## **Table of Contents**

Editorial	V
Articles 1-	37
Improving Learning Outcomes in Indian Primary Schools through Pedagogical Innovation. Samia Hamid	1
शिक्षा का भावी स्वरूप : ऑनलाइन लर्निंग। सुशील कुमार	7
Practice and Principles of Blended Learning in ESL Pedagogy: Strategies and Techniques. Sohaib Alam	10
SOGOL –An Experiential Learning (Students Own Gadget for Outstanding Learning). Sunil Bajaj	19
Need of Capacity Building of Teachers on Learning Outcomes.  Kiran Yadav, DevasishPaul and Runjun Baruah	25
How to develop Capacity Building among the Teacher's. S.Ch.Raju	32
Learning Communities in the field of Education: Professional Development programme for Educators in KendriyaVidalaya Learning Community and Learning Outcomes.  Neelu Gupta	r 37
Research Papers 43-2	06
The Effect of ICT use in Teaching and Learning on Students' Achievements. Sadanandan. C	43
Development of Theme Based Integrated Programmewith a Holistic Approach for Primary Education Curriculum.  Sarala Rajan Menon and Seema Kadam	52
Role of Technology in Enabling the Students for EnhancedLearning Outcomes through Self-Assessment.  Shashikala Choudhary	f 64
Impact of Social Media on communication of scientific concepts of first generation graduat learners in Kurinjipadi Village.  S.Singaravelu	te 70
A Study on Implementation and Impact of CCE in Elementary Schools in Warangal District.  K Srinivas Reddy and U AnandKumar	76

Impact of Digital Media on Science Learning at Upper Primary Level in Government Schools. $Somasundharam.\ D$	. 86
Innovative Methods of Teaching Physics through Simple Computer Programming. Swati Chawla	95
Effectiveness of Inductive Thinking Model in Teaching Science of VIII Class Students in terms of their Achievement.  Surendra Kumar Tiwari and Prabha Yadav	102
Sikkim Initiatives in Incorporating Education for Sustainable Development (ESD) and Learning Outcomes in the Textbooks at Primary level.  *Tshering Wangdi Bhutia*	108
Initiatives of DIET Gangtok, Sikkim in Capacity Building of Teachers and Education Functionaries in Alignment with Learning Outcomes and NAS Report.  *Tshering Wangdi Bhutia*	117
A Case Study of Collective Promising Practices using ICT in EVS at Primary/Elementary Teaching.  Gajendra Gepala	123
Effectiveness of Learner Facilitation Plan on the Learning Outcomes of Secondary Cl Students. <i>Zehra Banu</i>	lass 130
Impact of ICT Pedagogical Practices of B.Ed. Student-Teachers on Learning Outcomes. Kalpana. K and B.C. Kumawat	136
Needs And Approaches For In-Service Teacher Training At Elementary Level.  Kalyani Patel	141
Pedagogy and Technology (ICT) Integration practices in Science to attain the Learn outcomes.  K. Eswaran, TGT	ning 146
Using Cognitive Neuroscience Research Findings in Designing Pedagogical Tools Adolescent Learners.  Kamal G. Manwani and Mahima Gupta	for 160
A Study of Awareness Challenges on Learning Outcomes.  Devaraju. N.B, Kiran Raj M and Sujata B. H	165
Teaching Learning: A Study of Strategies Adopted in Government Elementary Schools. Kripali Jadeja	169

A study of constructivist approach on learning outcomes among IX <sup>th</sup> standard students.	174
K. P. Singh and G. Viswanathappa	
Learning Outcomes and ICT Integration: Techno Pedagogical Attitude of Primary Sci	chool

Teachers in Kannur District Kerala. 180

Shafeek P and Hassankoya M.P

Capacity Building of Teachers on Learning Outcomes: Back to Basics a panacea for KendriyaVidalaya teachers to enhance the learning outcomes of students. 185 Nirmala Gupta

"Understand It First!" Pedagogical and Assessment Practices with SOLO Taxonomy: An Overview on an Experimental Research Study. 192 Minaxi S. Bhagwat and R. G. Kothari

