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IMPACT OF INTEGRATING TECHNOLOGY THROUGH QUALITY EDUCATION IN INCLUSIVE SECTORS

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INTRODUCTION

Every country needs a vision statement which stirs the imagination and motivates all segments of society to achieve greater heights. Integrating technology into education in inclusive sectors provide internet access, e-content, educational apps, smart classes and video conferencing for enhanced quality learning. Sustained efforts are needed to tap the potentials of alternative methods of knowledge delivery for both school going and non-school going children including television, computerized self-learning and internet based courses. Successful population policy is directly linked to successful education policy. Success in raising literacy rates, school enrolment ratio, reducing dropout ratio in rural sector is a challenge.

Apart from addressing the needs of a large illiterate population in rural sectors, India's knowledge strategy must also develop innovative approaches to enhance knowledge acquisition among the large community of school dropouts. Extending the primary school system to over 5,00,000 villages in India has brought education to the masses. Unfortunately this huge quantitative expansion has been accompanied by a tremendous dilution in the quality of education. High dropout rates in rural areas is one result of single room schools with few

Teaching aids and inadequate instructions both in terms of quantity and quality. Hence it is a necessity to re-design the education in the rural areas. Quality improvement in the system, can be accomplished by promoting centralized schools serving clusters of ten or more villages wherever distances and transportation links make that feasible. This will permit greater investment in educational infrastructure including introduction of computers.

Thus, an important role of education is to foster in each child the attributes and values of a responsible and healthy member of the family and society. The rigidity of curriculum, testing and teaching methods need to be transformed so that innovative methods and new models of education can be evolved, tested and implemented. Vocational courses have to be introduced and expanded to equip larger number of high school students in rural areas with occupation related knowledge and skills. Experiential learning is needed with new methods for knowledge delivery. Thus the progress of the whole nation will ultimately depend on the progress of its weakest link.

TITLE OF THE PAPER

Impact of integrating technology through quality education in inclusive sectors.

STATEMENT OF PROBLEM

India's Education System has expanded but its current achievements are inadequate for the nation to realize its potential greatness. The problem faced in the rural sector is that net

enrolment in schools are yet to improve, dropout rate increased. The traditional avenues of knowledge dissemination through education and printed information are ruled out. Thus there is a requirement for improvement in quality education which reflect a change in pedagogical methods. The challenges hinder universal digital connectivity, primarily due to limited access, inadequate digital skills and affordability.

NEED AND BACKGROUND OF THE STUDY

Education is the foundation for a vibrant democracy, growth of productivity and income and employment opportunities. Literacy is an indispensable minimum condition for development. The need of the study is to enhance quality education in rural sectors and to equip students with

Not only academic knowledge but also values and life knowledge. To make learning easy and interesting rural education in India is at a very grim state where students are not able to retain skills learnt in earlier classes. Thus education at rural level should have special facilities for preserving local art and culture and would provide also training in skill development.

The Background of the Study emphasises that education is fundamental to development and growth. It is the most important tool to reduce poverty, fostering knowledge and for building an equitable society.

OBJECTIVES

- To enhance access and to improve quality education for all in rural sector.
- To promote equity through the inclusion of disadvantaged groups and weaker sections in rural sector.
- To provide vocational, experiential and value based education.
- To promote digital literacy in rural sector.

SCOPE OF THE STUDY

The research is restricted to technology involved in rural sectors only.

RESEARCH METHODOLOGY

The Archival Research Method is adopted. It is a method of collecting data from sources that already exists. The Secondary data is collected from journals, magazines, articles, reports, handbook and internet. This paper focuses on theoretical and conceptual analysis using textual descriptions to convey findings.

REVIEW OF LITERATURE

South Africa:

After Nelson Mandela became president in 1994, his government expanded access to schooling. It also replaced a school system segregated by race with one divided by wealth. Schools in poorer areas receive more state funding. But schools in richer areas can charge fees on top. More important than money are a lack of accountability and quality of the system.

Sweden:

Sven Stafstrom, Director General of the Swedish Research Council states that Sweden's research system has expanded over the past ten years, the result has been an increase in the quantity of research rather than improvement in quality.

