



Scenario Of Science Teaching At Secondary Schools During Pandemic In Assam

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ABSTRACT-

Pandemic is a global epidemic which affects more than one continent. December, 2019 was always being remembered as a dark year as Covid-19 emerged from China and spread globally. All countries i. e. the developed, developing and under developed countries have been suffered from this virus till date. In India, the situation became pathetic as most of the people are living below poverty line and personally they neither afford nutritious foods nor understand about its implication in strengthening their immunity system. In Assam, people from both urban and rural areas have been lost their families and friends. As we know, this deadly virus affected all sectors of our country like health, economic, social, and educational. Here this paper will study about the effects of pandemic on science teaching at secondary level in Assam.

Key words- pandemic, epidemic virus, covid-19, secondary education

INTRODUCTION

The scenario of world education system has been changed due to the upsurge of a hazardous disease which is popularly known as COVID -19. It is a highly contagious virus which travelled from Wuhan city of China in December 2019 and covered almost 188 countries and territories. In India, the first person infected by Corona disease was found in Kerela, on January, 2020. It damages the world economy and educational sector. The developing nations have been mostly affected by this virus, as these nations do not have enough medical facilities. The people were collapsed as they never experienced such situation. All states of India have faced Covid-19 pandemic with different variant. As per WHO data, on 30 September, 2020, approximately more than 1 million people have lost their life.

In Assam, after two month of its emergence in Kerela, the first case have found on 31st March in Karimganj. Initially in Assam, the numbers of infected persons were less; later on it took high peak. On 23rd March, 2020 Assam government announced state wise first complete lockdown. With time, the least affected areas were unlocked, whereas, state with severe cases were announced lockdown with some relaxation and gradually this process was continued till October, 2020. In 2021, again the second phase of Corona virus has spread throughout the nation. In Assam, on May, state wise lockdown has

imposed based on the cases and later on restrictions were reduced from the month of September. But the corona cases were again increased in Guwahati from the last week of October. At present many containment zones are declared in Guwahati.

EFFECTS OF LOCKDOWN

The covid-19 pandemic brought countless loss of lives as well as economy downfall. The small scale industries and all big companies have faced a heavy loss. Many people have lost their job due to the closure of the companies, shops, restaurants, and cinema halls. The government made special arrangements for NRI and the students who stayed in other states. But the daily wage earners are severely affected which cannot be imagined. The people working in other states were returned their home by running bicycle or any other means. Initially they even did not get any facility from government to reach their home. In this case, we can mention the name of film actor Sonu Sood who arranged buses for those people. Besides, many celebrities, businessmen and even common people donated fund in PM CARE's fund. In the state Assam, many people donated fund in Assam Chief Minister's Relief fund.

Sudden crisis in health, economy and social life created chaos and uncertainty of life among people. In a moment many children became orphanage and many parents lost their children. Peoples' tears, and screamed had shaken the whole nation. Death rate was raised in such a way that there was a lack of burial space. This year, the situation was more deadly in comparison to 2020. There was a heavy shortage of medical oxygen in the country and Assam has also faced this crisis. This crisis may again rise in the year 2022, so the government must be well prepared to tackle this situation.

EFFECTS OF LOCKDOWN ON SCHOOL EDUCATION-

The state of Assam has over 4, 032 secondary and higher secondary schools with over 13 lakh students. The quality of secondary education has deteriorated and students of all stages got affected. In the year 2020 and 2021, schools, colleges or universities were completely closed. Work from home concept was emerged for public and private institutions and provision of online classes was given to the schools, colleges, and universities. In Assam, the state government had issued guidelines where online classes were preferred for school students. Teachers from primary to secondary schools were asked to take online classes. Thus, corona pandemic has introduced digital education through online platform like Google meet, Zoom Google classroom, Web Max, etc. in our country. Students from rural and urban areas are able to learn new technology which they eventually discovered. Though digital classroom / education is not a new concept at all, but in Assam both pupils and teachers are still deviated from this technology. **Unified District Information System for Education Plus (UDISE+), 2019-20** reported that in Assam, out of 47, 157 government schools, only 11.44% have computer facilities and 4.32 percent of schools have an internet connection.

