TEACHER'S PERCEPTION TOWARDS THE POSITION OF MATHEMATICS TEACHING AT HIGH SCHOOL STAGE IN RURAL AREAS OF DISTRICT SIRMAUR (H.P.)

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***Abstract*- The Present study is about teacher's perception towards the position of mathematics teaching at high school stage. The study is descriptive in nature. The data was collected through Questionnaires. Well-structured Questionnaires were given to 40 teachers. The Percentage analysis method was adopted by the researcher. Mathematics being a compulsory subject of study assess to quality mathematics education is every child's right. Universalization of schooling has important implication for mathematics curriculum. The study reveals that the Number of mathematics teachers varies from school to school. Most of the teachers got more than six periods in a week to teach mathematics curriculum and they are satisfied with it. Most of the teachers teaching mathematics use lecture-cum-demonstration and problem-solving method for teaching. Most of the teachers do not feel overloaded with teaching of mathematics. Most of the teachers use monthly tests as a mode of evaluation of students.**

***Key words*- Perception, Position of Mathematics Teaching.**

1. INTRODUCTION

The **Education Commission (1964-66)** has aptly opined in its report, "Destiny of India is being shaped in her class room. "Education is the sole agency to maintain the quality related to science, technology, its progress, prosperity, safety and order in nation. Mathematics is the science of all sciences. It is necessary to study mathematics as a part and parcel of education, studying three skills known as reading, writing and arithmetic.

NCERT, 2006 highlighted that the main goal of Mathematics teaching in schools is the mathematisation of the child's thinking. Clarity of thought and pursuing assumptions to logical conclusions is central to the mathematical enterprise. There are many ways of thinking, and the kind of thinking one learns in mathematics is an ability to handle abstractions, and an approach to problem solving.

Universalization of schooling has important implication for mathematics curriculum. Mathematics being a compulsory subject of study assess to quality mathematics education is every child's right. We want mathematics education that is affordable to every child, and at the same time, enjoyable. With many children exiting the system after class VIII, mathematics teaching at the elementary stage should help children prepare for the challenges they face further in life. School mathematics takes place in situation where: (i) Children learn to enjoy mathematics, (ii) Children learn importance of mathematics, (iii) mathematics is a part of children's life experience which they talk about, (iv) Children pose and solve meaningful problems, (v) Children use abstractions to perceive relationship and structure, (vi) Children understand the basic structure of mathematics and (vii) Teacher expect to engage every child in class.

On the other hand, mathematics teaching in our schools is beset with problems. We identify the following core areas of concern: (i) a sense of fear and failure regarding mathematics among a majority of children, (ii) A curriculum that disappoints both a talented minority as well as the non-participating majority at the same time, (iii) Crude methods of assessment that encourage perception of mathematics as mechanical computation, and (iv) Lack of teacher preparation and support in the teaching of mathematics.

The analysis of these problems lead to recommend: (i) Shifting the focus of mathematics teaching from achieving 'narrow' goals to 'higher' goals, (ii) Engaging every student with sense of success, while at the same time offering conceptual challenges to the emerging mathematician, (iii) Changing modes of assessment to examinee students' mathematisation abilities rather than procedural knowledge, and (iv) Enriching teachers with a variety of mathematics resources.

The shift in focus we propose is from mathematical content to mathematical learning environments, where a whole range of processes take precedence: formal problem solving, use of heuristics, estimation and approximation, optimization, use of patterns, visualization, representation, reasoning and proof, making connections mathematical communication .

Mathematics is a very useful subject for most vocations and higher specialised course of learning. But everybody who is studying it in the school is not going to be an accountant, engineer or statistician. At an early stage of education it is difficult to know who is going to be engineer or a banker, psychologist however, have shown that it is possible at this stage to determine what a student can be in later life. Therefore the duty of the school is to give to the high school student a broad view of what he is capable of achieving in future. He should get a broader course to be able to choose a suitable line out of that.

2. LITERATURE REVIEWS:

A.C. Frenzel, H.M. Watt (2010) investigated the study of development of mathematics interest in adolescence: influences of gender, family, and school context. Latent growth curve modeling was used to analyze longitudinal data of N=3193 students (51% female) from grade 5 to 9 from all 3 ability tracks of the German state school system. Annual assessments involved student questionnaire on interest in mathematics, perceptions of classroom characteristics (classroom values for mathematics, mathematics teacher enthusiasm) as well as parent questionnaires regarding family values for mathematics.

