

Innovations in Teaching-Learning Methodologies in CBSE Schools in Nagpur: A Critical Analysis**Dr. Sanjay Kavishwar, Dean – Academics**Tirpude Institute of Management Education
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1, Balasaheb Tirpude Marg, Civil Lines, Nagpur**Abstract**

Education is the art of stimulating and protecting natural human growth. This demands a conducive atmosphere for physical, intellectual, social, aesthetic and emotional growth. Education has an important role in building a personality and nation as a whole. The school education creates a base of a human being and has an impact on one's personal and professional existence. A good teaching methodology is the one in which teacher teaches and learner understands the concepts clearly and is able to learn more. Thus, teaching methodology is of utmost importance. Newer ways and means are adopted by schools to make teaching and learning more effective. A question arises as to the need and effectiveness of these new and innovative teaching methodologies.

The survey was conducted across 9 schools of Nagpur, affiliated under CBSE. The survey captured the opinion of 369 respondents. The respondents consist of various stakeholders of school education viz, Principal, Teachers, Students and Parents. The size of school in terms of intake of students is also considered while collecting responses.

The analysis of the survey shows that most of the teachers feel that new methodologies helps in creating interest in subject, amongst the students. The survey also takes into account the opinion of parents. The survey has highlighted some interesting facts about the opinion and expectations of the stakeholders with respect to teaching methodologies. An important fact about the students' interest in the subject is that the teachers play an important role in developing and creating interest.

The detailed study of the survey shows some difference in outcome based on the size of school, parents involvement, level of students etc. The further study of project will help the faculties to decide on the new teaching methodologies to be introduced to students. It will also help parents in evaluating the schools and its faculties before enrolling their children to the school.

Key Words: CBSE, Feedback, Innovation, Student Development, Teaching Methods.

Introduction

Education is the art of stimulating and protecting natural human growth. This demands a conducive atmosphere for physical, intellectual, social, aesthetic and emotional growth. Education has an important role in building a personality and nation as a whole. The school education creates a base of a human being and has an impact on one's personal and professional existence.

A good teaching methodology is the one in which teacher teaches and learner understands the concepts clearly and is able to learn more. Thus, teaching methodology is of utmost importance. Newer ways and means are adopted by schools to make teaching and learning more effective. A question arises as to the need and effectiveness of these new and innovative teaching methodologies.

The schools are affiliated to various boards. The study focuses only on schools affiliated to Central Board of Secondary Education (CBSE). The schools are affiliated to CBSE board but, they may adopt different teaching methodology. These schools practice a skill based curriculum and are content driven too. The examination and evaluation processes are very dynamic to keep pace with the changing trends in education. They continuously work on innovations in teaching-learning methodologies by devising student friendly and student centred systems. The teaching methodology aims at helping them to come out of their cocoon & proactively participate in learning and team building activities. Children learn to solve problems through teamwork. They learn the skills of learning for continuous improvement. The classroom transactions are designed to generate inter-disciplinary knowledge through interactive sessions by creating opportunities for processing information. In today's technology driven knowledge era, the above mentioned components are integral to the holistic development of children.

An effort has been made in the following research to find out the regular and innovative teaching methodology and value additions created and gauge its effectiveness. The study puts light on the conventional methods which are already being used by these schools as well as new methodologies which are newly introduced & will be introduced in near future.

School education lays the foundation of a person's career and the whole life thereby. Keeping this fact in mind, keeping this fact in mind our study reveals the innovations in teaching-learning methodologies which are adopted by CBSE schools of Nagpur region.

Rationale of the Study

Student is a person interested in a learning new things and subjects. He/ She is an enquirer who wants to find out & know many things about the world around in his/ her budding days of life, and that is where schools play very vital role. As we all know, that Central Board of Secondary Education (CBSE) is a Board of Education for public and private schools under the Union Government of India. The Central Board of Secondary Education (CBSE) was established in the year 1929, enjoys today the distinction of being one of the oldest and largest Board of Secondary Education in India. Many schools are affiliated to it and are committed to provide quality education to promote intellectual, social and cultural vivacity among its learners.

The study is important to all schools as well as parents who are looking ahead for a bright career future of their kids. The study shows that in this dynamic environment schools have to take up new ways to keep pace with global education system around the world.

This critical analysis also shows the involvement of teachers as well as parents in their kids growth. It proves to be very important when it comes to conventional methods which are still used and have not lost their essence. And also suggest new innovative methodologies which may be incorporated to enhance not only students' growth but school as well.

Objectives

- To study the teaching methodology adopted by various CBSE schools in Nagpur.
- To study the innovative practices adopted by various CBSE schools in Nagpur.
- To study the value addition by innovative practices adopted by these schools.

Basis of Sampling

The sample has been selected so as to cover 9 CBSE schools in Nagpur. The schools selected were based on their student intake in the school. 3 schools were with an intake of less than 500 students (small size school) , 3 schools were with an intake between 500-1000 (medium size) and 3 schools were with an intake of more than 1000 students (large size). The 9 schools selected were - Ira International School, Centre Point School, katol road, Nagpur, Bhartiya Krishna Vidhya Vihar, Nagpur, Sanskar Public School, Nagpur, Central India Public School, Nagpur, Tuli international School, Sayona Public School, Nagpur, Rhinzaai School, Nagpur and K. John Public School, Nagpur.