CHALLENGES OF ONLINE MODE OF TEACHING

Online mode of teaching in our state is not as simple as that, where the students face so many challenges. The major challenges are as below-

- ✓ A large number of populations of our country are belonging to below poverty line. For such students, it's not possible to arrange an android cellphone. If they are able to arrange mobile phone, poor network connection unable to make online class uniform for all.
- ✓ The students are facing some technical issues like app installation, login issues, audio and video problems etc. Therefore, many students are excluded from online teaching.
- ✓ The students have faced difficulty to adapt digital learning immediately after traditional classroom. They start losing hope once they find difficulty in online learning.
- ✓ Besides, learning from home is an amazing concept, but without proper facilities, it distracts their mind.
- ✓ Moreover, to observe students' activities, parents must have knowledge on the use of smart phones for online teaching. But, most of the parents are not aware about its use. Therefore, they cannot monitor their children properly.

SCENARIO OF SCIENCE TEACHING DURING PANDEMIC IN ASSAM

Science is important not only in school education but also in human life. For social welfare and economic development of our country, we need educated population. At present, development of science and technology is an urgent need to live a better life. In our educational institutions, continuous efforts should make to encourage new talents by encouraging innovations in science teaching. **Rao (1993)** while expressing his deep concern about the status of science in India said, "I am especially concerned about experimental work because it is that which will eventually determine science, although we may be good in theory here and there, our experimental work is becoming very difficult. There are very few people doing, for example, good work in experimental, physical or chemistry..... Many of them are getting old and I do not know who will replace them..."

Prior to pandemic, Assam government had given fund for Atal Tinkering Laboratory, which was a good initiative in the field of science education. The government allotted fund phase-wise to all secondary schools for improving the condition of science. Due to the outburst of covid-19, all those efforts were stopped and the educational sector went on an unhealthy vacation for almost 7 months in 2020 and 4 months in 2021. Though paper works were not stopped but field work completely took rest. Many laboratories are under construction process.

In secondary schools, practical subjects like mathematics and science were mostly affected than other subjects. Science teaching is a logical and reasoning based teaching

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which required a well-equipped laboratory, trained teachers, demonstrator and specifically designed classroom and apparatus. Without fulfilling these requirements, imparting science is just like a fable telling to the learners. In science teaching, there is no place for lecture method. In the words of **Dr D.S Kothari**, "to learn science is to do science. There is no other way of learning science." The science laboratory provides opportunities for the pupils to understand the concepts and different ideas of science. The laboratory helps in the development of objective reasoning and thinking, skills of experimentation, observation, problem solving and scientific attitudes among the pupils.

The students of IX and X standard have been widely affected by the lockdown. It has been seen that on online mode, science subject was treated as humanities and taught through lecture method. The stage where the knowledge of learners on science must reach at high peak, unfortunately from the last two years, students did not have even a basic knowledge on science or on any other subjects. Teaching through online mode is just to explain the concept and provide question and answers. Hence, practical aspect of science has been totally ignored. Besides, from the last two years, due to the state wise lockdown, consecutively high schools' and higher secondary's examinations were cancelled. By evaluating the performances of previous classes, students were promoted to another class. Just imagine, the students having science stream cleared their higher secondary examination without attending examination, not even open book examination system. What they taught from the 10th and 12th standard is now a big question for everyone. Besides, are not they faced trouble while choosing science/ any other humanities or professional subjects in college/ institutions? As we know knowledge is the biggest asset among all things and without it, nothing can be achieved. To promote students by calculating their sessional examinations marks, observing their attendance and their assignments is not a good solution at all. Hence, it can be seen that this pandemic has badly deteriorated the whole education system.

INITIATIVES TAKEN BY GOVERNMENT ON SCHOOL EDUCATION DURING PANDEMIC-

In Assam, during pandemic, academic meeting at district level was conducted by Rashtriya Madhyamik Shiksha Abhiyan (RMSA), where various measures were discussed to improve the online classes. Besides, teachers of secondary schools were asked to visit learners' home and distributed the specially designed teaching –learning materials to the learners. The teaching –learning materials were specially designed for the students of class VI, VII and VIII.

Throughout those scary days Government of India had announced and implemented many schemes for the uplifting education. Those schemes played a crucial role to eradicate the challenges which may be created due to pandemic. In Assam, effects of the centrally sponsored schemes have been seen among teachers. PM eVIDYA is a

centrally sponsored initiative which unites all efforts related to digital teaching. It includes a large number of schemes, among which the important schemes are as follows-

DIKSHA (Digital Infrastructure for Knowledge Sharing) – DIKSHA is a digital platform where e –content has been made available for the students of class 1-12. It is a nationwide platform which can be availed through a web portal and mobile application. Besides e-content, it includes courses for teachers, and quizzes.