Al-Makahleh (2011) studied on the effect of Direct Instruction Strategy DIS on Math Achievement of Primary 4th and 5th Grade Students with Learning Difficulties. This study seeks to verify the effect of direct instruction strategy on Math achievement of students with learning difficulties in the 4th and 5th grade level and measure the improvement in their attitude to Mathematics.

Fajemidagba, Salman and ayinia (2012) examined the effect of teachers' instructional strategy pattern on senior secondary school students' performance in mathematics word problems in Ondo, Nigeria. A total number of 125 Senior Secondary II students were purposively sampled from two schools in Ondo town of Ondo state, Nigeria.

Kaur and Kaur (2013) studied the effect of motivational strategies on achievement level of students in Mathematics. The data was collected from 1200 male and female students in three different streams namely B.A., B.Sc., and B.Com. from five districts: Ludhiana, Patiala, Jalandhar, Nawanshahr Ropar randomly.

Moturi Ravi Kumar (2013) studied the teaching effectiveness, teaching aptitude and attitude towards teaching mathematics of prospective mathematics teachers and found that the teaching effectiveness was average in prospective mathematics teachers and also the rural and urban prospective mathematics teachers had average teaching effectiveness without any significant difference between them.

Ramesha (2014) studied the effectiveness of tutorial teaching strategies on achievement and interest in Mathematics of secondary school students and found that group tutorial teaching strategy environment is an important method of teaching which effects students' achievement in mathematics and also enhance the interest in mathematics of the students'.

A.Swaminathan (2015) studied the teaching abilities of teachers and the student's academic performance at primary level and found that the teaching abilities on six dimensions namely classroom management, mastery of subject knowledge, problem solving skill, communication skill, motivational skill and teacher personality were considered. The teacher must plan each lesson and unit appropriately to provide for the needs of each learner. In any class, the mathematics teacher must provide for the understanding level of each learner. There may be discipline problems which need to be solved as well as irate parents who must be worked with.

Eric "Rico" Gutstein University of Illinois at Chicago (2016) did a study on "our Issues, Our People—Math as Our Weapon": Critical Mathematics in a Chicago Neighborhood High School", which was based on a qualitative study of my untracked, 12th-grade mathematics class, a full-year enactment of mathematics for social and racial justice. The study found the possibilities and challenges of curriculum development and teaching, examine student learning, and pose questions and directions for further research and practice.

3. OBJECTIVES:

To study the perception of teachers towards the Position of Mathematics Teaching at High School Stage with reference to the following components:

. Number of teachers/Time allotted for teaching mathematics curriculum and teacher's satisfaction with allotted time for teaching

. Methods of teaching used by teachers/ satisfaction of teachers with methods of teaching.

. Overload of mathematics curriculum on mathematics teacher

. Modes of evaluation of student's achievement

4. RESEARCH METHODOLOGY:

4.1 Research Design: The study follows a Descriptive Survey Method which relies on the description of the present condition, perception and opinions of teachers towards the position of mathematics teaching at high school stage in rural areas of district Sirmaur (H.P.)

4.2 Data Collection: The Data was collected from 40 mathematics teachers from 22 high schools.

4.3 Tools construction method: Two self-constructed questionnaires are used as a research tool for this study; namely questionnaire for Teachers. The survey questionnaires consist of 26 questions.

4.4 Data collection method: Mathematics teachers of the selected schools were contacted to discuss the purpose of the study and copies of questionnaire were given to the mathematics teachers. They were asked to tick and write whatever necessary. The questionnaires were collected from them and they were thanked for their kind help and co-operation. The booklets were scored and scores thus obtained were recorded for further analysis and interpretation.

4.5. Method of data analysis: The obtained information was tabulated and organized in the form of frequencies. The tabulated data further analyzed in the form of percentage. Data have been interpreted keeping in view the objectives of the present study.

Percentage = Number Obtained/Total×100

5. PRESENTATION, ANALYSIS AND INTERPRETATION OF DATA

Collected data is demonstrated in the different tables and their analysis and interpretation follow below:

Table 1. Perception of Teachers towards the Position of Mathematics Teaching at High School Stage with reference to Number of teachers/Time allotted for teaching mathematics curriculum and teacher's satisfaction with allotted time for teaching.

