

1. Khriesamhalie Pienyu, 2005, University of Nagaland, Kohima. "A study of the status and development of science education at high and higher secondary school level in Nagaland since its statehood".

This research tried to trace the historical development of science education at school level in Nagaland. It also tried to find relevancy of curriculum in science education at school level, assess school infrastructure and lab to assess science education in state.

2. Gyanendranath Tiwari, 2009, University of Allahabad, Allahabad. "Evolving competency based curriculum in science education for In service primary school teachers."

This study dealt with the existing in service education program for primary teachers in context of quality improvement of science teaching in terms of curriculum, organizing of training programs, training process, and outcome.

The study also aimed at exploring the training needs of primary teachers in context of existing and expected competency in science teaching as perceived by primary teachers.

3. Chauchira Choomponla, 2008, BHU, Varanasi. "Study of learning conditions obstacles and success in science of primary class students in NE of Thailand."

This study found that the science teachers of successful primary school differ in their personal factors of age, gender, teaching experience, training as compared to the science teachers of unsuccessful primary schools.

4. O. P. Parameswaram, 2001, CASE, MSU. "Development of Art Education Curriculum at secondary school level."

This research studied the present status of art education at secondary level with reference to present day practice and studied the needs and requirement of students in relation to art education.

5. Sharma A.K., 2002. "Status and use of chemistry laboratory at senior secondary level."

The study examined the status of chemistry lab of government and private senior secondary school .It was also conducted to know the use of labs and to compare the status of labs of these schools."

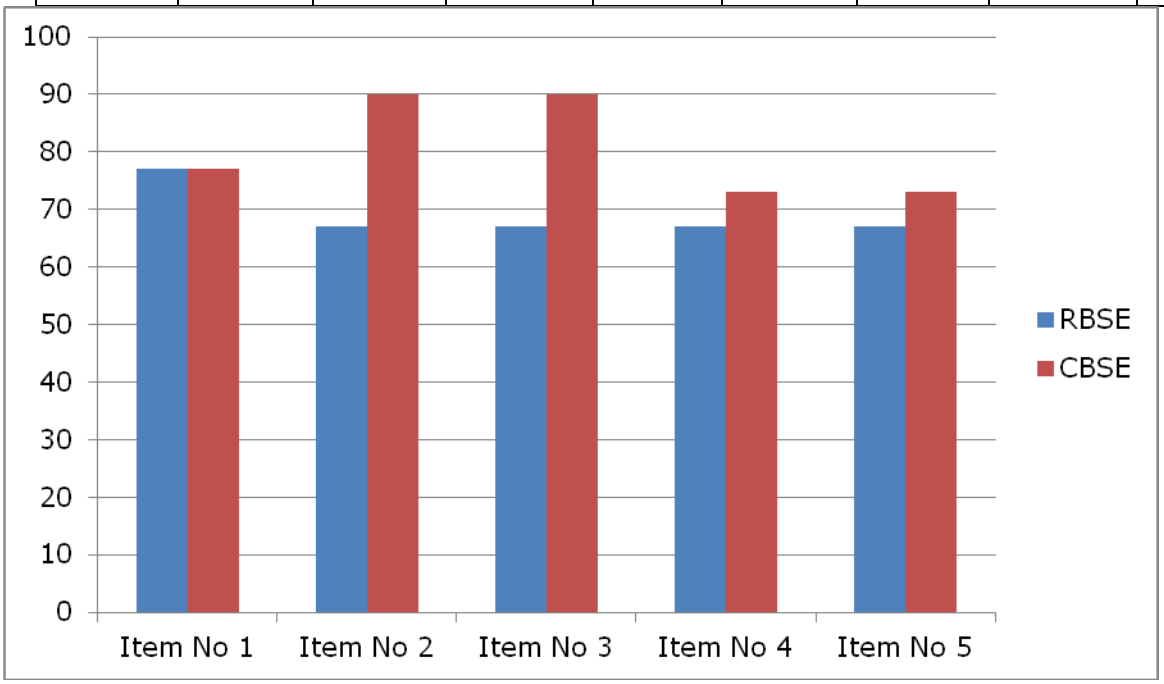
Data analysis

The data gathered through observation schedule has been analyzed and interpreted from various angles.

