

Smart Classroom a New Paradigm for Teaching and Learning: Its Implementation and Setback with Special

Reference to J&K

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ABSTRACT

The development of the information society and the widespread dissemination of Information and Communication Technology (ICT) give rise to new opportunities for learning and acquiring new digital skills and competences. The availability of newer and newer technology reflects on how the relevant processes should be performed in the current fast changing digital era. This leads to the adoption of a variety of smart solutions in educational environments to enhance the quality of life and to improve the performances of both teachers and students. The present pedagogy is the digital classroom. The meaningful and the innovative use of technology are renovating the methods and approaches of teaching as well as learning in institutions.

Smart Classrooms(SmCs) are technology enhanced classrooms that foster opportunities for teaching and learning by integrating learning technology, such as computers, specialized software, audience response technology, assistive listening devices, networking, and audio/visual capabilities. Smart class is a digital initiative, which is rapidly changing the approach and methodology that teachers use to teach and students learn in an innovative manner using technology. It has not only made teaching learning process more colourful but interesting too. The Smart Class software has revolutionized and brought a complete transformation in the traditional rote methods of learning .This system has ended the traditional ways of teaching learning process and provides a changing face of classroom. Smart Classrooms are technology enhanced classrooms that foster opportunities for teaching and learning by integrating learning technology, such as computers, specialized software, audience response technology, assistive listening devices, networking, and audio/visual capabilities. Smart class is a digital initiative, which is rapidly changing the approach and methodology that teachers use to teach and students learn in an innovative manner using technology. It has not only made teaching learning process more colourful but interesting too. This system has ended the traditional ways of teaching learning process and provides a changing face of classroom. Nowadays Smart classrooms create new opportunities in teaching and learning by integrating computer, multimedia and network technology and have changed the very concept of learning (classroom teaching). Obviously, this methodology has proved beneficial for the students.

In Indian educational setting to deliver a quality education, the smart classes have evolved as a renovation of teaching learning process. It aids students to form better concept, and its elaboration; improving their reading skills and also academic achievements. In 2004 EDUCOM first launched a smart class. Now in India, across 560 districts more than 12,000 schools have implemented smart classes. The Jammu and Kashmir has been

among the first states in the country to come up with smart classrooms and have more than 220 schools with this facility. For each school the cost of per smart classroom set up was Rs. 235000. However, this investment and these smart facilities could not prove any fruitful results in J&K state. The present paper through a light on all the pros and cons of the smart classrooms technology in Jammu and Kashmir and investigated why it was introduced and what factors the state is lacking for its better implementation with special reference to the electricity and Internet facility in educational Institutions under investigation.

Key words: *Smart classroom; Teaching; Learning; Implementation; Setback; J&K*

I.INTRODUCTION

Since independence, Indian has made significant development in school education in terms of enrolment, infrastructure and universal access and overall literacy rate. There is requirement of well qualified and trained teachers in the country to endure with the demand of quality education. Every aspect of life has been affected by Technology. A modernized technique has been introduced to provide quality education, which is known as Smart classroom. Here the activity based learning, instructional material, 3-D animated segments, videos, are being used. By this innovative and interactive process of learning, schoolchildren get inspired. Not only it has made learning thrilling but concurrently enhances learner's performance.

An important role is being played by technology in education. In today's competitive realm the youth needs the set of skills, which is not the subject knowledge rather it requires attention, absorption power and memorizing. Smart classroom speedily transformed the way of teaching and learning in schools. Learners learn even abstract and difficult concepts easily by watching visuals and animations, which makes learning enjoyable for learners. Smart classroom enables teachers to assess and evaluate the learning achieved by learners in class with an innovative assessment technology. Smart classroom has a unique delivery model. Natrajan (2004) evaluated technology enhanced learning and future of education. Smart classroom improves teachers' effectiveness and productivity in class, brings abstract and difficult concepts inside class, making learning an enjoyable experience for students, and improves performance. Bano and Ganaie (2016) Students who were taught through smart class had performed well because it creates an enjoyable environment which in turn motivates students and helps then in developing cognitive dimension.

In 2014-15, the 25.2% schools were having computer facility in India and 26% in 2015-16. However, 54.8% of schools have electricity facility in 2014-15 while as 57.3% in 2015-16. (Elementary Report Cards 2015-16). In Jammu and Kashmir State "Chief Ministers' Model School scheme" had been launched in 2015 with an aim to provide quality education and set bench marks in the field of education. In 1st phase it had been notified to develop 144 Model Schools. These schools were being fortified with infrastructure, soft interventions, motivated and trained teachers as well as favourable environment for overall development of the students' personality. An amount of Rs 6.90 crores had been consumed under Capex Budget 2015-16 for minimal Progress in the Model Schools. In a short span of time, 17 Higher Secondary Schools were being provided with Smart Classroom facilities.