Development of School Level Assessment Tools (SLATs) to fix Student's Learning Levels (SSLs) in Linguistic Skills and Numeric Abilities with Guidelines for Pedagogy at Primary Stage. 204

Somasundharam. D

Effectiveness of ICT Intervention On Pronunciation Of Words In English At Secondary Level. 217 C. R. Vijayan

# Improving Learning Outcomes in Indian Primary Schools through Pedagogical Innovation

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**Abstract-** India has demonstrated considerable progress in improving various aspects of its primary education system, including infrastructure and buildings, teacher student ratios, and school enrollment. However, student learning outcomes remain consistently low across the country. A review of the literature surrounding learning outcomes has highlighted gaps in school instruction and has shown the dire need for innovations in pedagogy and curriculum to improve student learning. Taking this into consideration, the present paper was written highlighting the few innovative pedagogical measures taken place aroundthenation to improve low learning outcomes.

*Keywords:* Primary Education, India, Learning Outcomes, Pedagogy, Right to Education, RTE.

#### Introduction

Across the globe, there are millions of children who leave school without the ability to read, write, or do basic arithmetic. As a result, many are unable to, say, calculate change from a monetary transaction, or read a doctor's prescription or a legal document, or even interpret a political debate, let alone build a career or earn a livable income. Schooling without learning is a waste of resources and is an injustice to students who seek schooling in order to learn. Education must equip students with the skills they need to lead healthy, productive, meaningful lives; however, in India, this is not the case – of the 250 million children worldwide who cannot read or write, two-fifths reside in India, despite a primary school enrollment rate of 92.26%.

For quality education, it is imperative that governments and policymakers focus on interventions that benefit learning; this includes ensuring enrollment, attendance, teacher training, and student engagement through curricula. However, students are only likely to learn higher-order skills if they can grasp the basics – reading and math.

#### Back ground of the study

Primary education was made a fundamental right by the Government of India in 2009, through the Right of Children to Free and Compulsory Education Act of 2009 (RTE Act). The Act stipulates that no child shall be liable to pay any kind of fee which may prevent him or her from pursuing and completing elementary education, and casts an obligation on the appropriate government authority to provide and ensure completion of elementary education

by all children in the 6-14 age group. Before the Right to Education was passed, Sarva Shiksha Abhiyan (SSA)-An India's flagship program for universalization of primary education was the introduced in 2001. With the passing of the Act, SSA finally found legal backing for its implementation and has become the primary vehicle for carrying out the goals stated in the RTE Act.

In recent years India has made significant improvements in the provision of, and improved access to, education. Despite improvements, however, other statistics are bleak. Even though policy measures within the Act appear to be promising, poor implementation has resulted in low-quality schooling. According to the Annual Status of Education ASER 2016 Report, 73% of eighth graders in rural India can read a fifth-grade level text but not any higher. Similarly, 43% of eighth graders can divide numbers, but cannot perform other higher-order math operations. These statistics clearly show that students who are unable to grasp critical competencies in reading and math are ill-prepared for instruction in their current grade. These low student performance numbers are a result of systemic drawbacks of the RTE Act itself showing that mere declaration of a right does not amount to on-the-ground change.

Quality of schooling and low learning levels is the most significant issue in the implementation of the RTE Act.. Poor quality can be attributed to various factors, including poor curriculum and syllabus, deficient pedagogy, negligent or under-trained teachers, and gross underfunding. With pressure to complete the syllabus within a year, teachers are often forced to concentrate their efforts on the students that are already at the top of the class (Banerji, 2016). With no room for personalized attention, students in the bottom percentiles are often ignored and do not get the guidance they need; and with no mention of qualitative norms and standards in the Act itself, it is hard to quantify teaching goals.

Also, primary education is extremely underfunded. Government expenditure per student on primary education in India is only 9.76% of GDP per capita (World Bank). Moreover, a persistent problem within the system is that often, education is mistaken for literacy. Education has often been defined in functional terms; that is, school education is merely for imparting skills of literacy and numeracy. Further, even these skills are often not provided effectively, causing students to fall behind.