Egypt:

The Egyptian President's Senior Education Advisor believes Egypt is in a good position for a world in which nations compete through innovations and ideas rather than commodities.

United Kingdom:

Roxanne Stockwell, Principal of Pearson College, London spoke to Times Higher Education, cites that college work is starting to offer some modules online. She states that if you are going to have innovations and challenge it has to be possible to enter qualitatively.

-Source: International News- Excerpted and adapted from The Economist and Times Higher Education, page no. 64, February 2017.

Data Analysis

Education in the Rural Areas: All India Level: An Analysis

TABLE NO 1

Table showing the value of education in the rural areas at All India Level

Indicator (in Rural Areas)	Value (in percentage)
Percentage schools in rural areas	66.4
Gross Enrolment ratio in primary education	100.6
Gross Enrolment ratio in upper primary education	78.2
Literacy Rate in Rural Areas	71.9

Source: Based on Pratham's ASER, State- specific statistics about education in rural areas in India.

Challenges and proposed solutions for integrating technology in education in the Inclusive Sectors

TABLE NO 2

Table showing the challenges and proposed solutions for integrating technology in Education in the Inclusive Sectors

Number of Challenges	Proposed Solution
Ill-prepared school Heads	Training for school Heads on technology integration and policy framed in the inclusive sectors.
Lack of technology devices in schools	Intervention from the government to provide technological infrastructure.
Lack of technical support staff in schools	Provision of trained IT staff by government.
Lack of educational technology	Providing ICT facilities

Source: Based on Information of State of School Education in Rural India 2020.

TECHNOLOGICAL INTERVENTIONS TO ENHANCE QUALITY EDUCATION IN RURAL SECTOR:

The impact of technology on education has led to access to knowledge transformed teaching and learning methods and changed the roles of the teachers in the rural sectors. In education sectors new models of delivery should be adapted and assessment should be made data driven. However, in inclusive sectors challenges related to access, digital literacy and data privacy are required to be looked into to get the full potential of technology in education. Hence, it is essential for the educationist, policymakers and society to embrace technology as a tool for positive change while looking into its associated challenges. Thus technology play a role in improving the efficiency and effectiveness to increase the quality of education.

The different technological interventions has been initiated for the digital transformation of the education system amongst the students in the inclusive sectors to meet the future technological challenges which is put forth by different schemes from the Government are:

Samagra Shiksha: To enhance the scope of ICT It contains provisions for producing high quality e-contents for teachers and students to support ICT and smart classrooms in all corners of the nation. The best example is Digital Infrastructure for Knowledge Sharing (DIKSHA)

Unified District Information System for Education (UDISE+): Improved Version of Database

It contains real-time online information through an online Data Collection Form (DCF) from students, enrolment, examination results, schools, infrastructure and requirements of teachers across the nation.

Performance Grading Index (PGI) 2.0: Monitors indicators relating to Goal 4 of Sustainable Development Goals

It is a tool to provide insights on the status of school education and it indicates areas of improvement to recognise specific interventions required to make transformational changes in education in the rural sectors and all over the country.

National Digital Education Architecture (NDEAR): Larger Vision to unify national digital infrastructure

The core idea of NDEAR is to achieve goals laid down by NEP 2020 for innovations in the education ecosystem.

Vidya Samiksha Kendra: Launched by the Ministry of Education, Government of India

To strengthen and increase administrative functions by providing real-time data by using big data analysis, artificial intelligence and machine learning in order to increase the overall monitoring of the education system and thereby improving learning outcomes.

PM e-Vidya DIKSHA: Launched during the time of pandemic

The digital platform of 'DIKSHA' has been declared as "One Nation, One Digital Platform". It can be accessed by learners and teachers across the country. It provides access to a large number of curriculum linked e-content to all places.

200 TV Channels: PM e-Vidya 12 DTH TV Channels started on 1st September 2020.

In order to expand digital learning facilities to every corner of the country, the Government of India announced in the Union Budget 2022, to expand it to 200 DTH TV Channels for enabling the nation to telecast e-contents developed in all the Indian languages based on State Board Curriculum.

