Perception of Higher Secondary School Teachers on Smart Classroom Teaching and Its Impact on Students' Learning Outcome

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ABSTRACT

The purpose of this study is to examine higher secondary school teachers' perceptions of smart classroom teaching and its impact on students' learning outcomes. The "Adhunik Siksha Yojna" initiative by the Department of Higher Education, Arunachal Pradesh, aims to enhance the quality of the teaching-learning process through the integration of smart classroom technologies. A descriptive survey method was employed using a self-designed questionnaire, and data were collected from a randomly selected sample of 30 teachers from six higher secondary schools across three districts: Changlang, Longding and Namsai. The findings reveal that over 90% of the classrooms are not yet adequately equipped to be considered smart classrooms. However, there has been noticeable progress in the number of smart classrooms compared to the previous year. Although many classrooms still require substantial upgrades, the implementation of the "Adhunik Siksha Yojna" provides optimism that the transformation to smart classrooms across the region will be achieved in the near future.

Keywords- Smart Classroom, Teachers' Perception, Teaching-Learning Process, Students' Learning Outcomes.

I.   INTRODUCTION

Education is the process which enables the individuals in developing its capacities and potentials to be successful in every sphere of life. India is a developing country and to compete with the other nations the standard of education is need to uplift. And this upliftment of education is only possible with the integration of smart devices and technology in class learning. Use of audio-visual devices in education makes the learning more effective and efficient. We live in a technological era where every little thing is done by using gadgets. Use of technological devices in classroom teaching help in improving the quality of education, student's level of learning mostly dependent upon the methodology used by the teachers. Use of technological devices in classroom teaching will improve the quality of the education. Learning is not how much one can cramp up. It is rather the knowledge the remains with the pupil by his/her understanding. Thus, it is emphasized on learning the concept with the help of visuals and activities. By keeping such views, the smart classes were established.

Smart classroom is technology enhanced classrooms that foster opportunities for teaching and learning by integrating learning technology and for greater learning and teaching, such as computers, specialized, audio/visual

capabilities. Classroom services leads the support, design, and planning for campus learning spaces. Smart classroom is the new paradigm of the teaching learning process. It is a solution designed to help teacher in meeting with the new challenges and developing student abilities and performance. It helps the teachers to access multimedia content and information that can use for teaching students more effectively. Smart class is an advanced technological implementation for school, which process tools and other contents for the students learning using latest media presentation. The smart classroom integrates voice-recognition, computer vision and other technologies to provide a Tele-education experience similar to a real classroom experience. These classrooms are also called digital or new media classrooms. The use of technological device in teaching enhances the quality of education. It also helps in developing creative thinking among the lead to better understanding of the content in an interactive manner.

Smart Classroom as the Paradigm Shift in Teaching-Learning Process

Human society keeps on changing according to the development in the society there is no static phase where everything remains stagnant. As the society changes it demands transition in every aspect of life. Smart classroom is a transition in teaching and learning which is a contributed by technological advancement. If we see ancient teaching style there was not many teaching strategies like we have now. At those time the teaching and learning was monotonous and boring due to strict rules and regulations the students would not complaint about the teaching, it was duty of the student to follow the steps of the teacher without any disagreements. But it has changed now the interest of the teacher has been shifted to the students whole teaching revolves around the students. The aim of education is the mental, physical, social, economic and cultural development of the students including normal and special through integrating technological aids to fulfill the needs of students in teaching and learning environment. Smart classroom provide exposure to the teaching as well as to the learners. Since the smart classroom call as the new paradigm of teaching learning process, it can be seen that there are many advantages of the smart class room:

i. It is innovative method of instruction. The virtual classroom transcends the boundaries of location, time and space providing a flexible leaning environment.

ii. It has the potentials to cater the needs of every single student since it works at an individual level. Keeps the student focused on learning.

iii. The teachers can easily assess students understanding. It encourages peer work. It is based on modern learning principles. Teachers can place power points and notes online for students.

iv. A well-designed module allows a student to visualize the concept much better than static images. It is creative and unique method of learning things.

v. Teacher can design their own modules and bring relevant modifications if required. Immediate feedbacks and suggestion are possible through this method.