Lack of accountability is a biggest challenge. The Act did not create a mechanism vested with the overall responsibility of overseeing progress or redressing grievances, allowing local authorities and schools to skimp on the Act's implementation. Therefore, the RTE Act, while successful in enrolling and retaining students, has fallen short of providing students with positive educational outcomes, because it does not provide students with the skills they need for their future lives as productive members of the workforce, or even as adult citizens and parents.

Here, Educational outcomes can be separated into two categories – one, an objective or standard in education policy that is measured in terms of enrollment, attendance, and attainment/learning outcomes; and two, as life or societal outcomes, whether in the form of long-term health outcomes, labor market outcomes, or intergenerational mobility.

#### **Objectives as Educational Outcomes**

Enrollment Policies with respect to enrollment and learning outcomes have focused on a basic principle – once students are enrolled in school, they will gain foundational competencies related to learning, including reading and math. Studies have found that "households will invest in an additional year of education for their child only if the present discounted value of the expected increase in benefits exceeds the costs of doing so" (Glewwe and Muralidharan, 2015). For this reason, there has been a consistent focus on increasing enrollment in schools through lowering the cost of schooling, causing enrollment rates to skyrocket. Bringing children into school will increase student achievement and learning, however, this impact may only be limited to students who were not enrolled in school previously (Glewwe ET al.2011). So, it is assumed that by stimulating the demand for education, enrollment will increase and consequentially so will learning and educational attainment (Hanushek and Woessmann, 2008). However, research has shown that simply getting students to school is not enough to make sure that they are actually learning. Hanushek and Woessmann, through a study of demand-side programs such as conditional cash transfers, school nutrition/meal-provision programs, and fee reductions, have shown that the high enrollment induced by these programs was not necessarily accompanied by increased student achievement, rather, it may have had negative effects on students who were previously enrolled, because per pupil resources may fall.

Additionally, spending on infrastructure, buildings, and amenities to attract and increase enrollment, while important, has shown a limited impact on learning. Rather, while these investments make schools more appealing to teachers and students, they have no impact on the teaching and learning process (Muralidharan, 2013).

Attendance In practice, while enrollment rates might be high, attendance rates still tend to be low. This is particularly true in countries and regions where there is pressure on schools to show high enrollment rates in response to budget allocation rules and/or compulsory schooling laws, such as in India (Glewwe and Muralidharan, 2015). Students do not learn as a result of enrollment; rather, they learn as a result of going to school and attending class on a regular basis.

Bedi and Marshall, (1999) find that the achievement gains from increased attendance themselves motivate students to come to school regularly. This shows a two-way relationship between learning and attendance – not only does attending school promote learning, but learning also bolsters regular attendance.

Learning Outcomes ultimately, student learning and achievement is what incentivizes students and their parents to invest in an education, that is, student learning makes parents and students more likely to enroll in and regularly attend school. A learning outcome may be measured in the form of a particular educational standard a student must achieve, whether in the form of test scores or graduation and completion rates. A learning/instructional outcome may in the form of skills, whether vocational or foundational, such as reading, arithmetic or writing. Together, enrollment, attendance, and learning accurately represent a positive educational outcome. The question, then, is once students are enrolled in school and are

present in class, what facilitates learning? It is teacher attendance. Kremer *et al.* (2005) find that in India, a 10% increase in teacher absence is associated with 1.8% lower student attendance, as well as with a 0.02 standard deviation reduction in student test scores. This finding impacts perspectives on learning and absence in two ways. One, a student may decide that it is not worth coming to school if there will be no teacher to teach. So, if a student is not attending school regularly, he/she is less likely to learn anything; and conversely, if a student is not learning anything, he/she is less likely to attend school in the future, therefore learning less in the long-run. Teacher absence can be reduced in two ways – monitoring, and financial incentives and a combination of the two is especially effective (Banerjee and Duflo, 2006) In a program in Udaipur, India, teacher attendance was monitored daily through cameras, and teachers were given financial bonuses for regular attendance, then the absence rate of teachers was cut in half – from 36% to 16 18% over one school year. Conversely, teacher absence can also be addressed by incentivizing student learning (Banerjee and Duflo, 2006).