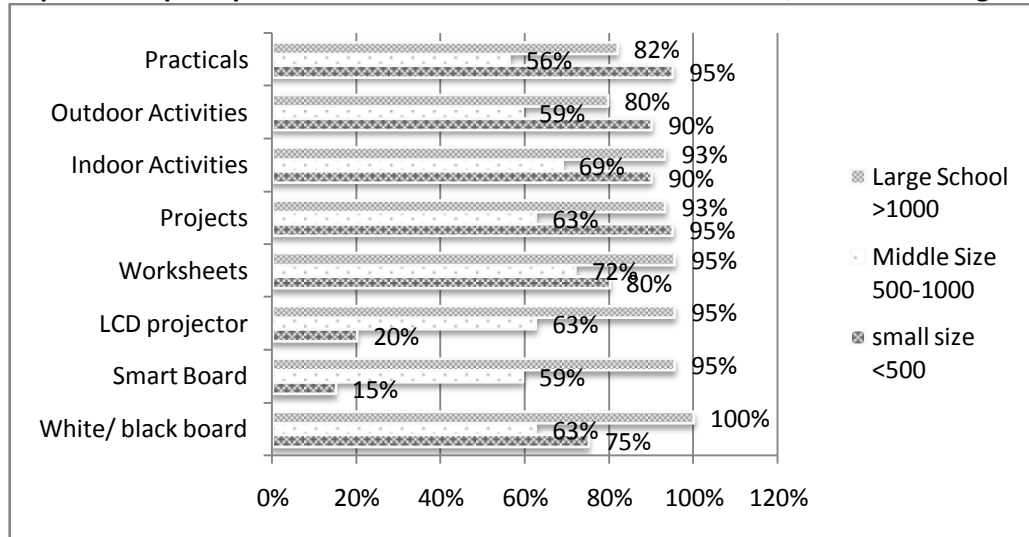
The Sample size was 369 respondents , composition of sample was as follows:

- 1 principal from each school , i.e. total 9 principals were considered for analysis
- 10 teachers from each school, i.e total 90 teachers out of which responses of 3 teachers were not considered fit for analysis and thus responses of 87 teachers was considered for analysis
- Opinion of total 100 students was taken out of which 96 responses were considered for analysis. The students were from various classes spreading from std. 1 to std. XII. For analysis purpose they have been segregated into 3 groups std.I to std. IV, std. IV to std.VII and std. VIII to XII.
- Opinion of 170 parents was obtained out of which 158 responses were considered for drawing meaningful interpretations & conclusions.

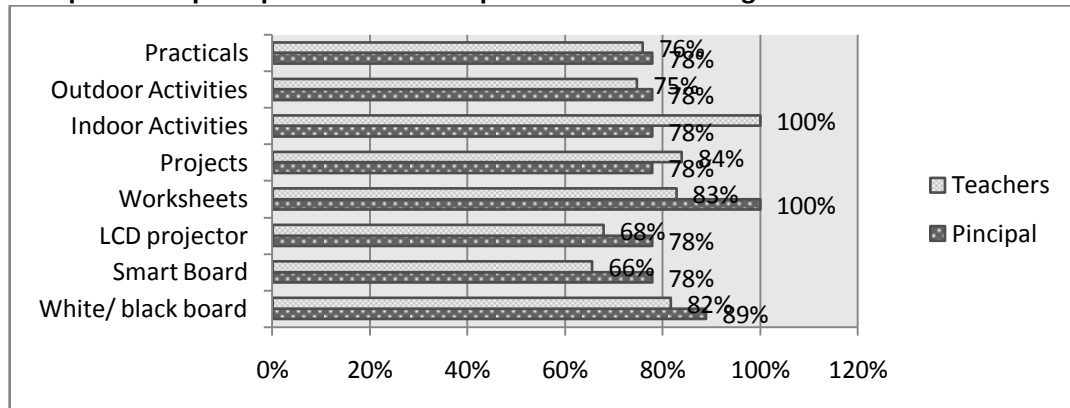
Limitations

Even though huge efforts have been put in for an elaborate report there have been some constrains and limitations for the same, which are as follows:

