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CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	PERFORMANCE MANAGEMENT SYSTEM IN A POWER PSU: A STUDY OF T.H.D.C. INDIA LIMITED *SHANTANU KUMAR BISWAS, ADITYA GAUTAM & ASHUTOSH KUMAR ANAND*	1
2.	PEDAGOGICAL INNOVATIONS IN THE TEACHING LEARNING PROCESS *DR. AMARDEEP KAUR*	9
3.	CRITICAL SUCCESS FACTORS IN ERP IMPLEMENTATION: A REVIEW *SANGRAM SINGH, VIRAT REHANI & DR. J. K. DHAMI*	11
4.	EFFECT OF INTERNAL BRANDING FACTORS IN DEVELOPING ORGANIZATIONAL COMMITMENT WITH SPECIAL REFERENCE TO HOTEL INDUSTRY IN INDORE CITY *VARUN KUMAR, DR.SANJAY SHARMA & DR. A K SINGH*	15
5.	PROFITABILITY ANALYSIS OF HINDUSTAN PETROLEUM CORPORATION LIMITED *DR. C. K. BUTTAN & RAANA SHAHWAL*	21
6.	E-COMMERCE AND CONSUMER RIGHTS: A STUDY ON CONSUMER PERCEPTION WITH SPECIAL REFERENCE TO AHMEDABAD *NITA SOLANKI, DR. PARAMJEET SINGH & DR. MEHUL SHAH*	30
7.	RELATIONSHIP BETWEEN OBJECT ORIENTED DESIGN CONSTRUCTS AND DESIGN DEFECTS *PAWAN KUMAR CHAURASIA & R A KHAN*	35
8.	IMPORTANCE OF STUDENT SUPPORT SYSTEM IN PROFESSIONAL INSTITUTES: TRENDS AND CHALLENGES *ANURAG DILRAJ & DR. ASHOK JHAWAR*	39
9.	LIQUIDITY STRUCTURE OF WORKING CAPITAL – TESTING OF THE HYPOTHESIS DEVELOPED BY VAN HORNE *DR. PRADIP KUMAR DAS*	42
10.	RURAL CONSUMER SATISFACTION TOWARDS ONLINE SHOPPING *DR. N. BAGYALAKSHMI*	46
11.	TELEMEDICINE: RECENT ADVANCES IN INNOVATIVE HEALTHCARE *DR. PANKAJ KUMAR VARSHNEY & DR. MOHD FAISAL KHAN*	52
12.	IMPACT OF GLOBALIZATION ON INDIA *PAWAN SHARMA & DR. SHISH PAL HARDU*	56
13.	DEMONETIZATION IMPACT ON TEXTILE INDUSTRIES IN BHIWANDI, THANE *DR. RASHMI SONI & SHEBAZBANO*	58
14.	A STUDY ON STRESS MANAGEMENT AMONGST FEMALE BANK EMPLOYEES IN TAMIL NADU DURING DEMONETIZATION *DR. J. RAMOLA PREMALATHA & PRIYADARSHINI.SR*	62
15.	THE CONTENTS OF WOMEN EMPOWERMENT IN SOLAPITH CRAFT PRODUCT: A CASE STUDY OF DHUBRI DISTRICT *JAHIDUL ISLAM*	66
16.	CONSUMERS PERSPECTIVE TOWARDS SOLAR PANEL PRODUCTS *S. DEVI PRIYA & DR. N. RAJA*	68
17.	DETERMINANTS OF ENTREPRENEURIAL DECISION-MAKING AMONGST FINAL YEAR STUDENTS IN TERTIARY INSTITUTIONS: A QUALITATIVE STUDY *MARIJKE A. ADOBEA OKYIREH & REXFORD OWUSU OKYIREH*	74
18.	A STUDY OF BENEFITS OF GST OVER INDIRECT TAX SYSTEM USING KNOWLEDGE DISCOVERY PROCESS OF DATA MINING *SAVITA MOHURLE*	78
19.	FOREIGN DIRECT INVESTMENT POLICIES IN THE LIBERALIZED TELECOM SECTOR OF INDIA - A REVIEW *SAKSHI SHARMA*	81
20.	APPLYING A COMPREHENSIVE CREDIT RATING FRAMEWORK TO THE TRANSPORTATION AND LOGISTICS INDUSTRY IN INDIA *T. SAI HARISH KUMAR*	84
	REQUEST FOR FEEDBACK & DISCLAIMER	92