According to the projects, 713 Government run schools will be covered that includes 100 Higher Secondary Schools, 182 Secondary Schools, 178 Upper Primary Schools and 253 Primary Schools. And 21 Master Trainer and 1097 Teachers across 21 Districts have been imparted training on 'Smart Classroom', out of which 103 Teachers are from state capital region. Smart classroom was launched to give a big push to Arunachal's education sector ushering in a bright future for the coming generation. But how much this project will boost the education scenario of Arunachal will only know in upcoming period of time.

Guidelines for implementation of "Adhunik Pathshala Yojana" in Arunachal Pradesh

i. "The Chief Minister's Adhunik Shiksha Yojana" has seen the installation of smart classroom program in over 717 classrooms in the state and has seen an enthusiastic responds of students and teachers.

ii. This scheme will be expanded further this year and one model residential school will be established in each district by upgrading the facility of existing secondary/higher secondary school. It will include provision of a high-tech computer laboratory with laptops and free Wi-Fi.

iii. The Divisional Commissioner and the Deputy Commissioner would be personally responsible for monitoring the outcome of these schools. Admission to these schools shall be through District Level Entrance Exams and the best teachers of the district shall be deployed there. A special grant will be provided for running hostel facilities and I am proposing to earmark an additional allocation of Rs. 25 Crores for this purpose."

Digital India program focuses on all sectors including Education. Many states in the country have adopted improved methods of teaching through IT and modern approach. Smart classroom is one of such methods. The state of Arunachal Pradesh is lagging behind in this matter. The state to needs to catch up with rest of the country's in adopting modern approach towards teaching and learning processes. The states' Education Department has therefore proposed to take up the modernization of teaching through new IT method during 2017-18 (Budget Speech Document 2018-2019, Adhunik Pathshala Yojana, Govt. of Arunachal Pradesh).

II.   REVIEW OF RELATED LITERATURE

Smart classroom teaching involves the integration of modern educational technologies such as interactive whiteboards, LCD projectors, multimedia content, and learning management systems into traditional classroom settings to

enhance the quality and effectiveness of teaching and learning. These tools are designed to foster student engagement, support personalized learning pathways, and improve knowledge retention. Moreover, this mode of teaching encourages a shift from conventional teacher-led instruction to a more student-centered pedagogical approach. Various studies, including those by **Ghosh (2020) and Kumar & Sharma (2019),** have emphasized the transformative potential of smart classrooms in raising academic performance and creating interactive learning environments.

Teachers' attitudes and perceptions play a pivotal role in the successful implementation of smart classroom technologies. Research indicates that a teacher's willingness to adopt and integrate ICT tools in the classroom is strongly influenced by factors such as their digital literacy, previous training, institutional encouragement, and technical support mechanisms. **Rana et al. (2018)** highlighted that without adequate training and consistent support, even technologically well-equipped classrooms may not yield the desired educational outcomes. Therefore, addressing teachers' professional development needs and providing infrastructural support are essential for mainstreaming smart education practices.

A focused study conducted by **Rao (2021)** in Northeast India revealed that secondary school teachers generally view smart classrooms positively. The technology was especially appreciated for its ability to simplify complex concepts, enhance visual and auditory learning experiences, and improve the assessment process. Despite this positive outlook, challenges such as inadequate training sessions and limited access to timely technical support were frequently cited as barriers to optimal utilization of smart classroom tools.

In a broader Indian context, **Mishra & Thomas (2020)** found that teachers working in rural and semi-urban regions often encounter substantial barriers to adopting smart classroom practices. These include poor infrastructural facilities, erratic electricity supply, and inconsistent internet connectivity. Such conditions lead to mixed perceptions and uneven implementation of smart classroom tools, thereby widening the digital divide between urban and rural educational institutions.