Virtual Labs: Launched by DIKSHA on 29th July 2022.

It makes learning experiential and the students understand the concepts by using simulators, by performing experiments online. Till date, 28 virtual lab experiments are available on DIKSHA portal.

Source: Kurukshetra, dated 23rd November 2023.

FINDINGS

- From the current pedagogical practices in rural places, it is found that system followed is Teacher-Centered and it involves rote learning.

- It is found that lot of challenges are faced by teachers like limited resources, lack of training and high student-teacher ratio.
- It is found in inclusive sectors, students face difficulties due to connectivity issues, lack of smart phones and limited or no internet access. The main obstacles to advancing digital learning is inequities in access to information and communication technology facilities for students and teachers due to low levels of digital literacy.
- It is found that in rural places students are less motivated.
- It is found that in rural areas there is limited access to technology and poor infrastructure.
- It is found that in rural sectors institutions do not have adequate government funding to support technology integration.
- It is found that transformative pedagogy system is not in practice.
- It is found that teachers appointed by the government in rural sectors mostly do not have adequate qualifications for integrating technology into their teaching.
- It is found that there is a lack of collaboration across different education sectors in rural sectors.
- It is found that there is a lack of maintenance of technological devices in schools in the rural sectors.
- It is found that there is a lack of technical support staff in education sectors in rural areas.
- It is found that most of the teachers in inclusive sectors have limited knowledge of how multimedia resources can be used to support their teaching.
- It is found that one cannot assess their students online learning achievements using technology.
- Sometimes there is negative attitude involved in the system.

1. It is found that there is a lack of study space for students and data plan unaffordable for students.
2. It is found that the entire process of integration of technology for quality education in rural sector is an expensive affair.

RECOMMENDATIONS & SUGGESTIONS

- It is suggested that education system should be contextualized. It is essential to incorporate local knowledge and culture into the system.
- It is recommended to foster inclusive education by giving importance to diversity, equity and social justice.
- It is recommended to integrate technology by enhancing access, engagement and learning outcomes.
- It is suggested that teachers training should be provided with focus on transformative pedagogy and technology integration.
- It is suggested that community involvement should be encouraged. It is essential to engage local stakeholders in institution development.

- It is suggested that each teacher should participate in atleast fifty hours of continuous professional development programme every year for their own professional development.
- It is recommended that education sectors should appoint head of the institution with experience in technology integration programs in urban or rural areas.
- It is suggested that advanced ICT training to be given to all rural school teachers so that they can provide technical support to their students.
- It is suggested that library and learning centre in every village should be provided.
- It is recommended that teachers should sometimes use applications using low bandwidth when there is less connectivity.
- It is suggested that for quality education the educators should use smartphones to replace computers.
- It is suggested that teachers in rural areas should attend ICT training and seek supervision and peer support.
- For quality education in inclusive sector, it is recommended that the educators should be given ICT training for professional deve
- lopment covering technology, pedagogy and knowledge of the content.

1. In order to reduce workload, it is suggested that teachers collaborate to distribute their work equitably and deliver their best.
2. It is suggested that teachers could use technological tools that their students are already familiar with.

CONCLUSION

The Education is fundamental to development and growth. Education should reach to the nook and corner of all rural sectors. The integration of technology into rural education has not only changed the way we teach and learn but has also altered the very essence of education itself. However, the pattern of knowledge disseminated to the rural sector should transform the entire area. Teachers are no longer just disseminators of knowledge but have become facilitators of learning. We must strive to build a core accessible, equitable, inclusive, robust and transparent education system that is prepared to reap the advantages of technology and promotes a conducive learning environment for each student. Re-designing qualitative improvements in education at rural sector should reflect a change in pedagogical methods from passive learning to active learning, develop critical thinking and be practical oriented. Thus transformative pedagogy has the potential to re-design rural education. An inclusive, equitable, affordable and integrated digital eco-system will certainly facilitate and sustain lifelong learning and reap the benefits of inclusive technology development so that no one is left behind. Thus the platform used for integration of technology in quality education need to be user-friendly.

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