II.METHODOLOGY

This paper is exclusively grounded on secondary data. The different sources of data are journal articles, websites, e-books, reports of various government organization and commission, articles published in national and local papers etc.

III.SMART CLASSROOMS IN JAMMU AND KASHMIR

e-learning was initiated in a big way in the State of Jammu and Kashmir. In 2015 State has initiated a program 'Smart Classroom with Computer Lab' (SCCL) in cooperation with RMSA/SSA and NIELIT (J & K). In 2015-16 total number of schools was 28578 (Elementary State Report Cards 2015-16). The 16.5% schools were having computer facility 2014-15 and 17.2% in 2015-16. 24% of schools have electricity facility in 2014-15 while as 28.3% in 2015-16. Out of 28578 schools 220 Schools in 1st phase was taken under the SmC scheme. i.e., 0.76%. The smart class facility was being given to 220 schools (HSS/HS/MS) with Computer Lab through NIELIT under RMSA/SSA by the approval of Indian government. The Nodal Officers of the schools were facilitated by a web-based portal MIS, so that they can update the supply and installation of equipment.

1.1.1. List of 220 Schools under 'ICT in Schools' 2015-16

Table 1: Shows the Schools with Smart Classroom in District Anantnag

| District: Anantnag | |
|--------------------|-------------------|
| 1. | GHSS Kadipora |
| 2. | BHSS Dayalgam |
| 3. | BHSS Bijbehara |
| 4. | GHSS Bijbehara |
| 5. | HSS Nanil |
| 6. | HSS Deval Gam |
| 7. | HSS Kokernag |
| 8. | HS Checki Wongund |
| 9. | HSS Dooru |
| 10. | GHSS Aishmuqam |
| 11. | HSS Salia |
| 12. | HSS Pahalgam |
| 13. | HSS Uttersoo |
| 14. | HSS Shangas |
| 15. | HSS H-Tooru |

There were 1885 schools in district Anantnag (Elementary Education Report Card 2015-16). In 2014-15 only 17.4% schools were having computer facility and it increases 18.9% in 2015-16. However, 18% of schools have electricity facility in 2014-15 while as 19.5% in 2015-16. Out of 1885 schools 15 Schools were taken under the Smart Classroom scheme. i.e., 0.79%. Only higher secondary schools have been taken under this scheme and no any Primary, Middle and High school included in Smart classroom scheme.

Table 2: Shows the Schools with Smart Classroom in District Baramulla

| District Baramulla | |
|--------------------|------------------|
| 1. | GHSS Singhpora |
| 2. | HSS Dalina |
| 3. | HSS Chandoosa |
| 4. | GHSS Lalpora |
| 5. | HSS Chandiloora |
| 6. | HSS Kunzar |
| 7. | HSS Mirgund |
| 8. | HSS Hadipora |
| 9. | HSS Behrampora |
| 10. | BHSS Rohama |
| 11. | HSS Kreeri |
| 12. | HSS Bomai |
| 13. | BHS Jamia Qadeem |
| 14. | HSS Botingoo |
| 15. | BHSS Dangerpora |
| 16. | H S S Bijhama |
| 17. | BHSS Boniyar |
| 18. | HS Bandibala |

There were 2310 schools in district Baramulla (Elementary Education Report Card 2015-16). The 10.5% schools were having computer facility in 2014-15 and in 2015-16 it was 6 11.6%. Only 14% of schools were found to have electricity facility in 2014-15 while as 35.4% in 2015-16. Out of 2310 schools 18 Schools were taken under the Smart Classroom scheme. i.e., 0.77%. However, Primary, Middle and High schools have not been included in Smart class room scheme.

Table 3: Shows the Schools with Smart Classroom in District Bandipora

| District Bandipora | |
|--------------------|----------------|
| 1. | BHSS Kaloosa |
| 2. | BHSS Aloosa |
| 3. | H.S.S. Ajas |
| 4. | GHSS Bandipora |
| 5. | HSS Aragam |
| 6. | BHSS Dawer |
| 7. | HSS Izmarg |

| | |
|----|-------------|
| 8. | HSS Hajin |
| 9. | BHSS Sumbal |

There were 858 schools in district Bandipora (Elementary Education Report Card 2015-16). Out of these 11.2% schools were having computer facility 2014-15 and same percentage remained in 2015-16. On the other hand 11.1% of schools have electricity facility in 2014-15 and same percentage in 2015-16. Out of 858 schools 9 Schools were taken under the Smart Classroom scheme. i.e., 1.04%. No any Primary, Middle or High school has been taken under the Smart classroom scheme.