A significant study conducted by **Das et al. (2021)** in Assam revealed that students who were taught in smart classrooms outperformed their peers from traditional classroom settings in terms of conceptual understanding and critical thinking. This finding supports the argument that when properly implemented, smart classroom methodologies can foster deeper cognitive engagement and more effective learning outcomes among students.

In Arunachal Pradesh, the uptake of digital education tools has been gradually increasing, supported by national schemes such as RMSA (Rashtriya Madhyamik Shiksha Abhiyan), Samagra Shiksha Abhiyan, and the Digital India initiative. The region's geographical challenges, including hilly terrains and remote tribal communities, have historically posed obstacles to digital expansion. However, the National Education Policy (NEP) 2020 has underscored the importance of digitizing education, particularly in rural and underserved areas, thereby giving renewed impetus to the adoption of smart classroom infrastructure.

Changlang district, known for its mix of urban and rural settings and ethnically diverse population, has seen moderate integration of ICT in its educational institutions. According to a survey **by Singpho et al. (2022),** teachers in higher secondary schools across the Bordumsa and Miao blocks reported that smart classrooms were especially beneficial for teaching science subjects and conducting multilingual instruction. However, irregular electricity supply and poor internet connectivity remained significant barriers. On a positive note, students responded enthusiastically to smart-enabled classes, particularly in visually intensive subjects such as biology and geography.

Longding, being a remote and relatively underdeveloped district, faces substantial challenges in implementing smart education. A field report by *The Arunachal Times* **(2021)** documented that higher secondary schools in the region lacked even basic smart classroom infrastructure. Although teachers expressed openness to adopting digital tools in their teaching practices, they highlighted the absence of proper training and resource accessibility. Notably, a pilot project led by a local NGO introduced tablet-based learning in one school. This initiative was met with positive student feedback, indicating potential benefits, but the lack of scalability and support structures limited its broader implementation.

Namsai, due to its geographical proximity to Assam and comparatively better road and digital infrastructure, has emerged as one of the more progressive districts in Arunachal Pradesh in terms of smart classroom adoption. A study by **Taye & Darang (2023)** reported that several schools in Namsai town and the Chongkham area have successfully established operational smart classrooms under the RMSA scheme. Teachers noted that these smart environments led to more interactive lessons and improved student attendance. Nevertheless, challenges persisted in the form of irregular technical maintenance, which occasionally disrupted classroom operations.

Research Gaps

Despite the growing body of literature emphasizing the benefits of smart classroom teaching, several research gaps remain evident. Most existing studies focus broadly on technological integration and its outcomes but often overlook region-specific challenges and the nuanced perceptions of teachers in geographically and infrastructurally diverse areas like Arunachal Pradesh. While positive impacts on student engagement and performance have been noted, limited attention has been given to systematically evaluating the correlation between teachers' perceptions and actual student learning outcomes, especially in under-resourced districts. Moreover, there is a lack of longitudinal studies examining how sustained use of smart classroom tools influences pedagogical practices and learning trajectories over time. In particular, gaps exist in understanding how infrastructural constraints, training inadequacies and socio-cultural dynamics affect the

implementation and effectiveness of smart classrooms at the higher secondary level in remote and tribal regions such as Longding, Changlang and Namsai.

Significance of the Study

Arunachal Pradesh is one of the states of the North-East India which lacks the smart classroom and smart teaching environment especially in the schools of rural areas. Researcher have done number of studies on smart classroom, its effectiveness in classroom learning, role of smart classroom in the academic achievement in India as well as abroad. But no research has been done on the attitude and awareness of higher secondary school teachers and students towards smart classroom context of Arunachal Pradesh. The researcher intends to carry out research in three Districts of Arunachal Pradesh about the perception of higher secondary school teachers on smart classroom teaching and its impact on student's learning outcome in Arunachal Pradesh.