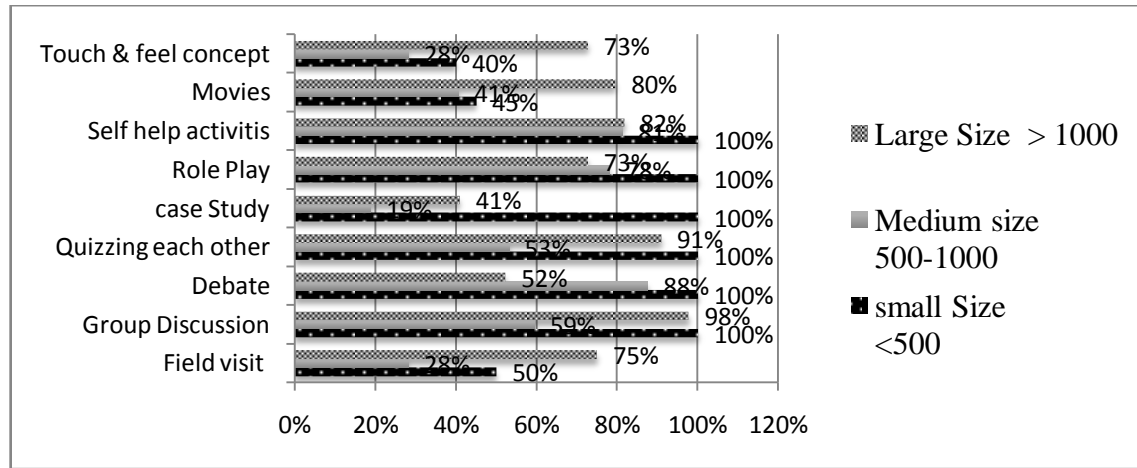
- The age of respondents vary from 7 yrs to 60 yrs. and thus the expression of opinion may vary.
- Perception / Opinion of the respondent may not be based on his/ her own experience, but may be influenced by external factors like media and opinion of other people.
- Some respondents were reluctant in answering some questions and thus a few blanks appear for some responses.
- Oral feedback given by the respondents could not be compiled in the report.

Data Analysis & Interpretation**Most preferred teaching methods by teachers****Figure 1 Responses of principals and teachers based on school size - small, middle and large size schools****Interpretation:**

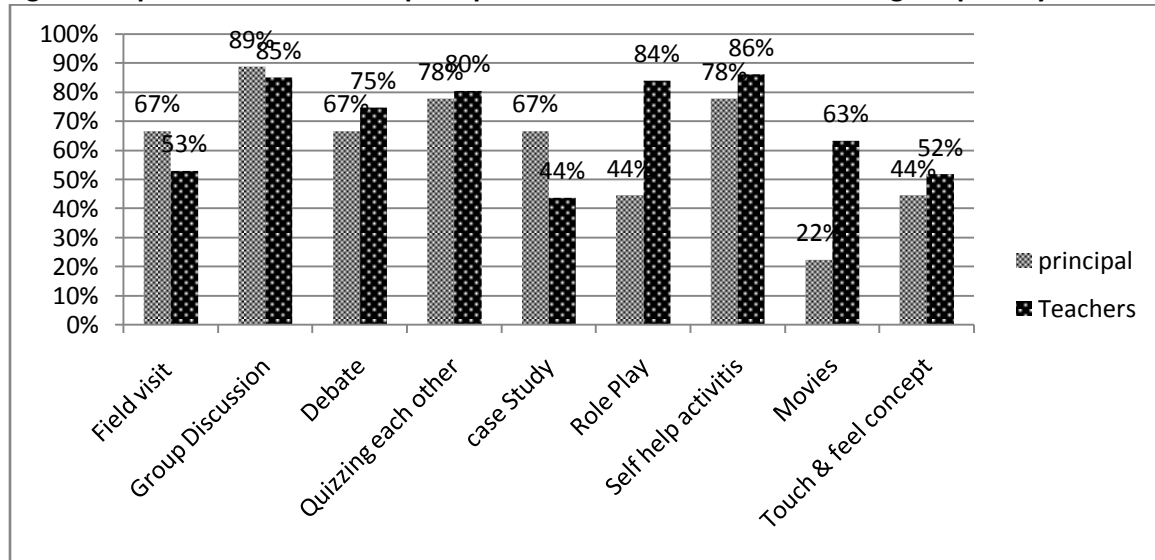
Teachers in larger schools (more than 1000 students) gave more weight age to white/black board (100%) followed by smart boards and LCD projectors (95%) each. Teachers in middle sized schools gave more weight age to worksheets (72%) and then indoor activities (69%). Teachers in small schools (less than 500 students) prefer practical (95%) and indoor and outdoor activities (90%). Their preference for LCD projector and smart board is only 15% and 20% respectively.

Figure 2: Responses of principals and teachers preference of teaching methods**Interpretation:**

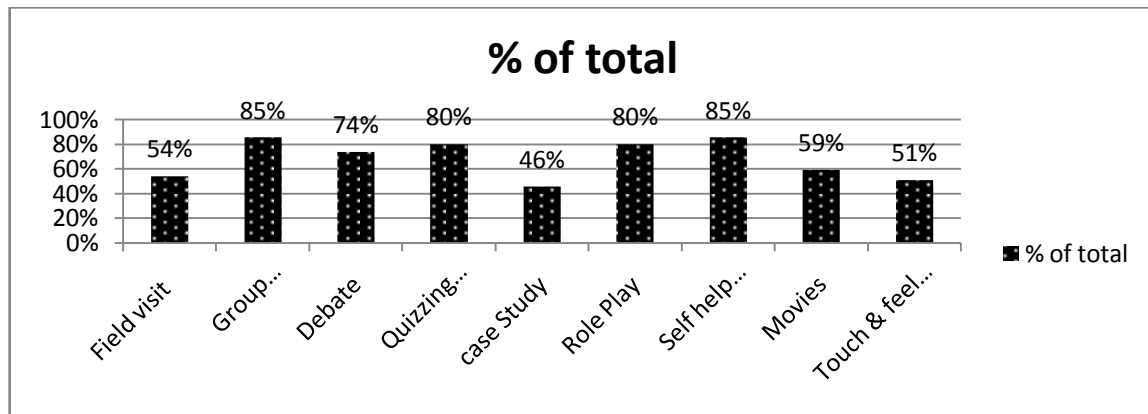
Teachers have given maximum preference to indoor activities (100%) followed by projects (84%), worksheets (83%) and white/black board (82%). Principals have given maximum preference to worksheets (100%) followed by white/black board (89%)