Table 4: Shows the Schools with Smart Classroom in District Doda

| District Doda | |
|---------------|----------------|
| 1. | HSS Saringal |
| 2. | BHSS Bhaderwah |
| 3. | GHSS Bhagwah |
| 4. | HSS (G) Doda |
| 5. | HSS Boys Doda |
| 6. | HSS Malanoo |
| 7. | GHSS Assar |
| 8. | HSS Kastigarh |

There were 1459 schools in district Doda (Elementary Education Report Card 2015-16). A meagre percentage of (7%) schools were having facility of computers in 2014-15 and 7.5% in 2015-16. Only 12% of schools have electricity facility in 2014-15 whereas as 13.2% in 2015-16. Out of 1459 schools 8 Schools were taken under the Smart Classroom scheme. i.e., 0.54%.Only higher secondary schools included in Smart classroom scheme.

Table 5: Shows the Schools with Smart Classroom in District Budgam

| District Budgam | |
|-----------------|----------------|
| 1. | GHSS Narbal |
| 2. | BHSS Beerwah |
| 3. | BHSS Ichigam |
| 4. | GHSS Badgam |
| 5. | HSS Chandoora |
| 6. | BHSS Surayasar |
| 7. | BHSS Surasyar |
| 8. | HSS Zohama |

| | |
|-----|----------------|
| 9. | BHSS Khnasahib |
| 10. | HSS Arigam |

In district Budgam there were 1468 schools (Elementary Education Report Card 2015-16). Only (13.9%) schools were having computer facility 2014-15 and in 2015-16 it reached to 14.6%. In 2014-15 only 16.5% of schools were found to have electricity facility and 17% in 2015-16. Out of 1468 schools 10 Schools were taken under the Smart Classroom scheme. i.e., 0.68%, without including Primary, Middle or High schools.

Table 6: Shows the Schools with Smart Classroom in District Jammu

| District Jammu | |
|----------------|---------------------|
| 1. | GHSS Akhnoor |
| 2. | BHSS Akhnoor |
| 3. | GHSS Arnia |
| 4. | BHSS Bishnah |
| 5. | HSS Dhakar |
| 6. | HSS Pallanwala |
| 7. | HSS Chhani Himmat |
| 8. | GHSS Shastrinagar |
| 9. | HSS Harisingh |
| 10. | GHSS Canal Road |
| 11. | BHSS Bakshi Nagar |
| 12. | HSS Marh |
| 13. | HSS Jhiri |
| 14. | HSS Kandoli Nagrota |
| 15. | HSS Surinsar |
| 16. | BHSS R. S. Pura |
| 17. | GHSS Miran Sahib |
| 18. | HSS Domana |
| 19. | HSS Bhalwal |
| 20. | HSS Chakrohi |
| 21. | HSS Sai |

Highest number 2408 schools were present in district Jammu as compared the other all districts in Jammu and Kashmir (Elementary Education Report Card 2015-16). Among these 35.8% schools were having computer facility 2014-15 and 36.4% in 2015-16. An impressive percentage of (61.7%) of schools have electricity facility in 2014-15 while as 61.2% in 2015-16. Out of 2408 schools 21 Schools were taken under the Smart Classroom

scheme. i.e., 0.87%. The report shows the maximum number of higher secondary schools included in the scheme.

Table 7: Shows the Schools with Smart Classroom in District Ganderbal

| District Ganderbal | |
|--------------------|-----------------|
| 1. | BHSS Ganderbal |
| 2. | GHSS Ganderbal |
| 3. | BHSS Chattergul |
| 4. | BHSS Manigam |
| 5. | GHSS Kangan |
| 6. | BHSS Safapora |

There were 675 schools in district Ganderbal (Elementary Education Report Card 2015-16). The 18.1% schools were having computer facility 2014-15 and 19.4% in 2015-16. 21.5% of schools have electricity facility in 2014-15 while as 23% in 2015-16. Out of 675 schools only 6 Schools were taken under the Smart Classroom scheme. i.e., 0.88% Furthermore, all the Higher Secondary schools in the district was included in Smart classroom scheme.

Table 8: Shows the Schools with Smart Classroom in District Kargil

| District Kargil | |
|-----------------|------------------|
| 1. | HSS Drass |
| 2. | Girls HSS Kargil |
| 3. | BHSS Kargil |
| 4. | HSS Shargole |
| 5. | HSS Silmoo |
| 6. | HSS Panikhar |
| 7. | HSS Padam |
| 8. | HSS Sankoo |
| 9. | HS Zangla |

In district Kargil there were 586 schools (Elementary Education Report Card 2015-16). The 21.6% schools were found to have computer facility 2014-15 and little increase 22.2% in 2015-16. Only 6.9% of schools have electricity facility in 2014-15 while as 7.7% in 2015-16. Out of 586 schools 9 Schools were taken under the Smart Classroom scheme. i.e, 1.53 % Moreover, no Primary and Middle school have been taken under this scheme.