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PEDAGOGICAL INNOVATIONS IN THE TEACHING LEARNING PROCESS

DR. AMARDEEP KAUR
PRINCIPAL
ASRA COLLEGE OF EDUCATION
NAGRI

ABSTRACT

Unimaginable changes are happening every single day in the realms of technology. Technology plays the most important role in modernizing global education system. Students must be equipped to handle the challenges of the 21st century, as they will spend their lives in a multitasking, multifaceted, technology- driven vibrant world. Technology can be appropriate vehicle for promoting meaningful and engaged learning and also for the development of higher order thinking skills. Innovations in teaching learning provide the student with a different kind of education. Multimedia is a combination of computerized and electronic devices that includes the combination of text, audio, animation and interactivity. Technology can be used for challenging, long-term projects that promote student's higher order thinking skills by engaging students in authentic, complex tasks within collaborative learning contexts.

KEYWORDS

pedagogical innovations, teaching learning process.

INTRODUCTION

"Invention is the time when teachers take ownership. They make the innovation real."

The latest developments in science and technology have changed the meaning and concept of education in the 21st century. Education technology has added a new dimension to make the teaching-learning process more effective and lasting. Technology is not transformative on its own. When used effectively, technology applications can support higher-order thinking by engaging students in authentic, complex tasks within collaborative learning contexts. Instead of focusing on isolated, skills-based uses of technology, schools should promote the use of various technologies for sophisticated problem-solving and information-retrieving purpose. It allows students to work on authentic, meaningful, and challenging problems, similar to tasks performed by professionals in various disciplines; to interact with data in ways that allow student-directed learning; to build knowledge collaboratively; and to interact with professionals in the field. Technologies also can be used to promote the development of higher-order thinking skills and allow opportunities for teachers to act as facilitators or guides and often as a co-learner with the students.

To be effective, technology and teachers must work together to provide challenging learning opportunities to students. The main concern is the use of technology as a catalyst for changing schools in the ways that support the acquisition of higher-order skills by students whose educational experiences frequently have been rote drill on lower-order skills with relatively little attention to skills that are relevant to effective functioning in the real world. This is for providing the students with a different kind of education, structured around the provision of challenging tasks, which can prepare them for technology-laden world.

INSTRUCTIONAL GOALS

Before technology can be used effectively for engaged learning, the school needs to ensure that the technology supports the educational goals for students. The school's initial task is to develop a clear set of goals, expectations, and criteria for student learning based on national and state educational standards. Then the school can determine the types of technology that will support efforts to meet those goals. In other words, the learning goals should drive the technology use. Technology supports the instructional learning goals. Some learning goals to be taken into account through technology are:

- Technology is integrated into instruction in meaningful ways so that it contributes to the attainment of high standards by all students.
- Technology is used for challenging, long-term projects that promote students' higher-order thinking skills instead of merely for drill-and-practice programs to improve basic skills.
- All students have opportunities to use a variety of technologies to support their work on authentic tasks.
- All technology is in operable condition and is being used effectively and to the maximum extent possible.
- There is flexibility in managing the technology to ensure that all students and teachers have equity of access.
- Professional development is considered an important part of the technology plan and the technology budget.

CHANGE IN INSTRUCTIONAL ROLE

Technology integration brings changes to teachers' instructional roles in the classroom. The teacher's roles in a technology-infused classroom often shift to that of a facilitator or coach rather than a lecturer. Technology use also tends to foster collaboration among students and other changes in the dynamics of the classroom. Teachers who are not accustomed to acting as facilitators or coaches may not understand how technology can be used as part of activities that are not teacher-directed. This situation may be an excellent opportunity for the teacher not only to learn but also to model being an information seeker, lifelong learner, and risk taker. Teachers must become comfortable letting students move into domains of knowledge and they must be able to model their own learning process. Seminars and online professional communities will help them use technology effectively.

Teachers must have knowledge and experience with the vast range of educational technology and must learn strategies for using it effectively in the classroom. Professional development must support teachers as they attempt to implement technology in the most efficient way possible as well as help them identify the most effective curricular models for their classrooms. Teacher should stay abreast of efforts to promote the effective use of technology to support the curriculum for all students. Technology should be made an integral part of the curriculum. In-service training and technical support for teachers should be provided.