Sr.No.	Statement	N=40	Percent
1.	Number of teachers		
i	One	20	50.00
ii	Two	15	45.00
iii	Three	5	5.00
2.	Periods for teaching mathematics curriculum		
i	6 periods in a week	2	5.00
ii	7 periods in a week	1	2.50
iii	8 periods in a week	7	17.50
iv	More than 8 periods in a week	30	75.00
3.	Satisfaction of Mathematics teachers with allotted time for teaching		
i	Yes	37	92.50
ii	No	3	7.50
4.	If No, then need of teacher is,		
i	Extra period	1	33.40
ii	Extra teacher	2	66.60

In the Table1, according to 50.00 per cent teachers there is only one mathematics teacher in the entire school whereas 45 per cent teachers said there are two mathematics teachers and just 5.00 per cent teachers are of view that there are three mathematics teachers in the school. Further the table shows that 75.00 per cent teachers teach more than 6 periods in a week, 17.50 per cent teachers teach 8 periods in a week, 5.00 per cent teachers teach 6 periods in week and 2.50 per cent teachers teach 7 periods in a week. Further the table also shows that 92.50 per cent mathematics teachers are satisfied with the time allotted for mathematics teaching whereas 7.50 per cent teachers are not satisfied. The table also shows that the reason for their dissatisfaction is scarcity of mathematics teacher with 66.50 per cent and 33.40 per cent teachers are not satisfied with the prescribed time for mathematics teaching.

Table 2: Perception of Teachers towards the Position of Mathematics Teaching at High School Stage with reference to methods of teaching used by teachers/ satisfaction of teachers with methods of teaching.

Sr.No	Statement	N=40	Per cent
1.	Methods of teaching mathematics used by teacher		
i	Lecture	1	2.50
ii	Inductive	-	-

iii	Lecture-cum-demonstration	21	52.50
iv	Deductive	-	-
v	Problem solving	18	45.00
vi	Project	-	-
vii	Any other	-	-
2.	Satisfaction of teacher towards methods of teaching		
i	Yes	40	100.00
ii	No	-	-
3.	If Yes		
i	Child centered	7	17.50
ii	Creates interest	22	55.00
iii	Makes teaching easier	11	27.50
4.	If No		
i	Not suitable for fixed curriculum	-	-
ii	Time consuming	-	-
iii	Need specialization	-	-
iv	Any other	-	-

The table 2 showed that 52.50 per cent teachers use lecture cum demonstration method whereas 45.00 per cent teachers use problem solving method and 2.50 per cent teachers use lecture method. Further the table 2 also showed that 100.00 per cent mathematics teachers are satisfied with their methods of teaching. Further the table showed that 55.00 per cent teachers have view point that their students are taking interest in teaching-learning whereas 27.50 per cent teachers have said that their method of teaching makes teaching-learning easy and 17.50 per cent teachers have said that their method of teaching is child centered.

Table 3: Perception of Teachers towards the Position of Mathematics Teaching at High School Stage with reference to overload with teaching mathematics curriculum.

Sr.No.	**Statement**	**N=40**	**Per cent**
	Overload with teaching mathematics curriculum		
i	Yes	8	20.00
ii	No	32	80.00

The table 3 showed that 80.00 per cent teachers said that they are not overloaded with teaching mathematics curriculum whereas 20.00 per cent teachers are overloaded with teaching mathematics curriculum.

Table 4: Perception of Teachers towards the Position of Mathematics Teaching at High School Stage with reference to modes of evaluation of student's achievement.

Sr.No.	Statement	N	per cent
1.	Modes of evaluation of students achievement		
i	Yearly	7	17.50
ii	1st &2nd terminal	11	27.50
iii	Monthly	22	55.00
2.	Satisfaction with existing mode of evaluation		
i	Yes	37	92.50
ii	No	3	7.50
3.	If no		
i	Costly	-	-
ii	Time consuming	2	66.60
iii	Students do cramming only	1	33.40

The table 4 showed that 55.00 per cent teachers are of view that student's evaluation is done on monthly basis whereas 27.50 per cent teachers are of view that student's evaluation is done on 1st & 2nd terminal basis and 17.50 per cent teachers said that student's evaluation is done on yearly basis. The above table also showed that 92.50 per cent teachers are satisfied with existing mode of evaluation whereas only 7.50 per cent teachers are not satisfied because it is time consuming and students do cramming only.

6. CONCLUSIONS

On the basis of the analysis and interpretation of data the following conclusions are laid down:

1. Number of mathematics teachers varies from school to school.
2. Most of the teachers get more than six periods in a week to teach mathematics curriculum and they are satisfied with it.
3. Most of the teachers teaching mathematics use lecture-cum-demonstration and problem-solving method for teaching and are satisfied with it just because their students are taking interest in teaching-learning.
4. In most of teacher's opinion students are also satisfied with their method of teaching because they clear their doubts in classroom.
5. Most of the teachers do not feel overloaded with teaching of mathematics.
6. Most of the teachers use monthly tests as a mode of evaluation of students and they are highly satisfied with it.

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