Table 9: Shows the Schools with Smart Classroom in District Kuthua

| District Kuthua | |
|-----------------|--------------------|
| 1. | GHSS Badnota |
| 2. | HSS Bhoond |
| 3. | HSS Plassi |
| 4. | HSS Hatli |
| 5. | HSS Mahanpur |
| 6. | GHSS Ram Kot |
| 7. | HSS Nagrota Gujru |
| 8. | HSS Billawar |
| 9. | HSS Bhaddu |
| 10. | GHSS Hiranagar |
| 11. | HSS (Boys) Kathua |
| 12. | HSS (Girls) Kathua |

In district Kathua there were 1758 schools (Elementary Education Report Card 2015-16). The 13.6% schools were found to have computer facility in 2014-15 and 14% in 2015-16. 35.2% of schools have electricity facility in 2014-15 whereas as 39.2% in 2015-16. Out of 1758 schools 12 Schools were taken under the Smart Classroom scheme. i.e., 0.68%. Primary, Middle and High schools were not included in Smart classroom scheme.

Table 10: Shows the Schools with Smart Classroom in District Kishtwar

| District Kishtwar | |
|-------------------|---------------|
| 1 | GHSS Sarthal |
| 2 | HSS Chatroo |
| 3 | GHSS Kishtwar |
| 4 | BHSS Kishtwar |

There were 874 schools in district Kishtwar (Elementary Education Report Card 2015-16). The 7.9% schools were having computer facility in 2014-15 and 9.2% in 2015-16. However, 10.4% of schools have electricity facility in 2014-15 while as 11.6% in 2015- 16. Out of 874 schools only 4 higher secondary schools were taken under the Smart Classroom scheme. I.e. 0.45%.

Table 11: Shows the Schools with Smart Classroom in District Kulgam

| District Kulgam | |
|-----------------|-----------------|
| 1. | HSS Devsar |
| 2. | HSS Kilam |
| 3. | HS Mohmmad Pura |
| 4. | HSS Yaripora |
| 5. | HSS Qaimoh |
| 6. | BHSS Kulgam |
| 7. | GHSS Kulgam |
| 8. | HSS D K Marg |
| 9. | HSS D H Pora |

There were 970 schools in district Kulgam (Elementary Education Report Card 2015-16). The 13.8% schools were having computer facility 2014-15 and 14.6% in 2015-16. On the other hand, 21.3% of schools have electricity facility in 2014-15 whereas as 18.2% in 2015-16. Out of these 970 schools only 9 higher secondary schools are taken under the Smart Classroom scheme. i.e. 0.92%.

Table 12: Shows the Schools with Smart Classroom in District Kupwara

| District Kupwara | |
|------------------|------------------|
| 1. | BHSS Nagimalpora |
| 2. | BHSS Handwara |
| 3. | BHSS Teetwal |
| 4. | HSS Tangdar |
| 5. | HSS Kralpora |
| 6. | BHSS Kupwara |
| 7. | BHSS Kupwara |
| 8. | BHSS Langate |
| 9. | HSS Qalamabad |
| 10. | BHSS Sogam |
| 11. | HSS Lalpora |

There were 2076 schools in district Kupwara (Elementary Education Report Card 2015-16). The 8.1% schools were having computer facility 2014-15 and 8.3% in 2015-16. However, 7% of schools found to have electricity facility in 2014-15 while as 9.1% in 2015-16. Out of 2076 schools 11 Schools were taken under the Smart Classroom scheme. i.e., 0.52% Primary, Middle or High schools were not included in this scheme.

Table 13: Shows the Schools with Smart Classroom in District Leh

| District Leh | |
|--------------|-------------------|
| 1. | HS Chushod Gongma |
| 2. | HSS Saspol |
| 3. | HSS Chuchot |
| 4. | BHSS Leh |
| 5. | HSS Nyoma |
| 6. | HSS Turtuk |
| 7. | HSS Diskit |

In district Leh there were 375 schools (Elementary Education Report Card 2015-16). The 39.2% schools were found to have computer facility 2014-15 and 40.3% in 2015-16. 26.8% of schools have electricity facility in 2014-15 while as 29.6% in 2015-16. Out of 375 schools 7 Schools were taken under the Smart Classroom scheme. i.e., 1.86%. Still, only higher secondary schools have been taken under this scheme.

