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## Research Paper

## Human Resource Development and Technological Change: Challenges and Opportunities

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### ABSTRACT

Human Resource Development (HRD) is an important component for the success of any organisation. Providing quality education is the key to raising human development in India. Improving learning outcomes in education is an important part of this goal. It creates equality of opportunity for all sections of the population. Human resource management plays a crucial role in the implementation of strategic management. The government has prepared a new national education policy for both schools and higher education. The NEP argues for transforming India's higher education system. There is a need to suggest policies for improving quality in both school and higher education. The focus of all aspects of Human resource development is on developing the most superior workforce. The era of 21<sup>st</sup> century is often regarded as an era of technology. Technologies are important to improve the education and skills of the population. Technology is the application of scientific knowledge to the practical aims of human life. Technology has revolutionised the field of education. The importance of technology in schools and higher education cannot be ignored. We have to be ready to approach a fourth industrial revolution, which includes advanced manufacturing, quantum engineering, 3D printing and robotics. Artificial intelligence and machine learning can improve the quality of education. The new technologies can also raise the skills of the population. New technology has had a profound effect on education. Artificial intelligence is one of the new trends in education. It can provide great insights into students' learning and performance. It can help teachers to automate some activities in education, like assessment and grading. New technology can make learning effortless and captivating. They can help to provide a rich learning experience to the students and learners and make the process of teaching and learning all the more enjoyable.

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**KEYWORDS:** HRD, HRM, Technology, Artificial intelligence, National education policy.

## 1. INTRODUCTION

Human Resource Development (HRD) is a part of Human Resource Management. Development of human resources is essential for any organisation that would like to be dynamic and growth-oriented. Unlike other resources, human resources have rather unlimited potential capabilities. The potential can be used only by creating a climate that can continuously identify, bring to the surface, nurture and use the capabilities of people. The Human Resource Development (HRD) system aims at creating such a climate. HRD is a series of organised activities, conducted within a specialised time and designed to produce positive behavioural changes. HRD concept was first introduced by Dr Leonard Nadler in the United States in 1969. Dr Nadler was a pioneer in the field of HRD and one of its premier thought leaders. Providing quality education is the key to raising human development in India. A part of human resource management that deals with the training and development of employees. It entails providing workers with skills and relevant knowledge that may help them to grow in the workplace. The purpose of Human Resource Development is to enhance learning, human potential, and high performance in work-related systems and contribute to sustainable human development. Training. Building relationships, helping with advancement opportunities, solving problems and rewarding are the characteristics of human resource development. Human resources development is needed in an organisation to achieve goals; people need competencies to perform tasks, and a higher degree of performance of tasks requires a higher degree of skills. Continuous development of competencies in people is essential for an organization for the achievement of goals. An organisation's survival, growth and excellence require competent and motivated employees. To maintain a level of growth over a period of time, an organisation may achieve a saturation of its growth. Even to keep at the same level of growth, employee competencies need to be brightened or developed as organisations operate in environments that keep changing, requiring the employees to have new competencies.

## 2. OBJECTIVE OF THE STUDY

- 1) To study the Impact of new technology on school and higher education.
- 2) To study the advantages and disadvantages of new technology on school and higher education.

### AIMS OF HUMAN RESOURCE DEVELOPMENT

Human resource development aims to improve the performance of individual on present jobs and also improve the competence of individuals to perform future jobs. It improves group dynamics, effectiveness and individuals' attitude. It integrates the goals of the individual with the goals of the organisation. It optimises the available human resources in an organisation. It encourages creativity and provides opportunities and facilities to individuals for the full expression of their talent potential. It improves interpersonal relationships, work culture, and brings industrial harmony.

## FEATURES

- 1) HRD is a systematic and planned approach.
- 2) It is a continuous process. It is a multi-disciplinary subject.
- 3) It develops the skills and knowledge not only at the individual level but also at the dyadic level, group level and organisational level.
- 4) Its advises employees about how to improve their strengths and how to remove their weaknesses.



## IMPORTANCE OF HUMAN RESOURCE DEVELOPMENT

- 1) Develops a competent workforce.
- 2) Improves relations with manpower.
- 3) Provides opportunity for career development.
- 4) Enhance productivity.
- 5) Clarify the roles.