New methods of teaching adopted by school / teacher**Figure 3: Opinion of teachers and principals****Interpretations :**

Small Schools use all new teaching methods except field visits, touch & feel and movies
 Middle sized schools concentrate more on debates, role plays and self help activities.

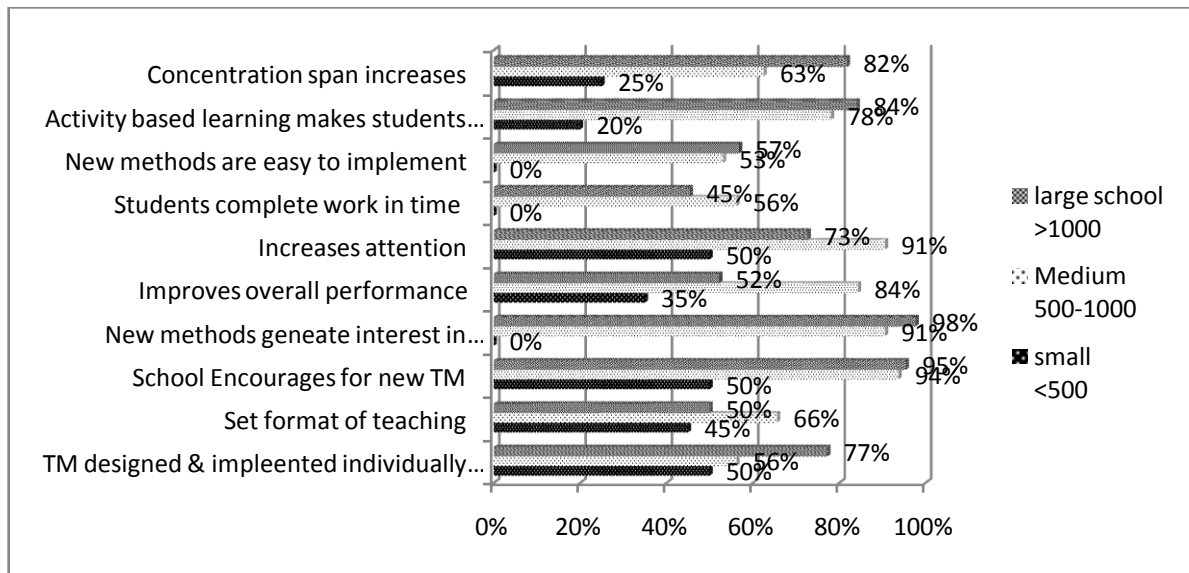
Figure 4: Opinion of teacher and principal about new methods of teaching adopted by school**Interpretations:**

Principals and teachers do not differ much on preferences of new teaching methods : group discussions and self help activities and quizzing each other.
 However they differ a lot on movies (teachers : 63% and principals 22%) and role plays (teachers : 84% and principals: 44%)

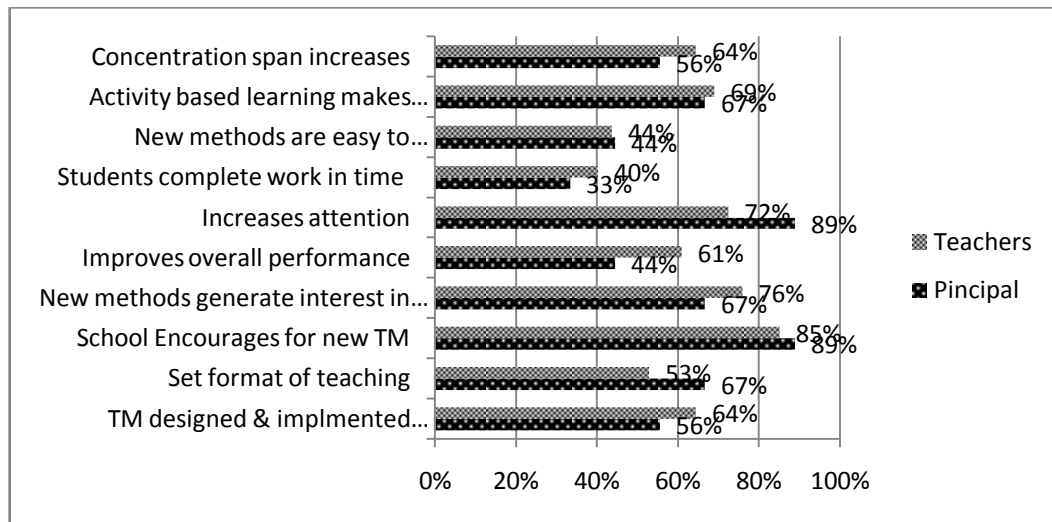
Figure 5: Overall opinion of Principal and teachers about new methods of teaching adopted by school**Interpretations:**