However, if having a teacher in the classroom has still not caused a rise in learning levels, then there is clearly a gap in the provision of a quality education. Teachers in India, are expected and required to teach a very demanding curriculum within a short amount of time and without any teaching instructions, thereby limiting the flexibility of teaching practices (Muralidharan, 2016). Further, Banerjee et al. (2016) have shown that low learning levels may also be due to ineffective teaching strategies.

Overall, the existing literature on outcomes has shown that learning is at the center of creating positive educational outcomes. While raising enrollment and attendance is crucial to improving learning and achievement, the improved learning itself is an immense motivator for students to enroll in and attend school. Further, as learning outcomes improve, so do positive life outcomes. Increased achievement leads to better health in the future, higher incomes in the future, as well as to intergenerational wellbeing and economic and social mobility. However, achieving these improved learning outcomes has proved difficult, particularly in India, where there are pervasive issues of quality in the current education system. Efficiently reorganizing classroom instruction has been suggested as a means of improving outcomes (Banerjee et al. (2016), Banerjee et al. (2010) for reading and math competencies in a primary school classroom.

Innovative pedagogy in primary classroom has the potential not only to improve the quality of education, but also to empower students or future generation of the country by strengthening governance and galvanize the effort to achieve the human development goal for the country. Innovative approaches practiced in few Indian schools, reveals how small, novel methods have redefined learning in the environment of their own little schools. Teachers in these schools may not have the desired resources or capital at their disposal but are constantly pushing the boundaries when it comes to improving learning outcomes through sheer creativity, enterprise and innovations.

Few pedagogical innovation in primary schools are highlighted here that can be taken out in country to help teachers manage their workload and be more effective at teaching primary graders.

- 1. Each learner has its own learning style. The teacher must identify each child's ability to process information so that they can achieve success at a faster rate. The optimal learning environment is when the Student sees, hears, and feels the material themselves. Animated videos hit the Audio and Visual, and when the Student creates one of them, it hits the kinesthetic type too.
- 2. Using word flashcards, use of dictionaries and thesauruses, picture dictionaries, charts and pictures, showing actual objects, models, globes, and maps. Even the extensive collection of coins and stamps also can be used to provide a qualitatively different educational experience to the children.
- 3. Incorporating Tools like smart phone apps, filmstrips, movies, pictures, info graphics or other will not only develop their ability to listen but will also help them understand the concepts better.
- 4. Infusing real world experiences into classroom instructions makes teaching moments fresh and enriches classroom learning.
- 5. Teaching alphabets with Cut-outs increases their curiosity to learn.
- 6. Teaching through Folk songs, Poems
- 7. Use of School Building as an aid
- 8. Hands-on activities
- 9. Role-play technique
- 10. Teaching through Games
- 11. Teaching through Online Learning Tools

#### Conclusion

At primary school level, a young mind can grasp the basic concepts easily through innovative pedagogy. Once students grasp basic competencies in reading and math, they will be more likely to proceed at par with their peers. The use of technology as well as other innovative pedagogy could be used in class-room on a temporary basis and on the basis of success, it could be implemented further.

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# शिक्षा का भावी स्वरूप : ऑनलाइन लर्निंग