### There Are Four Principle Which Form the Core of The Philosophy of Human Resource Development

- 1) Human assets are the most important assets.
- 2) The quality of service is a major corner-stone human resource development philosophy.
- 3) Emphasis on honesty and integrity from all its employees and associates.
- 4) Technology is not merely for the sales of technology but as a means to better productivity and relief to employees.

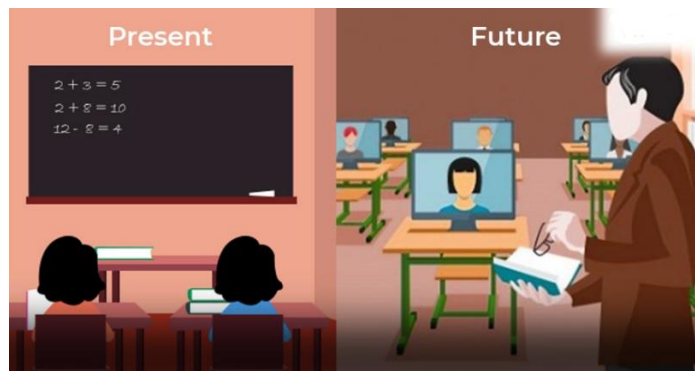
## NEW TECHNOLOGICAL REVOLUTION

A technology revolution generally increases productivity and efficiency. The era of 21<sup>st</sup> century is often regarded as an era of technology. It plays a very important role in our daily lives. It is a period in which one or more technologies are replaced by another novel technology in a short amount of time. Technologies are important to improve the education and skills of the population. We have to be ready to approach a fourth industrial revolution, which includes advanced manufacturing, quantum engineering, 3D printing and robotics. Artificial

intelligence and machine learning can improve the quality of education. The new technologies can also raise the skills of the population. The impact of technology can be felt in every possible field; one such field is Education.

### IMPORTANCE OF TECHNOLOGY IN SCHOOLS AND HIGHER EDUCATION

The role of technology is helping educators promote and teach the 4 C's (Critical thinking, Collaboration, Communication and Creativity) of 21st-century learning. It is included as a part of the curriculum, as an instructional delivery system, as a means of aiding instruction, and also as a tool to enhance the entire learning process. Due to Technology, education has gone from passive and reactive to interactive and aggressive. Education is essential in corporate and academic settings. In the former, education or training is used to help workers do things differently than they did before. In the latter, education is geared towards creating curiosity in the minds of students. In either case, the use of technology can help students understand and retain concepts better.



### IMPACT OF NEW TECHNOLOGY ON SCHOOL AND HIGHER EDUCATION

Technology has impacted almost every aspect of life today; education is no exception in that. It has affected and impacted the way things are presented and taught in the classroom to the students. Technology has a positive impact on education, and at the same time may also pose negative effects.

#### POSITIVE IMPACT ON EDUCATION

**Enhanced teaching and learning:** Technological developments like digital cameras, projectors, mind training software, PPT, and 3D visualisation tools have all these have become great sources for teachers to help students grasp a concept easily. It has to be understood that visual explanation of concepts makes learning fun for students.

**Globalisation:** When schools in different parts of the state, students can meet their counterparts with the help of video conferencing without leaving the classroom. There are some sites, such as Glovico, which are used to help students learn foreign languages online by pairing a group of students with a teacher from another country. Many reputed Universities &

Institutes also offer distance learning courses to their students without making them visit the campus.

**Web seminar:** Not every school has the resources and budget to send its students on field trips that are related to the study of the course. When this is the case in schools, then the students' education suffers a lot. But due to the latest and trending technology, students can use the internet to virtually attend web seminars put on by museums and other educational institutions.

#### NEGATIVE IMPACT ON EDUCATION

**Declining writing skills:** Due to the excessive usage of online chatting and shortcuts, the writing skills of today's young generation have declined quite tremendously. Children are relying more and more on digital communication, so they have totally forgotten about improving their writing skills.

**Increasing incidence of cheating:** Technology developments like graphical calculators, high-tech watches, mini cameras, etc. have become great sources to cheat in exams. It is easier for students to write formulas and notes on a graphic calculator with the least chance of being caught.

