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Perspectives of Teachers towards the Use of Smart Class in Rural Senior Secondary Schools of Malwa Region of Punjab State

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Abstract: ***The objectives of this paper are to study the perspectives of teachers towards the use of smart class and to find out the ICT training of teachers. The investigator has taken 13 smart-class using teachers (5 government teachers and 8 private teachers) of senior secondary schools of rural areas from Mansa and SAS Nagar districts of Malwa region of Punjab State by using simple random sampling technique. Results revealed that lack of training and non-availability of sufficient as well as appropriate e-Content were major issues faced mainly by the government teachers for the effective use of smart class in teaching-learning process. Majority of government and private teachers were using smart class for teaching purposes from 2-5 years, but the private teachers have upper hand with respect to the frequency of using smart class. Even though, the usage of subject-specific softwares for smart class by teachers was not very good but the position of private teachers was much better than government teachers. Furthermore, all the sampled teachers have admitted the improvement in their students towards the subject understanding through smart class.***

Keywords: ICT, Smart Class, Government and Private Teachers, Training of Teachers

1. Introduction

Information and Communication Technology (ICT) plays a key factor for fixing the future of educational sector. Countries, all over the world have identified the role and importance of ICT in education as a universal tool for teaching learning (Sethy and Mohalik, 2019: 130). So, various ICT devices/tools and different educational technologies are used by school teachers in the teaching-learning process to get the fruitful results.

Smart class concept becomes the major and more popular mode for teaching-learning process in different types of schools. Smart class is a technologically enriched class-room having the availability of various ICT devices such as interactive white board, projector, computers/laptops, tablets, speakers, microphones and/or headphones. Further, smart class contains each subject content materials with a real teacher in virtual classroom, teaching chapters in an interesting way which makes studies as exciting as watching movies along with distinctive features like quiz, multiple choice questions series and mind map for revision purposes (*ibid.*).

The current National Education Policy 2020 also insists the schools to build up the smart classes, in a phased manner, for using digital pedagogy and thereby enriching the teaching-learning process with online resources and collaborations (GOI, 2020: 20). So the motive of this paper is to study and analyze the perspectives of teachers on different indicators of the use of smart class in government and private senior secondary schools of rural areas in Malwa region of Punjab state.

2. Review of Related Literature

Jena (2013) studied to explore the effectiveness of smart classroom learning upon the academic achievement of rural low achievers as well as of rural high achievers in science subject. The sample for this study comprised of sixty secondary school students with the constituency of 30 low achievers and 30 high achievers. The outcomes exposed that smart classroom learning was the better mode of teaching to both low achievers and high achievers in science subject as compared to conventional class.

Yadav (2015) conducted the study to observe the secondary school teachers' attitude about the utilization of ICT in the field of education. A total sample of 200 secondary school teachers of Rewari district of Haryana were drawn with purposive random sampling method. As per the findings of study, it was discovered that the attitude of private school teachers was more positive for the usage of ICT in the field of education than the attitude of government school teachers. It was also noted that urban school teachers had higher attitude than rural school teachers regarding the utilization of ICT in education but male teachers as well as teachers above the age of 40 years had less positive attitude than their counterparts.

Gupta and Singh (2016) undertook a study relating to the teachers' opinions regarding the effectiveness of smart classroom teaching for social science subject of 7th class. For this study, 40 teachers were selected from different CBSE-affiliated senior secondary schools having the facility of smart classrooms. The results disclosed that majority of teachers have positive view regarding the smart classroom teaching along with content presentation and utility for teachers as well as for students. Further, a very high majority of teachers believed that smart classroom teaching was motivating the students and enhancing their achievement level. It also found that smart classroom teaching was an interesting way of learning for students.

Sethy and Mohalik (2019) conducted the study to explore the availability of smart classroom equipments and

softwares for teaching learning as well as the training of teachers towards the use of these equipments and softwares. For this, 25 secondary schools with their principals/ headmasters were selected from three districts of West Bengal. As per the findings of study, it was discovered that all the sampled schools had confirmed the availability of desktops and projectors in their smart classroom whereas a very few percentage of schools had laptop/s in smart classroom. But the provision of interactive/smart board in smart classroom was denied by all the sampled schools. Further, a large majority of secondary schools had reported the lack of subject-specific softwares in smart classroom. Only 50% of teachers were trained for the use of equipments and softwares in smart classroom while a very high percentage of teachers had denied the daily use of smart classroom in teaching learning.

Kim and Jang (2020) aimed to evaluate the determining aspects of teachers' continuance intention towards the integration of sustainable technology in different schools of underserved areas. For this investigation, 54 teachers were taken from 21 elementary and middle schools of South Korea. The outcomes of study revealed that teachers were motivated to keep the integration of technology in smart classrooms when they realized the positive variations in students after the implementation of smart classroom technologies.

3. Objectives

This study has the following objectives:

1) To study the perspective of teachers towards different indicators of the use of smart class in senior secondary schools of rural areas in Malwa region of Punjab state.
2) To analyze the difference among government and private senior secondary school teachers of rural areas towards different indicators of the use of smart class.