Vidya Daan

In April, 2020, Vidya Daan is a content contributor program which controls the DIKSHA platform and allows contribution/ donation for e- learning resources for school education by educational bodies, private bodies and individual experts.

E- Text books

The e- text books can be accessed using e-Pathshala web portal and mobile application more than 600 digital books including 377 e-textbooks (grades 1-12) and 3500 pieces of audio and video content of NCERT are available in the public domain in various languages (Hindi, English , Sanskrit and Urdu).

DAISY (Digitally Accessible Information System)

DAISY scheme is being operated through DTH channel for differently –abled students. Besides, the study materials have been developed in sign languages. This is available at NIOS website.

NROER (National Repository of Open Educational Resources)-

NROER is an open store house of e-content. Nearly 17500 pieces of e-content are available for all grades for various school subjects.

NISHTHA (National Initiative for School Heads and Teachers Holistic Advancement)

To realize the vision of New Education Policy -2020, recently NCERT with the collaboration of States/ UTs and autonomous bodies (CBSE, Ministry of Education, Ministry of Defense , Sainik School, Ministry of Tribal Affairs, KVS, NVS, CTSA, AEES and CISCE) have initiated NISHTHA integrated training program 1.0, (elementary level i.e. I-VIII) 2.0 (secondary level i.e. IX-XII) and 3.0 for NIPUN Bharat i.e. ECCE to V) – teachers, head teachers/ principals and other stakeholders in educational management and administration. The State Council of Educational Research and Training (SCERT) , Assam was fully involved in NISHTHA training program. In the state Assam, the first phase of NISHTHA was inaugurated on 1st August 2021, at Gossaigaon Boys’ Higher Secondary and Gossaigaon Girls’ High School. The duration of training period was 3 months. The main

aim of this training is to enhance teaching skill and to improve the quality of school education through teacher training.

WHAT COULD BE BETTER?

As the online classroom learning is not fruitful in our state, so the **State Cabinet** has directed the information and Technology Department to set up mobile phone towers across every nook and corner of the state to foster internet connectivity. Besides, **Assam Science Committee** in their document titled '**Education management in the situation of Covid-19**' suggested to establish community centers in villages outfitted with necessary facilities for accessing online learning due to the lack of technologies in their home. In this regard, this paper will provide the following suggestions that may reduce the issues of online teaching-

- ✓ Undoubtedly, provision of online mode of teaching is a wonderful and innovative step in pandemic. But its execution was not well planned. The government at first supplies the minimum requirements necessary for online class.
- ✓ Online training should be given to the teachers. The governing body should ask the progress reports of online class from the teachers. At the district level, these reports must be discussed and all pro and cons should be widely analyzed. After critical review of these reports by expert personnel, relevant and practical suggestions should be attached and follow up activities must be observed.
- ✓ Awareness and involvement of parents would be beneficial to get a productive result. Most of the patents are unaware about the online mode of teaching. Therefore, the school should first conduct a digital parents-teacher meeting (PTM) and engaging their children. It may help the parents to check their progress during class.
- ✓ Mock test, quiz, and group discussion through online mode should be conducted at least once in a week and all subjects should be included. It will help the learners to get engage in the contents. Moreover, the innovative way of teaching will make digital learning very attractive and interesting. ,
- ✓ Instead of open book examination, live online examination should be conducted and teachers should monitor the students. To some extent, the demerits of online exam can be minimized and helps to evaluate the performance of the learners.
- ✓ The step might not be a wise step taken by government regarding cancellation of matriculation and higher secondary examination. Instead of cancellation of final examinations of both tenth and twelve standards, the government\ education department should find other better way. They may arrange mock test of each paper and group discussion session on online mode with video recording.

CONCLUSION

Covid-19 pandemic with its different variants hamper the life of people globally. This is not easy for common people to tackle this deadly situation. Though government has worked a lot to minimize the effects of Covid-19 still all efforts were not worked out. In spite of launching and implementing of different schemes, the people belonging to private job, daily wagers and the students were largely affected. The economic development of a nation can be achieved if its human resources are developed properly. But from the last two years, their development has been stopped. The whole educational process has been changed. Maximum students are now depending on open book examination, which is not a good sign. If it continues, the students will lose confident and unable to handle prepare themselves for future. Hence, this paper has made a small attempt to locate the main issues of students created by Covid -19. Moreover, this paper has also revealed the downfall of science teaching in secondary schools.

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