Table 14: Shows the Schools with Smart Classroom in District Poonch

| District Poonch | |
|-----------------|----------------|
| 1. | HSS Mandi |
| 2. | GHSS Poonch |
| 3. | BHSS Poonch |
| 4. | HSS Harni |
| 5. | GHSS Mendhar |
| 6. | GHSS Surankote |
| 7. | HSS Lathung |

District Poonch found to have 1693 schools (Elementary Education Report Card 2015-16). The 7.8% schools were having computer facility 2014-15 and 8.7% in 2015-16. 10.1% of schools have electricity facility in 2014-15 while as 13.7% in 2015-16. Out of total 1693 schools only 7 higher secondary schools were taken under the Smart Classroom scheme. i.e., 0.41%.

Table 15: Shows the Schools with Smart Classroom in District Pulwama

| 1. District Pulwama | |
|---------------------|----------------|
| 2. | HSS Ratinipora |
| 3. | BHSS Pampore |
| 4. | HSS Tokuna |
| 5. | BHSS Litter |

| | |
|-----|----------------|
| 6. | HSS Gulzarpora |
| 7. | HSS Hawl |
| 8. | HSS Rajpora |
| 9. | HSS Noorpora |
| 10. | HSS Loragam |
| 11. | Girls HSS Tral |

There were 1028 schools in district Pulwama (Elementary Education Report Card 2015-16). The 18.1% schools were found to have computer facility in 2014-15 and 19.1% in 2015-16. On the other hand, 21% of schools have electricity facility in 2014-15 while as 21.9% in 2015-16. Out of 1028 schools 10 Schools were taken under the Smart Classroom scheme. i.e., 0.97%. No Primary, Middle and High schools have been taken under this scheme.

Table 16: Shows the Schools with Smart Classroom in District Rajouri

| 1. District Rajouri | |
|---------------------|-----------------|
| 2. | HSS Budhal |
| 3. | BHSS Darhal |
| 4. | HSS Kotranka |
| 5. | HSS Dhangri |
| 6. | HSS Sial Sui |
| 7. | HSS Moughla |
| 8. | BHSS Nowshera |
| 9. | GHSS Sunderbani |
| 10. | HSS Lamberi |
| 11. | BHSS Thanamandi |
| 12. | BHSS Rajouri |

District Rajouri reported to have strength of 1967 schools (Elementary Education Report Card 2015-16). In 2014-15 the said district found to have 15.8% schools having computer facility and 16.1% in the consecutive years i.e. 2015-16. However, 22.5% of schools have electricity facility in 2014-15 while as 23.5% in 2015-16. Out of these 1967 schools 11 Schools were taken under the Smart Classroom scheme. i.e., 0.55%. Primary Middle or High schools have not been taken under this scheme.

Table 17: Shows the Schools with Smart Classroom in District Ramban

| District Ramban | |
|-----------------|----------------|
| 1. | HSS Neel |
| 2. | HSS Ukharhal |
| 3. | BHSS Banihal |
| 4. | HSS Thatharaka |
| 5. | Govt HSS Gool |
| 6. | HSS Batote |
| 7. | HSS Ramban |

There were 924 schools in district Ramban according to (Elementary Education Report Card 2015-16). The 8.5% schools were having computer facility 2014-15 and 8.9% in 2015-16. But only 13.7% schools found to have electricity facility in 2014-15 while as a good increase in 2015-16 i.e. 40.4%. Out of 924 schools 7 Schools were taken under the Smart Classroom scheme. i.e, 0.75%. Primary, Middle, or High school have not been taken under this scheme.

Table 18: Shows the Schools with Smart Classroom in District Reasi

| District Reasi | |
|----------------|-----------------|
| 1. | HSS Dharmari |
| 2. | HSS Channa |
| 3. | HSS Gulabgarh |
| 4. | Girls HSS Reasi |
| 5. | HSS Katra |
| 6. | HSS Pouni |

There were 1201 schools in district Reasi (Elementary Education Report Card 2015-16). The 9.7% schools were having computer facility 2014-15 and 9.7% in 2015-16. 18% of schools reported to have electricity facility in 2014-15 while as 22.6% in 2015-16. Out of 1201 schools only 6 Schools were taken under the Smart Classroom scheme. i.e., 0.49%. Additionally, schools taken under this scheme are only Higher Secondary Schools.