4. Methodology

For this study, a descriptive survey method was used by the investigator. She collected the information from the selected teachers towards the use of ICT to teaching and learning in government and private rural-area senior secondary schools of Malwa region through a self-prepared Teachers Questionnaire.

Sample

As per the Census of India 2011, among the various districts of Malwa region of Punjab state, the lowest literacy rate is reported in Mansa district whereas the highest literacy rate is in SAS Nagar. Firstly, these two districts Mansa and SAS Nagar were selected as the sample districts. Further, the total 13 smart-class using teachers (5 government teachers and 8 private teachers) of senior secondary schools of rural areas were selected purposively from the above-said sample districts. The following Table 1 presents the detailed distribution of the sample.

Table 1: Detail of Selected Sample

District	*Literacy Rate (Only in Malwa Region)*	*Rural Area*		*Total*
		Government Teacher	*Private Teacher*	
Mansa	Lowest	3	3	6
SAS Nagar	Highest	2	5	7
Total		5	8	13

5. Results

The results related to the perspective of teachers on different indicators have been explained under the below mentioned headings.

1) Training of Teachers under ICT Programme

From the following Table 2, it is clear that among the total sample of 13 teachers, only 61.5% teachers have reported the receiving of training under ICT programme whereas 38.5% have still not received any training under ICT programme. Further, just 40% government teachers have said "yes" about the training under ICT programme but 75% private teachers have responded positively for this provision.

Table 2: Training of Teachers under ICT Programme

Training of Teachers under ICT Programme	*Number of Teachers*		
	Government Teacher	*Private Teacher*	*Total*
Yes	2 (40%)	6 (75%)	8 (61.5%)
No	3 (60%)	2 (25%)	5 (38.5%)
Total	5 (100%)	8 (100%)	13 (100%)

2) Frequency of Teachers Training

Table 3 shows that out of the 8 teachers receiving the training under ICT programme, half of them were obtained the regular training and all these were the private teachers. 25% teachers have confirmed the receiving of training occasionally and the same percentage of teachers (25%) were trained under ICT programme only once.

Table 3: Frequency of Teachers Training

Frequency of Teachers Training	Number of Teachers		
	Government Teacher	Private Teacher	Total
Only Once	1 (50%)	1 (16.65%)	2 (25%)
Occasionally	1 (50%)	1 (16.65%)	2 (25%)
Regularly	0	4 (66.7%)	4 (50%)
Total	2 (100%)	6 (100%)	8 (100%)

It is also observed from Table 3 that 50% government teachers have received the training only once with comparison to 16.65% private teachers and the same difference was seen under the heading of "Occasionally" training.

3) Duration of Using Smart Class by Teachers

As indicated in the Table 4, 23.1% teachers were using smart class for teaching purposes from the less than 2 years. About 61.5% have affirmed the duration of '2-5 years' whereas only 15.4% teachers have reported '6-10 years' time duration for the same purpose.

Further, it is noted that 40% government teachers have reported the use of smart class from less than 2 years as

compared to 12.5% private teachers whereas no noticeable difference is seen between the percentage of government and private teachers with respect to the time frame of '2-5 years'. But only private teachers have carried out the usage of smart class for teaching-learning process from 6-10 years and their reported percentage was 25% (Table 4).

Table 4: Duration of Using Smart Class by Teachers

Duration of Using Smart Class by Teachers	*Number of Teachers*		
	Government Teacher	*Private Teacher*	*Total*
Less than 2 years	2 (40%)	1 (12.5%)	3 (23.1%)
2-5 years	3 (60%)	5 (62.5%)	8 (61.5%)
6-10 years	0	2 (25%)	2 (15.4%)
Total	5 (100%)	8 (100%)	13 (100%)

4) Frequency of Using Smart Class by Teachers

Table 5: Frequency of Using Smart Class by Teachers

Frequency of Using Smart Class by Teachers	*Number of Teachers*		
	Government Teacher	*Private Teacher*	*Total*
2-3 times in a week	0	4 (50%)	4 (30.8%)
Once in a week	3 (60%)	4 (50%)	7 (53.8%)
Occasionally	2 (40%)	0	2 (15.4%)
Total	5 (100%)	8 (100%)	13 (100%)

On observing the above Table 5, it is found that among 13 teachers, 30.8% teachers have affirmed the use of smart class for 2-3 times in a week in teaching-learning process, 53.8% have reported the use of smart class for only once in a week and 15.4% teachers have responded the smart class usage occasionally.

Also, Table 5 presents that 60% government teachers have stated the utilization of smart class for teaching purposes once in a week with comparison to 50% private teachers. Furthermore, remaining 50% private teachers were adhering the usage of smart class for 2-3 times in a week but remaining 40% government teachers have occasionally used the smart class for teaching their subject/s.

5) Use of Smart Class

On the perusal of Table 6, it is clear that just 15.4% teachers have stated the use of smart class for e-Books while all the sampled government and private teachers (100%) have used smart class for video/animation/graphics lessons. Also, 38.5% have affirmed its use for presentations. Moreover, 46.2% teachers have also reported the utilization of smart class for live/recorded lectures and the same percentage of teachers (46.2%) have confirmed its use for tests/ examinations.