Overall preference is highest for self help activities and group discussions (85% each) followed by quizzing and role play (80% each). Least preferred method is case study (46%)

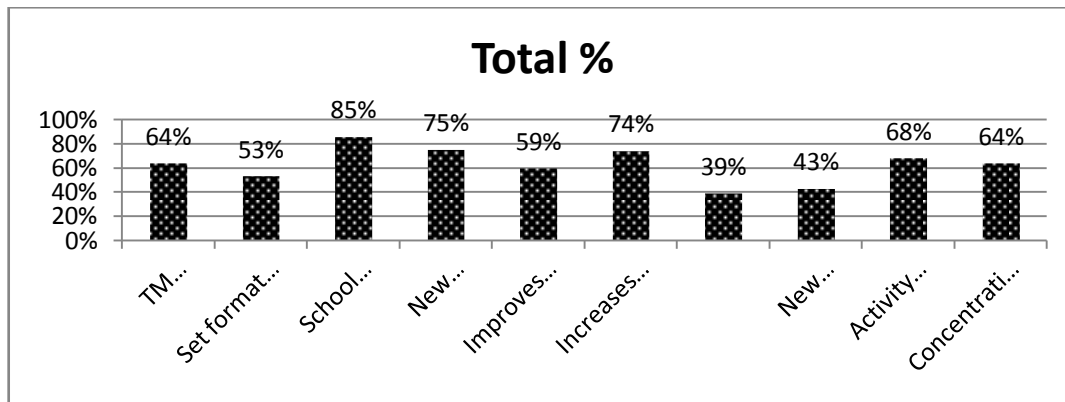
Approach of school towards new teaching methods and what is the observed impact of new teaching methods on students

Figure 6: Opinion of principal and teachers of different school size**Interpretations:**

Large size school principals and teachers highly encourage new teaching methodology (95 %) and they also opine that new methods generate interest in students (98 %). Medium size school also have a similar opinion and in addition 91 % respondents in this category feel that new teaching methodology increases attention span of students. Small size schools show very inclination towards new methods of teaching as compared to medium and large size schools.

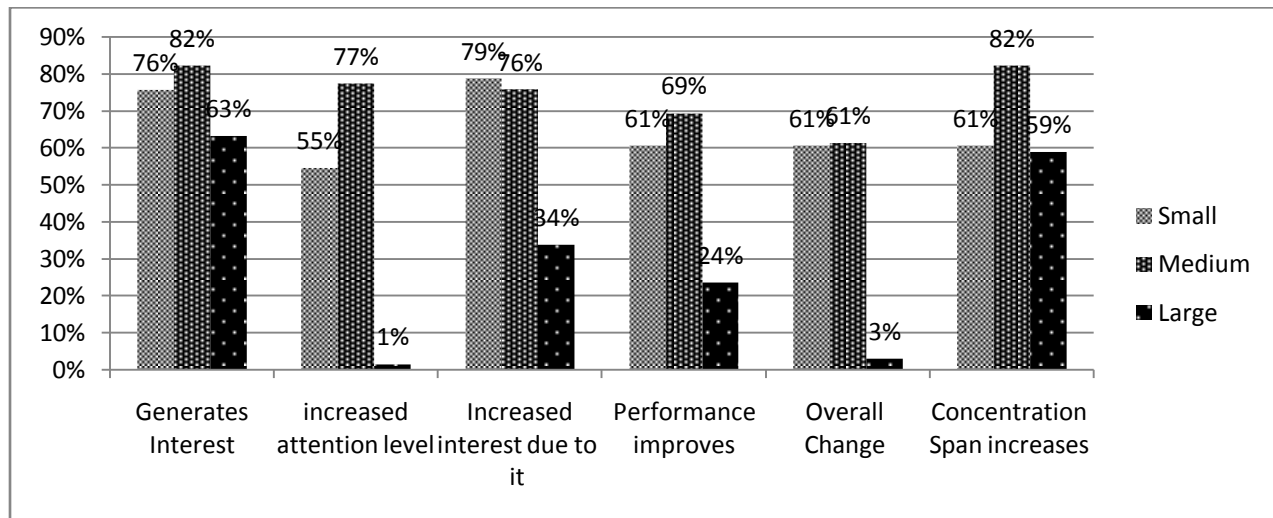
Figure 7: Opinion of principals and teachers**Interpretations:**

Teachers and principal have a similar opinion for all the statements except a few deviations in opinion on set format of teaching and improvement in overall performance of students.