Present status of teaching of physics as observed using observation schedule:

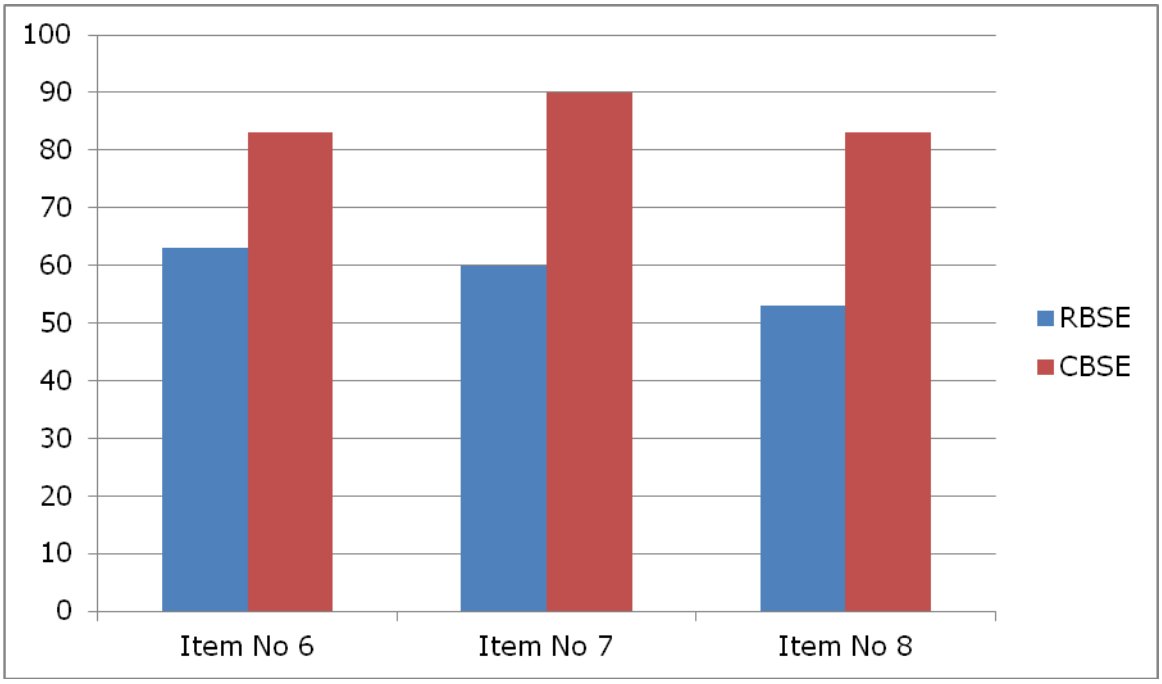
a) Preparation and Planning

Item no	RG	RP	Total	%	CG	CP	Total	%
1	9	14	23	77	10	13	23	77
2	11	9	20	67	14	13	27	90
3	9	11	20	67	14	13	27	90
4	9	11	20	67	10	12	22	73
5	8	12	20	67	10	12	22	73



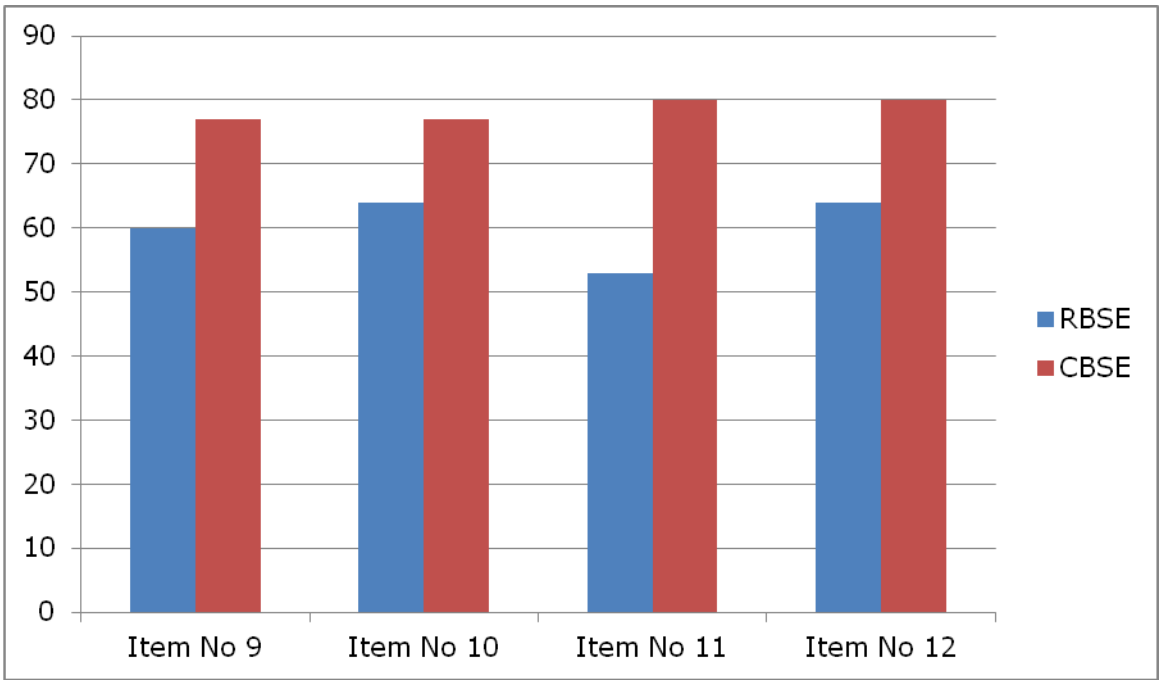
b) Actual Transaction

Item No.	RG	RP	Total	%	CG	CP	Total	%
6	10	9	19	63	13	12	25	83
7	8	10	18	60	13	14	27	90
8	7	9	16	53	11	14	25	83