Table 19: Shows the Schools with Smart Classroom in District Samba

| District Samba | |
|----------------|------------------|
| 1. | HSS Rajpura |
| 2. | HSS Ghagwal |
| 3. | HSS Utter Behani |
| 4. | GHSS Samba |
| 5. | BHSS Samba |

| | |
|----|------------------|
| 6. | Govt HSS Samba |
| 7. | Govt HSS Ramgarh |

District Samba found to have strength of 687 schools (Elementary Education Report Card 2015-16). The 35.3% schools were having computer facility in 2014-15 and 36.5% in 2015-16. However, 72.8% of schools have electricity facility in 2014-15 while as 79.3% in 2015-16. Out of 687 schools 7 Schools were taken under the Smart Classroom scheme. i.e., 1.01%. Moreover, no Primary, Middle or High school has been taken under this scheme.

Table 20: Shows the Schools with Smart Classroom in District Shopian

| District Shopian | |
|------------------|---------------|
| 1. | HSS Keller |
| 2. | GHSS Shopian |
| 3. | BHSS Keegam |
| 4. | GHS Zainapora |
| 5. | HS Watchi |
| 6. | HSS Barbugh |
| 7. | HSS Zainapora |

There were 646 schools in district Shopian (Elementary Education Report Card 2015-16). Reports showed that 18.7% schools were found to have computer facility 2014-15 and 20.1% in 2015-16. On the other hand 17.4% of schools reported to have electricity facility in 2014-15 while as 28.3% in 2015-16. Out of 646 schools 7 higher secondary schools were taken under the Smart Classroom scheme. i.e., 1.08%.

Table 21: Shows the Schools with Smart Classroom in District Srinagar

| | |
|-----|--------------------|
| 1. | District Srinagar |
| 2. | GHSS Kothibagh |
| 3. | BHSS Jawahar Nagar |
| 4. | GHSS Rajbagh |
| 5. | BHSS Mujgund |
| 6. | GHSS Amira kadal |
| 7. | HS Fateh kadal |
| 8. | BHSS Hazratbal |
| 9. | BHSS Teilbal |
| 10. | BHSS Palpora |

| | |
|-----|---------------|
| 11. | GHSS Khanyar |
| 12. | GHSS Nowhatta |
| 13. | GHSS Sonwar |
| 14. | BHSS Shalimar |
| 15. | GHSS Zadibal |
| 16. | BHSS Soura |

District Srinagar reported to have 985 schools according to (Elementary Education Report Card 2015-16). In 2014-15 the said district found to have 48.6% schools having computer facility and reached to 50.9% in 2015-16. However, 60.6% of schools reported to have electricity facility in 2014-15 while as 61.4% in 2015-16. Out of 985 schools 15 Schools were taken under the Smart Classroom scheme. i.e., 1.52%. Besides, no Primary and Middle school have been taken under this scheme.

Table 22: Shows the Schools with Smart Classroom in District Udhampur

| 1. District Udhampur | |
|----------------------|----------------------|
| 2. | HSS Latti |
| 3. | HSS Panchari |
| 4. | HSS Chowki |
| 5. | HSS Jaganoo |
| 6. | HSS (BOYS) Udhampur |
| 7. | HSS (GIRLS) Udhampur |

There were 1745 schools in district Udhampur (Elementary Education Report Card 2015-16). The 25.9% schools were having computer facility 2014-15 and 29.5% in 2015-16. 98.4% of schools have electricity facility in 2014-15 while as 98.4% in 2015-16. Out of 1745 schools only 6 higher secondary schools were taken under the Smart Classroom scheme. i.e., 0.34% .

Moreover, the Jammu and Kashmir bank provided an aid get two schools equipped with smart classroom facilities viz. Govt. Boys Higher Secondary School, Bijbehara and Govt. Girls Higher Secondary School Ranibagh, Anantnag.

Table 23: Shows the Cost of Per Smart Classroom Set Up

| Items | Unit price |
|--|------------|
| Interactive boards | 35000 |
| Visual presenter (Portable Type) | 35000 |
| LCD Projectors | 45000 |
| Laptop with i ₃ Configuration | 45000 |

| | |
|------------------------------------|--------|
| 3KVA UPS with 1 hour backup | 75000 |
| Total | 235000 |

The state is in desperate need of Job-oriented educational courses, for which state government has engaged various institutions of national reputed to train teachers, ICT enabled teaching in schools, as well as starting vocational courses for skill development. For this Education department has signed an aggregation of Memorandum of Understandings (MoUs) with National Institute of Open Schools (NIOS), National Institute of Electronics and Information Technology (NIELIT), National Skill Development Corporation (NSDC), Indira Gandhi National Open University (IGNOU) to convert schools into tactically and operationally efficient resources. The NIOS, as per memorandum, has to train 5000 untrained teachers from the state through distance mode; NIELIT chose to be knowledge partner under RMSA to make schools ICT enabled.