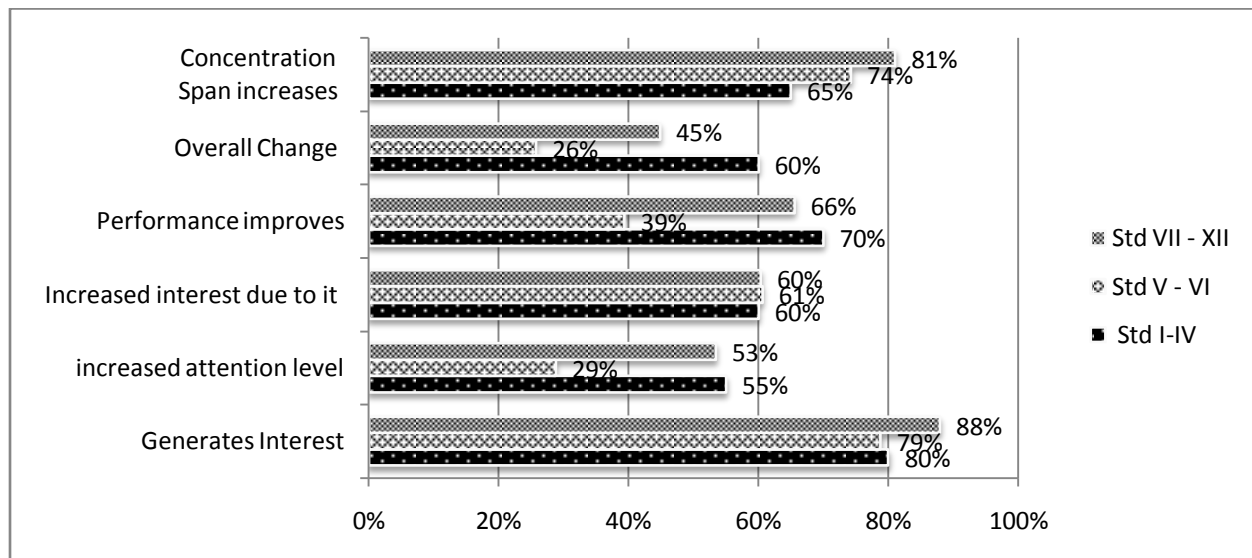
Figure 8: Overall opinion of teachers and principals together**Interpretations:**

Overall 85 % principals and teacher respondents feel that school encourages new teaching methodology, followed by 75 % opining that new methods generate interest in students. Very few i.e. 39% respondents feel that students do not complete work on time in case new methodology is used.

Opinion of parents on impact of innovative Teaching Methodology on children as per parents.

Figure 9: School wise**Interpretations:**

91 % of parents of students in large school feel new teaching methods generates interest among students and 85 % feel the concentration span increases. Whereas only 2 % and 4 % parents of large school find increased attention level and overall change respectively. 82% parents of students of Medium size school feel new teaching methods generates interest and increase concentration span of students. 76 % parents of students of small size school feel new teaching methods generates interest and 79 % find increase in interest level of student.

Figure 10: Opinion of parents of students – class wise

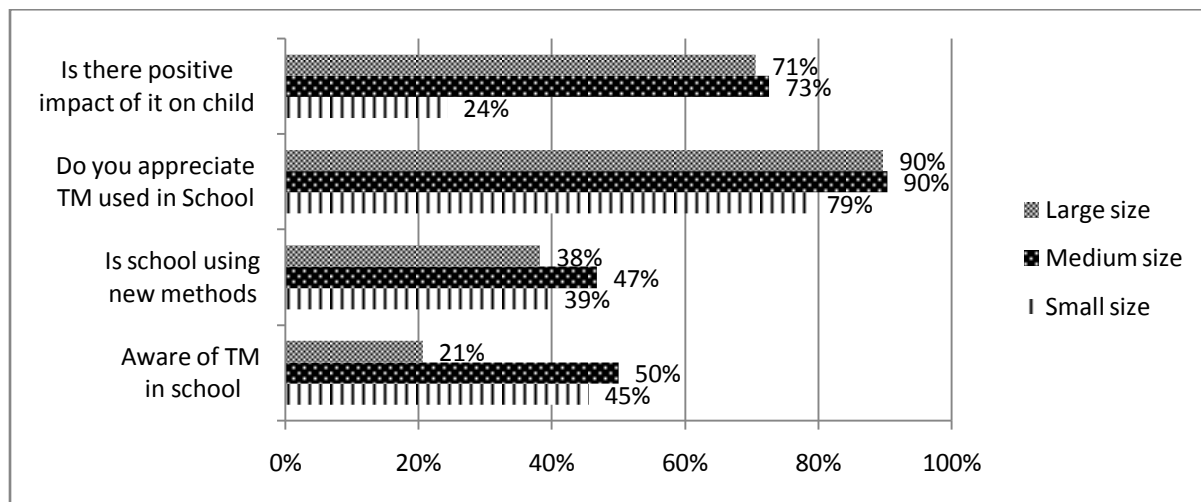
Interpretations:

Almost 80% parents irrespective of their standard their children are studying in, agree that new teaching methods generate interest in students.