Table 6: Use of Smart Class

Use of Smart Class	*Number of Teachers*		
	Government Teacher = 5	*Private Teacher = 8*	*Total = 13*
e-Books	1 (20%)	1 (12.5%)	2 (15.4%)
Video/Animation/ Graphics Lessons	5 (100%)	8 (100%)	13 (100%)
Presentations	1 (20%)	4 (50%)	5 (38.5%)
Live/Recorded Lectures	3 (60%)	3 (37.5%)	6 (46.2%)
Tests/Examinations	1 (20%)	5 (62.5%)	6 (46.2%)

As evident from Table 6, no major percentage difference is seen between government teachers (20%) and private teachers (12.5%) towards their use of smart class for e-Books while the percentage of private teachers (50%), which have used smart class for presentations, is 2.5 times higher than the percentage of their government counterparts (20%). Further, the situation is totally different under the heading of 'live/recorded lectures', where the percentage of government teachers (60%) is more than of private teachers (37.5%) but the private teachers (62.5%) were more than three times ahead than government teachers (20%) with respect to the use of smart class for tests/examinations.

6) Availability of Sufficient and Appropriate e-Content for Smart Class

Table 7 given below shows the views of teachers about the availability of sufficient and appropriate e-Content for smart class. About 69.2% teachers have been found to report the availability of sufficient and appropriate e-Content for smart class while 30.8% have denied for this proviso (Table 7).

Further 87.5% private teachers have reported positively for this parameter of the study in comparison to 40% government teachers. So the private teachers are much ahead with the margin of 47.5% than government teachers in this provision (Table 7).

Table 7: Availability of Sufficient and Appropriate e-Content for Smart Class

Availability of Sufficient & Appropriate e-Content for Smart Class	*Number of Teachers*		
	Government Teacher	*Private Teacher*	*Total*
Yes	2 (40%)	7 (87.5%)	9 (69.2%)
No	3 (60%)	1 (12.5%)	4 (30.8%)
Total	5 (100%)	8 (100%)	13 (100%)

7) Usage of Subject-Specific Softwares for Smart Class

On observing the Table 8, it is clear that just 46.2% teachers have responded 'yes' for the usage of subject-specific softwares for smart class. Further, only a single government teacher (20%) has affirmed the use of subject-specific softwares for smart class but the noted percentage of private teachers for same is 62.5%.

Table 8: Usage of Subject-Specific Softwares for Smart Class

Usage of Subject-Specific Softwares for Smart Class	*Number of Teachers*		
	Government Teacher	*Private Teacher*	*Total*
Yes	1 (20%)	5 (62.5%)	6 (46.2%)
No	4 (80%)	3 (37.5%)	7 (53.8%)
Total	5 (100%)	8 (100%)	13 (100%)

8) Subject Delivery of Smart Class

As indicated in Table 9, about 53.8% teachers have viewed that the subject delivery of smart class was 'very interesting' whereas remaining 46.2% have reported that such delivery was 'interesting'. But no teacher has responded under the heading of 'boring'. On being asked about subject delivery of smart class, 62.5% private teachers have postulated 'very interesting' as compared to 40% government teachers but the situation is totally opposite in the category of

'Interesting', where the percentage of government teachers (60%) is higher than their private counterparts (37.5%).

Table 9: Subject Delivery of Smart Class

Subject Delivery of Smart Class	*Number of Teachers*		
	Government Teacher	*Private Teacher*	*Total*
Very Interesting	2 (40%)	5 (62.5%)	7 (53.8%)
Interesting	3 (60%)	3 (37.5%)	6 (46.2%)
Boring	0	0	0
Total	5 (100%)	8 (100%)	13 (100%)

9) Improvement in Students towards the Subject Understanding through Smart Class

It is evident from the below Table 10 that all the teachers, whether of government or private, have admitted the improvement in their students towards the subject understanding through smart class.

Table 10: Improvement in Students towards the Subject Understanding through Smart Class

Improvement in Students towards the Subject Understanding through Smart Class	*Number of Teachers*		
	Government Teacher	*Private Teacher*	*Total*
Yes	5 (100%)	8 (100%)	13 (100%)
No	0	0	0
Total	5 (100%)	8 (100%)	13 (100%)

6. Conclusion

As per the results of study, it is concluded that lack of training and non-availability of sufficient as well as appropriate e-Content were major issues faced mainly by the government teachers for the effective use of smart class in rural senior secondary schools of Malwa region of Punjab state. Majority of government and private teachers were using smart class for teaching purposes from 2-5 years, but the private teachers have upper hand with respect to the frequency of using smart class. Even though, the usage of subject-specific softwares for smart class by teachers was not very good but the position of private teachers was much better than government teachers. Furthermore, all the sampled teachers have admitted the improvement in their students towards the subject understanding through smart class.

7. Recommendations

1) Sufficient and appropriate e-Content should be provided for smart class, mainly in government schools.
2) Proper and regular training should be given to teachers under ICT programme for the better results.
3) Subject-specific softwares should also be provided for smart class for better results.
4) Teachers should need to enhance the frequency of using smart class for teaching-learning process for better outcomes.

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