## सुशील कुमार

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सारांश- 21वीं षताब्दी तकनीकी दृष्टिकोण से बहुत प्रभावशाली सिद्ध हो रही है। यह हर उस चीज का स्वागत कर रही है जो तकनीक के विकास में सहायक है। इसका सबसे ताज़ा उदाहरण है ई—लर्निंग। आज से कुछ साल पहले षायद यह अंदाजा भी नहीं लगाया जा सकता था कि तकनीकी शिक्षा के क्षेत्र में भी इतनी क्रांति आ सकती है लेकिन यह संभव हुआ और आज ई—लर्निंग का जिस प्रकार तेजी से विस्तार हो रहा है वह हम सबके सामने है। वर्तमान पाठ्यक्रम की परम्परागत अवधारणा का स्थान विस्तृत खुला ऑनलाइन पाठ्यक्रम ने ले लिया है। विस्तृत खुला ऑनलाइन पाठ्यक्रम एक ऐसा ऑनलाइन वेबसाइट कोर्स है जिसका कोई भी छात्र कभी भी, किसी भी समय विश्व के किसी भी कोने में सुगमतापूर्ण प्रवेश कर सकता है। यह राष्ट्र विकास की धारा में बहुत बड़ा योगदान प्रदान कर रहा है। हालांकि भारत में ऑनलाइन लर्निंग में तकनीकी एवं आर्थिक रूप से कई समस्याओं का सामना करना पड़ रहा है। इसके आने से पारम्परिक शिक्षा की गुणवत्ता पर प्रभाव पड़ रहा है फिर भी ऑनलाइन लर्निंग आज के युग के लिये शिक्षा प्रसार का बेहतर व कारगर विकल्प है।

वर्तमान समय में वैश्वीकरण के कारणा विश्व एक छोटे से ग्राम में बदल गया है। ऐसे समय में समय के साथ कदम ताल मिलकर चलना एक नितान्त आवश्यक है। विश्व में शिक्षा एक मात्र ऐसा माध्यम है जिसकी सहायता से सभी लोग एक मंच पर आ सकते हैं। वर्चुअल क्लासरूम का इस संदर्भ में महत्व सर्वाधिक है। सूचना एवं सम्प्रेषण तकनीकी ने जीवन के प्रत्येक क्षेत्र में प्रवेश कर उसमें कई परिवर्तन किए है। इसके अतिरिक्त सूचना एवं सम्प्रेषण तकनीक निरन्तर विकसित एवं परिवर्धित होकर नवीन प्रवृत्तियों को जन्म दे रही है। पठन पाठन में अपनी सकारात्मक भूमिका निभाते हुए ऑनलाइन एज्युकेशन एवं लर्निंग आधुनिक शिक्षा एवं तकनीकी शिक्षा के तौर तरीके अपनाने का बेहद लोकप्रिय व एकमात्र माध्यम है। विदेशों में ऑनलाइन लर्निंग कन्सेप्ट बेहद लोकप्रिय है, क्योंकि इससे पाठकों को नित-नये अध्याय व ज्ञान सीखने को मिल जाता है। आधुनिक युग में ऑनलाइन लर्निंग छात्रों की बढ़ती संख्या को देखते हुए उत्तम तरीके से शिक्षण अधिगम की परिस्थितियाँ उत्पन्न करके ज्ञान के संचार प्रवाह में यह एक प्रभावशाली माध्यम माना जा रहा है। आज के व्यवस्थित युग में कम्प्यूटर सहायक सामग्री के रूप में चलाने हेतु यह संजीवनी बूटी का कार्य कर रहा है। प्राचीन युग में मानव जीवन आधुनिक युग से सर्वथा भिन्न था। आज के युग में आवश्यकताएँ भी भिन्न है और उनकी पूर्ति के लिए आयाम भी भिन्न है। अतः आध्निक परिप्रेक्ष्य की शैक्षिक प्रणाली में उपलब्ध शिक्षा के मात्रात्मक वृद्धि और गुणवत्तापूर्ण होने के लिए पाठ्यचर्या निर्माता एवं शिक्षकों के लिए आवश्यक है कि वे सभी नवाचारात्मक प्रयोगों, मीडिया सामग्री के निर्माण एवं अंतः क्रियात्मक दृश्य, मल्टीमीडिया, ई-लर्निंग को शैक्षिक उद्देश्यों की प्राप्ति के लिए अनिवार्यतः अपनाये। आज प्रत्येक जगह विज्ञान के ज्ञान का उपयोग किया जाता है। शिक्षा के क्षेत्र में सूचना प्रौद्योगिकी का उपयोग बढता जा रहा है। 21वीं षताब्दी तकनीकी दुष्टिकोण से बहुत प्रभावषाली सिद्ध हो रही है। यह हर उस चीज का स्वागत कर रही है जो तकनीकी के विकास में सहायक है। इसका सबसे ताज़ा उदाहरण है ऑनलाइन लर्निंग । आज से कुछ साल पहले षायद यह अंदाजा भी नहीं लगाया जा सकता था कि तकनीकी शिक्षा के क्षेत्र में भी इतनी