The study helps to aims at developing the learning ability of the learners and to develop skill to both teachers and students in using technology in appropriate way which gives new direction to teaching learning process:

i. It makes teaching process more interactive and E-learning and smart classroom aims at developing the students to learning ability as the entire chapters become more interesting to study.
ii. Smart classroom with online access can provide students with ready access to detailed information on any topic.
iii. With the help of smart classroom, we can reduce the carbon footprint by reducing the use of pen and paper in classroom learning.

Objectives of the Study

i. To assess the attitude of Higher Secondary School teachers in Longding, Namsai, and Changlang District of Arunachal Pradesh towards Smart Classroom teaching with regard to location and training.
ii. To investigate on the knowledge and awareness of Smart Classroom teaching among the Higher Secondary School teachers in Longding, Namsai, and Changlang District of Arunachal Pradesh in relation to location and training.

Research Hypotheses

Ho1: There is no significant difference between the attitude of female and male Higher Secondary Schools' teachers in Longding, Namsai, and Changlang District of Arunachal Pradesh towards Smart Classroom teaching.

Ho2: There is no significant difference between attitude of Rural and Urban Secondary Schools' teachers in Longding, Namsai, and Changlang District of Arunachal Pradesh towards Smart Classroom teaching.

Ho3: There is no significant difference between the attitude of Trained and Untrained Secondary School teacher in Longding, Namsai, and Changlang District of Arunachal Pradesh towards Smart Classroom teaching.

III.   METHODOLOGY

The researcher had adopted the descriptive method and attempted to study the attitude and awareness on higher secondary school teachers towards smart classroom of Arunachal Pradesh along with other information of the school. The target population of the study is higher secondary school and higher secondary school teachers. Out of 100 Higher Secondary Schools in Arunachal Pradesh there are 3 Educational Blocks in Longding, 5 in Namsai, 9 in Changlang Districts of Arunachal Pradesh with 17 Higher Secondary Schools. For this study, the researcher has selected 6 higher secondary schools where smart class teaching has been implemented by the state government in Arunachal Pradesh by adopting purposive and quota sampling procedure. So far, the teacher's population is concerned the investigator had selected 6 higher secondary schools' teachers, out of the total population. Statistical methods involved in carrying out a study include planning, designing, collecting data, analyzing, drawing meaningful interpretation and reporting of the research findings. In this study researcher has applied the statistic technique mean, median, mode, standard deviation and 't'-test to analyse the output of the research.

Analysis and Interpretation of Data

The aim of presents study was to find out the "Attitude and Awareness of secondary school teachers towards smart classrooms." The investigator collected data-group. The investigator collected data from 30 teachers towards of higher secondary school from three different district of Arunachal Pradesh. In the study sample were taken according to the convenience of the researcher, because it is not possible for the researcher to visit every village for collecting data in just a short period of time. The collected data are arranged properly, analyzed systematically and interpreted precisely by the use of percentage (%), 't-test' and descriptive statistics like Mean, SD etc.

Table 1: Showing Location (Rural Schools)						
C1	f	M	D	fD	D^2	fD^2
30-39	0	34.5	-30	0	900	0
40-49	1	44.5	-20	-20	400	400
50-59	4	54.5	-10	-40	100	400
60-69	8	64.5	0	0	0	0

70-79	1	74.5	10	10	100	100
80-89	0	84.5	20	0	400	0
90-99	1	94.5	30	30	900	900
	∑f = N = 15			**∑fD = -20**		**∑fD² = 1800**

Let, us find the '*Mean*' from the data of table 1; where we have,
A = 64.5
∑f = N = 15
∑fD = -20

$$\overline{X_1} = A + \frac{\sum fD}{\sum f}$$
$$\overline{X_1} = 64.5 + \frac{(-20)}{15}$$
$$\overline{X_1} = 64.5 - 1.33$$
$$\overline{X_1} = 63.17$$