C)Classroom Interaction

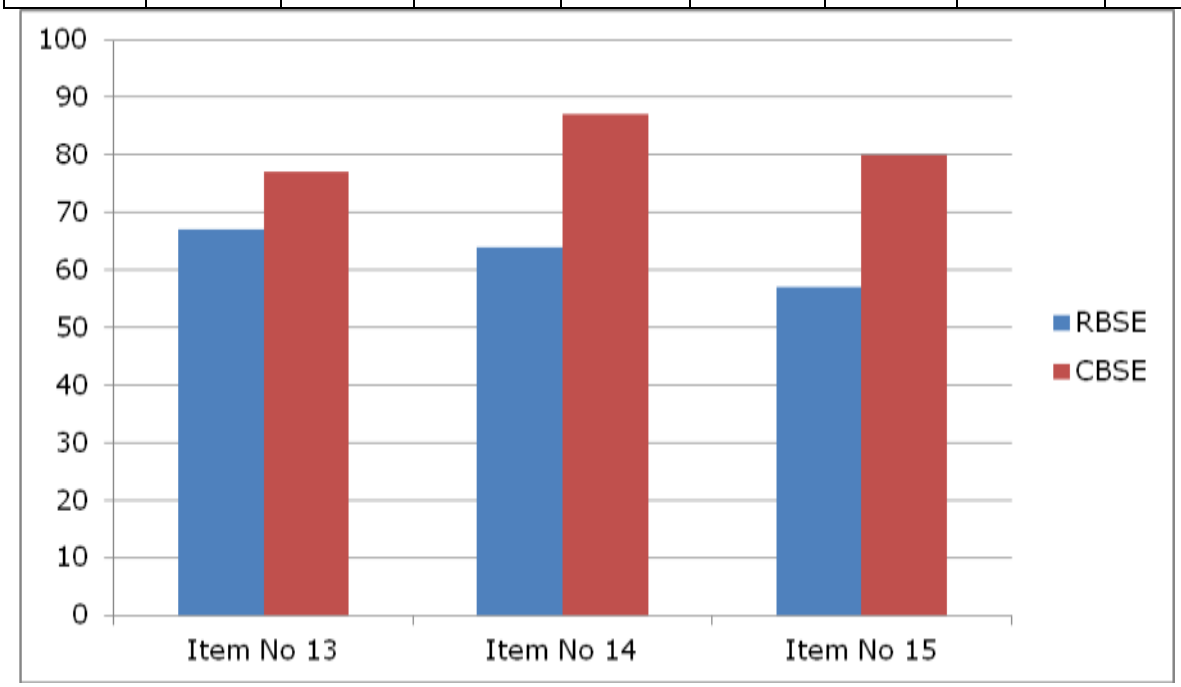
Item no	RG	RP	Total	%	CG	CP	Total	%
9	8	10	18	60	9	14	23	77
10	8	11	19	64	10	13	23	77
11	7	9	16	53	11	13	24	80
12	9	10	19	64	10	14	24	80



c) Recapitulation and Evaluation

Item no	RG	RP	Total	%	CG	CP	Total	%
13	10	10	20	67	10	13	23	77
14	8	11	19	64	11	15	26	87

15	7	10	17	57	11	13	24	80



Conclusions and Interpretations

Thus the result of the investigation undertaken show that there exists a gap between the preparation and planning of the lesson at RBSE and CBSE schools. The same gap is significant at actual transactional stage and recap and evaluation level. Not much effort have been done by the administration to improve the physical condition of the laboratory, There is shortage of apparatus in working condition and the damaged apparatus undergo lengthy administrative process to get repaired. The teachers face problems related to syllabus completion Some practical periods are often utilized for school functions and some coincide on holidays.

Educational Implications and Suggestions

For Teachers: The teachers should make optimum use of apparatus as the study shows there is lack of adequate apparatus in government schools. Basic inservice training should be given to the teachers to repair non working apparatus to avoid inconvenience to students.

For the administration: They can use the study in guiding the teachers to use different strategies to make the subject interesting. They can administer the status of physics lab from time to time to visualize the condition of the materials and apparatus. To provide new technology based literature, research journals periodically.

For curriculum developers: They can introduce more topics which can be taught by experimental method. More weight age should be laid on learning by doing methods

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