CLASSROOM APPLICATIONS

In the classroom, teachers can develop a myriad of technology-supported engaged learning projects that enable students to solve real-world problems, retrieve information from online resources, and connect with experts. The advancement and inventions in the domain of technology are having an unprecedented effect on the methods of teaching-learning process globally developing the concept of "classrooms of the future" as an extremely advanced and modified picture. The usage of Interactive Whiteboard (IWB) and Audiovisual equipments is emerging as one of the powerful pedagogical innovations in the teaching and learning process. IWBs present more opportunities for interaction and discussion. The use of robotics in education is yet another educational innovation which can make learning more joyful, purposeful and activity based. Such projects can be adapted for different grade levels.

- A teacher can share an author's Web site with young children to help them understand how writers make their stories interesting and fun to read.
- Middle-school students can use e-mail and teleconferencing to connect with experts to solve science problems.
- High-school students can develop a mock technology company and use the Internet, scanners, and presentation software to plan and deliver speeches to stockholders.
- Students can be motivated in lessons with an IWB because of the high level of interaction. They enjoy interacting physically with the board, manipulating text and images. It also allows teachers to easily and rapidly create learning objects from a range of existing content and adapt it to the needs of the class.

- Robotics can be effectively used in subjects like foreign language or in repetitive therapies to teach developmental problems like autism.

Rather than using technology for technology's sake, the school can develop a vision of technology that can improve teaching and learning and is helpful in inculcating the following skills:

- Word processing and e-mail promote communication skills;
- Modeling software promotes the understanding of science and math concepts;
- Database and spreadsheet programs promote organizational skills;
- CD-ROMs and the Internet promote inquiry skills.
- IWB promote interactive skills.

PRE-REQUISITES FOR IMPLEMENTATION

- Administrative initiatives for the attainment of high standards by students as well as schools.
- Identification of compatibility requirements of various education technologies within individual schools.
- Infrastructure of the schools as well as the classrooms.
- In many schools, technology is not easily accessible by teachers. The integration of technology into the curriculum will not succeed without giving teachers ample time to practice, explore, conceptualize, and collaborate.
- Teachers need sufficient amount of opportunities to practice with the technology and gain confidence in its use and to translate new ideas and strategies into practical classroom lessons and unit plans.
- Collaboration with other teachers and technical support personnel to ensure ease of use in the classroom.
- Not all teachers are motivated to use technology. Teachers may resist for many reasons, including the fear that technology threatens their role as expert, and the feeling of inadequacy resulting from lack of prior mastery of technology skills.
- Adequate funding is required by schools to purchase necessary number of computers and other related equipments.

Technology is expected to develop new skills among the students to learn basic principles and their application to understand subjects like maths and science. It is believed that the use of technology can go a long way in providing adequate opportunities and freedom to showcase their novel ideas, but total dependence on technology, where the role of a teacher will be neglected in future is not justified.The central and state boards of school education should make technology an integral part of the curriculum at the secondary and senior secondary levels in which the role of a teacher should be given an utmost importance.

CONCLUSION

It is concluded that unimaginable changes are happening every single day in the realms of technology. Technology plays the most important role in modernizing global education system. Students must be equipped to handle the challenges of the 21st century, as they will spend their lives in a multitasking, multifaceted, technology- driven vibrant world. Technology can be appropriate vehicle for promoting meaningful and engaged learning and also for the development of higher order thinking skills. Innovations in teaching learning provide the student with a different kind of education. Multimedia is a combination of computerized and electronic devices that includes the combination of text, audio, animation and interactivity. Technology can be used for challenging, long-term projects that promote student's higher order thinking skills by engaging students in authentic, complex tasks within collaborative learning contexts.

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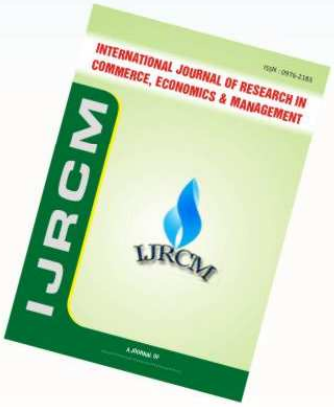
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