Let, us now find the '*Standard Deviation' (SD)* from the data of table 1; where we have,
∑f = N = 15
∑fD² = 1800
∑fD = -20

$$SD_1 = \sqrt{\frac{\sum fD^2}{\sum f} - \left(\frac{\sum fD}{\sum f}\right)^2}$$
$$SD_1 = \sqrt{\frac{1800}{15} - \left(\frac{-20}{15}\right)^2}$$
$$SD_1 = \sqrt{120 - (-1.33)^2}$$
$$SD_1 = \sqrt{120 - 1.77}$$
$$SD_1 = \sqrt{118.23}$$
$$SD_1 = 10.87$$

Degree of Freedom (DF)
$N_1 = 15$
$N_2 = 15$
$DF_1 = N_1 + N_2 - 2$
$DF_1 = 15 + 15 - 2 = 28$

Table 2: Showing Location (Urban Schools)						
C1	**f**	**M**	**D**	**fD**	**D²**	**fD²**
30-39	0	34.5	-30	0	900	0
40-49	0	44.5	-20	0	400	0
50-59	0	54.5	-10	0	100	0
60-69	2	64.5	0	0	0	0
70-79	4	74.5	10	40	100	400
80-89	7	84.5	20	140	400	2800
90-99	2	94.5	30	60	900	1800
	N=15			**∑fD = 240**		**∑fD² = 5000**

Let, us find the '*Mean*' from the data of table 2; where we have,
A = 64.5
∑f = N = 15
∑fD = 240

$$\overline{X_2} = A + \frac{\sum fD}{\sum f}$$
$$\overline{X_2} = 64.5 + \frac{240}{15}$$
$$\overline{X_2} = 64.5 + 16$$
$$\overline{X_2} = 80.5$$

Let, us now find the '*Standard Deviation' (SD)* from the data of table 2; where we have,
$\sum f = N = 15$
$\sum fD^2 = 5000$
$\sum fD = 240$

$$SD_2 = \sqrt{\frac{\sum fD^2}{\sum f} - \left(\frac{\sum fD}{\sum f}\right)^2}$$

$$SD_2 = \sqrt{\frac{5000}{15} - \left(\frac{240}{15}\right)^2}$$

$$SD_2 = \sqrt{333.33 - (16)^2}$$
$$SD_2 = \sqrt{333.33 - 256}$$
$$SD_2 = \sqrt{77.33}$$
$$SD_2 = 8.79$$

Degree of Freedom (DF)
$N_1 = 15$
$N_2 = 15$
$DF_1 = N_1 + N_2 - 2$
$DF_1 = 15 + 15 - 2 = 28$
Standard Error (SE)

$$SE = \sqrt{\frac{SD_1}{N_1} - \frac{SD_2}{N_2}}$$

$$SE = \sqrt{\frac{10.87}{15} - \frac{8.79}{15}}$$

$$SE = \sqrt{0.72 - 0.59}$$
$$SE = \sqrt{0.13}$$
$$SE = 0.36$$

Independent t-test

$$t = \left|\frac{\overline{X_1} - \overline{X_2}}{SE}\right|$$

$$t = \left|\frac{63.17 - 80.5}{0.36}\right|$$

$$t = \left|\frac{-17.33}{0.36}\right|$$

$$\boldsymbol{t = 48.14}$$

The critical table value of the t-statistic is 2.048 (at 0.05 level of significance with 28 DF) whereas the calculated t-value is 48.14 which is greater than the tabulated value. It signifies that we can reject the null hypothesis that there is no significant difference between the attitude of secondary school teachers of rural and urban areas and we can conclude that there exists a significant difference in the attitude of higher secondary school teachers of rural and urban areas of the Namsai, Longding and Changlang district of Arunachal Pradesh.