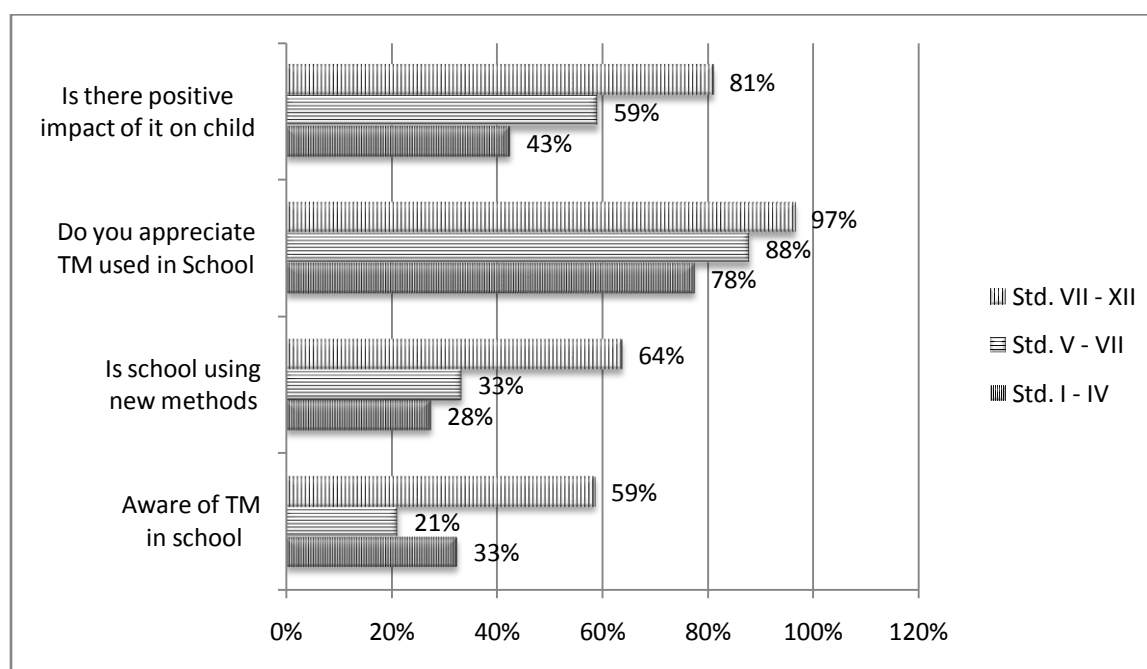
However its impact on attention level is not found very satisfactory as 53% for High school students' parents and 55% Primary students' parents agree to it and this agreement is only 29% for middle school students' parents.

New teaching methods are found to increase span of concentration more in High school students (81%) and least in Primary students (65%).

Overall change and increase in performance is not much observed in middle school students with agreement levels of parents 39% and 26% respectively.

Level of awareness amongst parents about the teaching methods used in their child's school**Figure 11: Awareness among parents – based on size of school****Interpretations:**

Awareness among parents of Medium size school is highest (50 %) , followed by small size (45 %) and then large size (21 %). 47 % Parents of students of medium size school find school using new teaching methods in school. 90 % parents of students of medium and large size schools appreciate the teaching methods used in school. Only 24% parents of students of small size school find positive impact of new teaching methodology on the children.

Figure 12: Awareness among parents – based on standard of their children**Interpretations:**

Parents of high school (Std. VII – XII) children are more aware about teaching methods in the school (59%) than parents of middle school and primary students. 64% informed that schools used new methods. 97% appreciated school's efforts and 81% noticed that there is positive impact on students. Parents of primary school children are least aware about teaching methods and its impact on their children.

Opinion of students**Favorite subject of students, and the major reasons for that****Table 13 : opinion of students of various class**

| Subjects | Std I to VII | Std. VIII to XII |
|------------|--------------|------------------|
| Maths | 26% | 28% |
| English | 33% | 11% |
| Science | 18% | 42% |
| S. Science | 8% | 13% |
| Hindi | 4% | 3% |
| Other | 11% | 2% |

Interpretations:

English and Maths are most favorite subjects for Students till 7th STD

While Science and Maths are most favorite for high School students, Hindi is the least liked subject among students across all standards.

Table 14 : Opinion of students about reasons for liking a subject

| Reasons | Std I to VII | Std. VIII to XII |
|----------------------------------|--------------|------------------|
| Interest in subject | 86% | 88% |
| Like the teacher | 74% | 56% |
| Teacher teaches very well | 52% | 51% |
| Teacher teaches in different way | 44% | 35% |
| Activities are interesting | 37% | 39% |

Interpretation

Basic interest in subject is the main reason why the subject is liked by students in both categories.

New / innovative teaching method has less impact on liking of the subject. Only 44% middle school and 35% high school students agree to it.

Students' preference of teaching aids used in school**Table 15: Opinion on most preferred teaching aid**

| Most preferred teaching aids | Std I to VII | Std. VIII to XII |
|------------------------------|--------------|------------------|
| White/ black board | 34% | 28% |
| Smart Board | 32% | 36% |
| LCD projector | 32% | 35% |
| Worksheets | 30% | 22% |
| Projects | 26% | 12% |
| Indoor Activities | 26% | 21% |
| Outdoor Activities | 29% | 24% |
| Practical | 19% | 19% |

Interpretations:

Among primary and middle school students: White/ black board and smart board are the most preferred teaching aids. Among high school students: Smart board and LCD projector are the most preferred teaching aids.