क्रांति आ सकती है लेकिन यह संभव हुआ और आज ऑनलाइन लर्निंग का जिस प्रकार तेजी से विस्तार हो रहा है वह हम सबके सामने है ।



आई.सी.टी. तकनीक ने जीवन के प्रत्येक क्षेत्र में प्रवेश कर कई परिवर्तन किए है। आई.सी.टी. भी निरन्तर विकसित एवं परिवर्धित होकर नवीन प्रवृत्तियों को जन्म दे रहा है। वर्तमान पाठ्यक्रम की परम्परागत अवधारणा का स्थान विस्तृत खुला ऑनलाइन पाठ्यक्रम ने ले लिया है ।

विस्तृत खुला ऑनलाइन पाठ्यक्रम एक ऐसा ऑनलाइन वेबसाइट कोर्स है जिसका कोई भी छात्र कभी भी, किसी भी समय विश्व के किसी भी कोने में सुगमतापूर्ण प्रवेश कर सकता है। भारत में भी "गुरूकुल ऑन लाईन लर्निंग सोल्यूशन" जैसे पोर्टल्स ने ई—लर्निंग के साथ ऑन लाइन एज्यूकेशन की अवधारणा को प्रस्तुत किया है। इसे टीचरजी डॉट कॉम भी कहा जाता है जो कि लाइव ऑन लाइन ट्यूटोरियल सेवा है। इसी के साथ गणित, इन्जिनियरिंग इन्जिनियरिंग विषय के सम्बन्ध में Code Academy, Platform Engineering Everyhere प्रमुख पोर्टल है। व्यावसायिक शिक्षा में 360 जतंपदपदहण्बवउ एक ऐसा ऑनलाइन ई—लर्निंग साधन है जो कि व्यावसायिक शिक्षा सम्बन्धी जानकारी प्रदान करता है। शिक्षा के सभी स्तरों पर ऑनलाइन लर्निंग परिचित की सार्वभौमिकता को पुस्तकालय के क्षेत्र भी भी देखा जा सकता है। इस क्षेत्र में ऑन लाइन रिसोर्स शेयरिंग का काम किया जाता है।

### ऑनलाइन शिक्षा के तत्व

- 1) पाठ्यक्रम का विकास : पाठ्यक्रम के विकास हेतु विशेषज्ञों का दल, विषय विशेषज्ञ, शिक्षाविद एवं प्रशिक्षण का सम्मिलित प्रयास कारगर सिद्ध हो सकता है। क्रमबद्ध नियोजित पाठ्यक्रम विद्यार्थियों को एवं पाठकों को कम समय में अधिक सूचनायें प्रदान करता है।
- 2) लिनैंग मैनेजमेंट सिस्टम :— इस हेतु स्टॉफ कर्मचारी / प्रशिक्षकों से प्रशिक्षण उपलब्ध करवाया जाता है।
- 3) डिजिटल लाइब्रेरी लर्निंग मैनेजमेंट सिस्टम पूरी तरह से ऑनलाइन सिस्टम पर आधारित होता है। वर्तमान में इलेक्ट्रॉनिकल गेटवे है जिनके अपने निर्धारित नियम होते हैं। जिनके माध्यम से इलेक्ट्रॉनिक जर्नरल, पत्र—पत्रिकाऐं, प्रकाशन व सूचनाओं का सार्वजनिक रूप से उपयोग किया जा सकता हैं।
- 4) लर्नर्स सर्विसेज :— ऑनलाइन लर्निंग में सबसे अधिक महत्वपूर्ण पाठ्यक्रम और अधिगमकर्त्ता होता है। अधिगमकर्त्ता को बेहतर और समय पर सेवायें प्रदान कर इस तकनीक का उत्कृष्ट उपयोग किया जा सकता है। यह सर्वविदित है कि उपभोक्ता यूजर की स्वीकार्यता ही तंत्र की सफलता का द्योतक है।