The ICT involves use of computer based teaching and learning in schools to prepare students for future challenges in technological advancement. National Skill Development Corporation(NSDC) helped the state government in introducing vocational courses in schools. Under this programme 132 schools (six schools from each district) were taken up in the 1st phase. In 2016, 2nd phase, it came with 440 schools with 20 from each district of the state. NSDC has provided logistic support for introducing vocational education in schools. It has facilitated capacity building of the teachers by providing them adequate training as well as recruiting vocational education teachers. IGNOU has to provide B.Ed. training to government teachers, 2000 teachers have been deputed to get training in 1st phase.

In a 2-day Northern Region workshop, the State Project Director, SSA, J&K had given a brief outlook of smart classes and e-learning. Till 2016 J&K had set up 440 schools with smart classrooms facilities. Out of 440, about 300 schools had been equipped with 4G internet connectivity. Training in e-learning had been given to more than 34000 school teachers. In 2017, J&K has taken this project ahead by taking about 1000 schools.

1.2. PROBLEMS IN SMART CLASSROOM FUNCTION IN JAMMU AND KASHMIR

The Smart Classroom concept propounded by the state government has failed to take off in maximum parts of the state due to the numerous of causes that hinders optimisation of ICT reserves in schools, nevertheless pre-requisite for spread as well as progress of ICT tools in our state (Jammu and Kashmir) is a time-consuming telecommunication network. If it is available, same have been utilized for some other purpose. Other factors are:

1. Basic infrastructure-related inadequacies
 - a. small-size classrooms,
 - b. non-availability of continuous electricity,
 - c. non-availability technicians for maintenance,
 - d. poor organisations of resources,
 - e. sub-standard quality of hardware,
 - f. inappropriate software,
 - g. insufficient time.
2. Mind-set of a teacher towards implementation of ICT.
3. Unceasing Internet facilities.

Out of these problems we have discussed the major two in our paper i.e., SHORTAGE OF ELECTRICITY & INTERNET AVAILABILITY in detail.

1.2.1. SHORTAGE OF ELECTRICITY

It is one of the main challenge for the for the implementation of smart classroom in Jammu and Kashmir. In this state there are frequent power cuts. From “*Elementary Education Report Card 2015-16*” it can be well inferred that in our state the meagre number of schools have electricity. As per data available out of total 28578 schools in J&K only 8087 schools have power supply while as 20491 are still lacking power facility.

Only 28.3% schools have power supply in our state as per a national survey while in the country 57.3% have electricity connections. Here is the district wise information about electricity facility in schools.

Table 24: District Wise Information about Electricity Facility in Schools of J&K

| Elementary Education Report Card 2015-16 | | | | |
|--|---------------|--------------------------|-----------------------|-------------------------|
| District | Total Schools | % of Electrified Schools | % of Smart Classrooms | Rank in Electrification |
| Jammu and Kashmir | 28578 | 28.3 | 0.76 | |
| KASHMIR DIVISION | | | | |
| Anantnag | 1885 | 19.5 | 0.79 | 14 |
| Bandipora | 858 | 11.1 | 1.04 | 20 |
| Baramulla | 2310 | 35.4 | 0.77 | 7 |
| Budgam | 1468 | 17 | 0.68 | 16 |
| Doda | 1459 | 13.2 | 0.54 | 18 |
| Ganderbal | 675 | 23 | 0.88 | 11 |
| Kulgam | 970 | 18.2 | 0.92 | 15 |
| Kupwara | 2076 | 9.1 | 0.52 | 21 |
| Pulwama | 1028 | 21.9 | 0.97 | 13 |
| Shopian | 646 | 28.3 | 1.08 | 9 |
| Srinagar | 985 | 61.4 | 1.52 | 3 |
| JAMMU DIVISION | | | | |
| Jammu | 2408 | 61.2 | 0.87 | 4 |
| Kathua | 1758 | 39.2 | 0.68 | 6 |
| Kishtwar | 874 | 11.6 | 0.45 | 19 |
| Poonch | 1693 | 13.7 | 0.41 | 17 |
| Rajouri | 1967 | 23.5 | 0.55 | 10 |
| Ramban | 924 | 40.4 | 0.75 | 5 |
| Reasi | 1201 | 22.6 | 0.49 | 12 |
| Samba | 687 | 79.3 | 1.01 | 2 |
| Udhampur | 1745 | 98.4 | 0.34 | 1 |

| LADAKH DIVISION | | | | |
|-----------------|-----|------|------|----|
| Kargil | 586 | 7.7 | 1.53 | 22 |
| Leh | 375 | 29.6 | 1.86 | 8 |

It can be predicted from the table that high electrified schools fall in Jammu Division than in Kashmir Division. In Udhampur district of Jammu division 1717 schools out of total 1745 have power supply and 545 of 687 schools in Samba district have the same facility. The Jammu Division has about 43.32% schools electrified while as the Kashmir Division has about 23.46% of schools with power facility.