**Lack of focus:** Messaging and chatting have become a favourite pastime of many students. Students are seen playing with their cell phones, iPhone day or night and very often even between lectures. Being ever-connected to the online world has resulted in a lack of focus and concentration in academics.

### ADVANTAGES AND DISADVANTAGES OF NEW TECHNOLOGY IN SCHOOL AND HIGHER EDUCATION

#### Advantages

- 1) It makes students more excited to learn.
- 2) Help students with busy schedules, freedom to work at home on their own time.
- 3) Trained students to learn new technology skills they can use later in the workplace.
- 4) Decrease paper and photocopying costs, promoting concept of 'Green revolution'.

#### Disadvantages

- 1) Many experts and experienced people say that, due to such technology in education, students' imagination is affected, and their thinking ability is reduced.
- 2) Sometimes it's also time-consuming from the teacher's point of view.
- 3) It is costly to install such technology.
- 4) There can be health issues too when used over the limit.
- 5) Some students can't afford modern computer technologies.

### 3. CONCLUSION

In today's world, human resource management plays a very significant role in daily life. Human resources are a key element in the success or failure of monitoring programmes to meet their objectives. It should encompass a much wider remit than training and should address issues such as career structures and professional development. Technology is an integral part of living in the 21<sup>st</sup> century, referred to as the fourth revolution, which is accompanied by challenges and opportunities.

Technology has a positive impact on education, and at the same time may also pose negative effects. Teachers and students should take advantage of this in the good light and eliminate the drawbacks that are pulling back many students as well as schools from achieving excellence. It is thus time for every country to introduce a more technologically equipped education sector in the future. It is a time of great possibility and progress for the use of technology to support learning.

## REFERENCES

1. Armstrong M. *A handbook of human resource management practice*. London: Kogan Page; 2006.
2. Bransford JD, Brown AL, Cocking RR. *How people learn: brain, mind, experience, and school*. Washington (DC): National Academy Press; 2000.
3. Brill JM, Galloway C. Perils and promises: university instructors' integration of technology in classroom-based practices. *Br J Educ Technol*. 2007;38(1):95-105.
4. Leising J. The new script for teaching handwriting is no script at all. *Wall Street Journal*. 2013 Feb 25.
5. Roschelle J, Pea R, Hoadley C, Gordin D, Means B. Changing how and what children learn in school with computer-based technologies. *Future Child*. 2000;10(2):76-101.
6. Becker GS. *Human capital: a theoretical and empirical analysis*. 3rd ed. Chicago: University of Chicago Press, 1993.
7. Drucker PF. *Management challenges for the 21st century*. New York: Harper Business; 1999.
8. Torrington D, Hall L, Taylor S, Atkinson C. *Human resource management*. 10th ed. London: Pearson Education; 2017.
9. Ulrich D. *Human resource champions*. Boston: Harvard Business School Press; 1997.
10. Noe RA. *Employee training and development*. 7th ed. New York: McGraw-Hill Education; 2017.
11. Schwab K. *The fourth industrial revolution*. Geneva: World Economic Forum; 2016.
12. Brynjolfsson E, McAfee A. *The second machine age*. New York: W.W. Norton & Company, 2014.
13. Bessen JE. *Learning by doing: the real connection between innovation, wages, and wealth*. New Haven: Yale University Press; 2015.
14. Organisation for Economic Co-operation and Development. *Skills outlook 2019: thriving in a digital world*. Paris: OECD Publishing; 2019.
15. World Economic Forum. *The future of jobs report*. Geneva: World Economic Forum; 2020.
16. Government of India. *National Education Policy 2020*. New Delhi: Ministry of Education; 2020.
17. Mishra S, Mishra A. E-learning systems and human resource development. *Int J Train Dev*. 2011;15(1):60-75.
18. Luthans F. *Organisational behaviour*. 12th ed. New York: McGraw-Hill, 2011.
19. Cascio WF, Boudreau JW. *The search for global competence*. Cambridge: Cambridge University Press; 2016.
20. Kumar A, Bhattacharya S. Industry 4.0 and workforce transformation in India. *J Hum Resour Dev*. 2020;14(2):45-58.

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