Table 3: Showing Untrained/Unskilled Teachers						
C1	f	M	D	fD	D²	fD²
30-39	0	34.5	-30	0	900	0
40-49	4	44.5	-20	-80	400	1600
50-59	3	54.5	-10	-30	100	300
60-69	4	64.5	0	0	0	0
70-79	2	74.5	10	20	100	200
80-89	2	84.5	20	40	400	800
90-99	0	94.5	30	0	900	0
	∑f = N = 15			∑fD = -60		∑fD² = 2900

Let, us find the '*Mean*' from the data of table 3; where we have,
A = 64.5
$\sum f = N = 15$
$\sum fD = -60$

$$\overline{X_1} = A + \frac{\sum fD}{\sum f}$$
$$\overline{X_1} = 64.5 + \frac{(-60)}{15}$$
$$\overline{X_1} = 64.5 - 4$$
$$\overline{X_1} = 60.5$$

Let, us now find the '*Standard Deviation*' *(SD)* from the data of table 3; where we have,
$\sum f = N = 15$
$\sum fD^2 = 2900$
$\sum fD = -60$

$$SD_1 = \sqrt{\frac{\sum fD^2}{\sum f} - \left(\frac{\sum fD}{\sum f}\right)^2}$$
$$SD_1 = \sqrt{\frac{2900}{15} - \left(\frac{-60}{15}\right)^2}$$
$$SD_1 = \sqrt{193.33 - (-4)^2}$$
$$SD_1 = \sqrt{193.33 - 16}$$
$$SD_1 = \sqrt{177.33}$$
$$SD_1 = 13.32$$

Degree of Freedom (DF)
$N_1 = 15$
$N_2 = 15$
$DF_1 = N_1 + N_2 - 2$
$DF_1 = 15 + 15 - 2 = 28$

Table 4: Location (Trained Teachers)						
C1	f	M	D	fD	D²	fD²
30-39	0	34.5	-30	0	900	0
40-49	0	44.5	-20	0	400	0
50-59	0	54.5	-10	0	100	0
60-69	2	64.5	0	0	0	0
70-79	4	74.5	10	40	100	400
80-89	7	84.5	20	140	400	2800
90-99	2	94.5	30	60	900	1800
	N=15			$\sum fD = 240$		$\sum fD^2 = 5000$

Let, us find the '*Mean*' from the data of table 4; where we have,
A = 64.5
$\sum f = N = 15$
$\sum fD = 240$

$$\overline{X_2} = A + \frac{\sum fD}{\sum f}$$
$$\overline{X_2} = 64.5 + \frac{240}{15}$$
$$\overline{X_2} = 64.5 + 16$$
$$\overline{X_2} = 80.5$$

Let, us now find the *'Standard Deviation'* (SD) from the data of table 4; where we have,
$\sum f = N = 15$
$\sum fD^2 = 5000$
$\sum fD = 240$

$$SD_2 = \sqrt{\frac{\Sigma fD^2}{\Sigma f} - \left(\frac{\Sigma fD}{\Sigma f}\right)^2}$$

$$SD_2 = \sqrt{\frac{5000}{15} - \left(\frac{240}{15}\right)^2}$$

$$SD_2 = \sqrt{333.33 - (16)^2}$$

$$SD_2 = \sqrt{333.33 - 256}$$

$$SD_2 = \sqrt{77.33}$$

$$SD_2 = 8.79$$

Degree of Freedom (DF)
$N_1 = 15$
$N_2 = 15$
$DF_1 = N_1 + N_2 - 2$
$DF_1 = 15 + 15 - 2 = 28$
Standard Error (SE)

$$SE = \sqrt{\frac{SD_1}{N_1} - \frac{SD_2}{N_2}}$$

$$SE = \sqrt{\frac{13.32}{15} - \frac{8.79}{15}}$$

$$SE = \sqrt{0.89 - 0.59}$$

$$SE = \sqrt{0.3}$$

$$SE = 0.55$$

Independent t-test

$$t = \left|\frac{\overline{X_1} - \overline{X_2}}{SE}\right|$$

$$t = \left|\frac{60.5 - 80.5}{0.36}\right|$$

$$t = \left|\frac{-20}{0.55}\right|$$

$$t = 36.36$$

The critical table value of the t-statistic is 2.048 (at 0.05 level of significance with 28 DF) whereas the calculated t-value is 36.36 which is greater than the tabulated value. It signifies that we can reject the null hypothesis that there is no significant difference between the attitude of trained and untrained secondary school teachers of Namsai, Longding and Changlang districts and we can conclude that there exists a significant difference in the attitude of trained and untrained secondary school teachers of Namsai, Longding and Changlang district of Arunachal Pradesh.