The Udhampur is the first district in the state which has highest number of electrified schools while as Kargil lies at the bottom of the list. The tabled showed the figures in combined form of public and private schools. The Table 25 below showed the percentage status of Government schools only.

Table 25: Electrification Status in Government Schools of J&K

| JAMMU DIVISION | | | | KASHMIR DIVISION | | | |
|----------------|---------------|-----------------|-------------------------|------------------|---------------|-----------------|-------------------------|
| Place | Total Schools | Power Available | % of Schools with power | Place | Total Schools | Power Available | % of Schools with power |
| Doda | 1253 | 138 | 11.01 | Anantnag | 1499 | 214 | 14.27 |
| Jammu | 1523 | 739 | 48.5 | Bandipora | 770 | 70 | 9.09 |
| Kathua | 1422 | 414 | 29.11 | Baramulla | 1927 | 735 | 38.14 |
| Kishtwar | 797 | 75 | 9.41 | Budgam | 1226 | 126 | 10.27 |
| Poonch | 1477 | 134 | 9.07 | Ganderbal | 555 | 106 | 19.09 |
| Ramban | 835 | 476 | 57.00 | Pulwama | 811 | 134 | 16.52 |
| Rajouri | 1695 | 273 | 16.1 | Shopian | 497 | 113 | 22.73 |
| Reasi | 1121 | 237 | 21.41 | Srinagar | 490 | 189 | 38.57 |
| Samba | 477 | 113 | 23.68 | Kulgam | 782 | 218 | 27.87 |
| Udhampur | 1500 | 364 | 24.26 | Kupwara | 1796 | 173 | 9.63 |
| Kargil | 527 | 55 | 10.43 | Leh/Ladakh | 286 | 56 | 19.58 |

The Table 25 shows the power facilities in the government schools of Jammu and Kashmir. From this data it is exposed that highest percentage of government schools with power supply fall in Jammu Division. The district Ramban is having greater percentage of government schools with power supply while as district Poonch is lowest in Jammu division as well as in the state. On the other hand the available data depicts that the district Srinagar is having greater percentage of government schools with power supply whereas as district Bandipora is lowest in Kashmir division.

1.2.2. INTERNET AVAILABILITY

Cases of Internet cessations in India, the state forced blanket bars on access to internet facilities, either fixed line or mobile, are rising at a worrying speed. Internet is a significant enabler of many fundamental rights, comprising of right to education, freedom of speech and expression. Beside being a means of communication, it

has also been involved in booming the economy, increasing education, emergency facilities as well as diaspora of e-governance plans. Life is now reliant on the accessibility of digital communications all over India, so is the case in this state (Jammu and Kashmir). All the aspects of human dealings in education, business processes, within and between firms, in day to day life also dependent on it.

Table 26: Shows the Report (Number of Times in a Each year) of Internet Blockage in Jammu and Kashmir and in India

| Year | Jammu & Kashmir | India | |
|------|-----------------|-------|---|
| 2018 | 8 (appx.) | 11 | |
| 2017 | 60 | 70 | |
| 2016 | 10 | 31 | Longest one, 90 days commination banned |
| 2015 | 5 | 14 | |
| 2014 | 5 | 6 | |
| 2013 | 5 | 5 | |
| 2012 | 3 | 3 | |

Our state has always remained in highlights due to unrest here. Although the State government has taken many initiatives to digitalize the education but has fail in implementing them. In the present age, the age of technology, as oxygen is important to life so has important internet to business, education and governance. Internet shutdown in Kashmir has reached to a new peak. The attack of repeated suspensions of internet has hit implication of ICT based education. Here is the report how many time J&K has been barred from internet in last few years as compared to the total number of blockage in all over India.

IV.CONCLUSION

The ICT includes the use of computer-based teaching and learning in the educational institutions to prepare the learners for the future difficulties in the technological development. Smart Classroom were introduced that slowly transformed the conventional classrooms to an advanced student-centric online learning environment. It was an important move that can turn a new face in the education system of Jammu and Kashmir. The present study is a effortful attempt to explain the overall status of the changing face of classroom (Smart Classroom) in all districts of Jammu and Kashmir State viz a viz.its introduction, implementation, facilitation and its main set back like unavailability and unsatisfactory conditions of electricity supply and on the other hand Internet blockage which makes difficult to prevail digital environment throughout all corners of the State of Jammu and Kashmir.

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