Table 16 : Opinion on least preferred teaching aids

| Least Preferred | Std I to VII | Std. VIII to XII |
|--------------------|--------------|------------------|
| White/ black board | 33% | 48% |
| Smart Board | 48% | 42% |
| LCD projector | 58% | 39% |
| Worksheets | 33% | 42% |
| Projects | 40% | 54% |
| Indoor Activities | 40% | 38% |
| Outdoor Activities | 51% | 56% |
| Practical | 38% | 42% |

Interpretations:

Among primary and middle school students: LCD Projector and outdoor activities are the least preferred teaching aids. Among high school students: Outdoor activities and projects are the least preferred teaching aids.

Table 17 : The most innovative teaching methods as per students

| Teaching Methods | Std I to VII | Std. VIII to XII |
|----------------------|--------------|------------------|
| Field visit | 27% | 32% |
| Group Discussion | 25% | 17% |
| Debate | 19% | 13% |
| Quizzing each other | 27% | 11% |
| case Study | 33% | 22% |
| Role Play | 25% | 22% |
| Self help activities | 32% | 25% |
| Movies | 25% | 34% |
| Touch & feel concept | 23% | 28% |

Interpretations:

Students from std. 1 to VII rate case study (33%) and self help activities (32%) as most preferred new methods. Students from std. VII to XII rate movies (34%) and field visits (32%) as most preferred new methods

Table 18: Impact of new teaching methods on students

| Statements | Std I to VII | Std. VIII to XII |
|--|--------------|------------------|
| All teachers use similar methods | 42% | 18% |
| Enjoy new methods | 77% | 73% |
| Like to study subjects taught by new methods | 55% | 74% |
| Score well in those subjects | 37% | 66% |
| Understand those subjects better | 47% | 64% |

Interpretations:

All students enjoy new methods of teaching irrespective of the class in which they study. With 73% High Std. students and 77% lower std. students enjoying new methods. Thus the difference between their levels of agreement is insignificant.

Teacher use similar methods of teaching in primary and middle schools according 42% students which is not true with high school as the level of agreement is only 18%. There is overall more impact of innovative teaching methods on high school as 74% like to study those subjects, 66% score well and 64% understand the subject. Level of agreement for these statements is quite low in primary and middle school students.

Conclusions

Preference of teaching method adopted currently.

Use of teaching aid and preference by teachers' changes with the size of schools. Large schools prefer using Smart board, projectors, medium size school prefer worksheets and small school prefer more practical oriented teaching.

Opinion of teachers and principals also vary with teachers preferring indoor activities the most while principals prefer worksheets the most.

In general among the teachers and principal blackboard seems to be the most preferred teaching aid followed by worksheets and projects.

Among primary and middle school students: White/ black board and smart board are the most preferred teaching aids. Among high school students: Smart board and LCD projector are the most preferred teaching

Thus it may be concluded that a combination of traditional teaching aid i.e. white / black board and new aids like smart board, worksheets , LCD projector are in general the currently used teaching aids by school , being preferred by school authorities and students alike.

New methods of teaching adopted

All types of schools are using new methods of teaching. The activities preferred differ from school to school. Overall preference is highest for self help activities, group discussions quizzing and role play.

It may thus be concluded that the schools prefer new methods of teaching which enables the students to become more independent and self reliant.

Awareness level amongst parents about the teaching methods used in their child's school

Awareness about teaching methodology used in child's school , among parents of Medium size school is highest (50 %) , followed by small size (45 %) and then large size (21 %).

Medium and large size school parents appreciate use of new teaching methodologies more than small size school parents.

Parent of higher class students are more aware about teaching methodology adopted in school as compared to lower standard students.

Impact of new teaching methods on students

Opinion of teachers, principals and parents of large and medium size schools have similar opinion about new teaching methods. They encourage new methods of teaching and believe that new method of teaching generates interest among students. Students of all levels / standard enjoy new method of teaching. Impact of innovative teaching methods is more among students of higher classes.

However, as per the parents, teachers and principal attention level amongst the students does not improve with new teaching methods.

As far as students are concerned, liking of a subject is not affected much due to the teaching methodology used. It is the basic liking for a subject that makes a subject favorite and not the teaching methodology adopted. The preference of new methods changes with age among the students, the younger ones prefer self help activities and case study while the older students prefer movies and field visits more.

Suggestions

From the above study it can be concluded that, for overall development of students it is necessary to adopt various teaching methodologies which include the traditional method as well as new and innovative methodologies.

It is suggested that innovative teaching methodology should aim at providing basic knowledge and good content. This may be achieved by traditional ways. These teachings may be further enhanced with use of innovative methods which enable the students to become more independent and self sufficient. The students also prefer to have hands on experience with the concept and thus methods should be evolved accordingly.

The parents should be made more aware, especially the parents of younger children , about the teaching methodology adopted by the school. Seminars and interactive sessions can be held by the school for this.

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