IV.   FINDINGS OF THE STUDY

The findings of the study depicted that 81% of teacher believed that without sufficient infrastructure smart class cannot be installed. 80% of teacher revealed that they don't have smart classroom equipment in every classroom.73% of teacher revealed that all students cannot take benefit due to lack of infrastructure facilities. 66% of teachers revealed that make curriculum transaction easy and effective. 51% of teachers responded that integration of scientific temper brings quality in smart class teaching, teacher intellectual nature and student mental readiness affect the teaching learning process. 80% teachers responded that teacher effort in teaching smart class with creative works motivation the students in giving full attention in the class. 73% teachers revealed that audio visual aids get attention of the students which helps in developing interest of the student in teaching learning process. 67% teachers indicated that there is no coordination committee in giving assistance by district authority for smart class teaching project 59% of teachers had shown the concern that there is no internet facility in their school for teaching in smart class, the internet connection is only for the administrative purpose. 53% of teacher responded that they are bound with limited times in completing syllabus regardless of what and how they 64% of teachers revealed that don't have internet or wi-fi connection in their schools. 60% of teacher revealed that teaching with smart class helps class helps in completing the syllabus on time with effective result.

In the same manner 64% of teachers revealed that there is no generator in their school for power back up in smart class teaching, therefore they cannot used the smart class equipment provided by the govt. 57% of teachers reflected their views that they don't get any kinds of funds or financial support from the govt. for timely maintenance of technical equipment provided by the government. 68% of teachers revealed that teachers who are trained in smart class teaching are more confident and efficient in operating electronic teaching aids. Some of the trained teachers from total 16%, who got the training in smart class teaching, are unable to implement the training skills because of non-availability of equipment in the school. 80% of teachers revealed that integrated teaching aids use in smart class has to be upgraded according to the recent development in the electronic and technical field.

V.   SUGGESTIONS

i.   The present study covered small area of three districts and the same study can conducted on other district of Arunachal Pradesh. The present study was conducted only on the teachers therefore the researcher recommends that this study can be carried be carried out on the student's attitude and awareness.
ii. The present study was conducted only on the teacher therefore the researcher recommends that this study can carried out on the student's attitude and awareness towards smart class teaching and its effectiveness.
iii. The present study was confined to variables like gender, location and training to measure attitude and awareness of secondary school teaching the attitude and awareness of the teachers.
iv. The study was conducted by the investigator at M.Ed level of research. Such research should be conducted in M.Phil., Ph.D. and other kind of pre-doctoral and doctoral research.

VI.   CONCLUSION

The present study was intended to know about the attitude and awareness of the secondary school teachers towards smart class teaching. Since smart class teaching is a new approach of teaching for both the teachers and the students it will take a few times to adjust with new changes in the teaching learning process. Due to lack of opportunities in getting training by the higher authority of education department, the teachers are not efficient in operating smart class equipment. This study reveals that implementation of programmes in any sector be it education, health, etc. the most crucial part is to execute the programmes with proper planning and preparation. The sincerity and dedication of official, other stake holders and teachers helps in executing the plan or project with fruitful result.

The study would encourage the teachers in demanding proper implementation of smart class project to upgrade the education system in Arunachal Pradesh with sufficient electronic equipment, internet facilities and other resources. Therefore, it would encourage the researchers to conduct more studies in other primary, elementary and higher educational institution three districts of Arunachal Pradesh.

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