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Impact of AI at School Level: With Special Reference to Janjgir District of Chhattisgarh

Mrs. Santosh Sharma, Research Scholar, Economics, Department of Social Sciences, University of Kota, Kota
Email: santoshsharma220@gmail.com

Abstract

This paper explores the impact of AI on school education sector within the janjgir district of Chhattisgarh. The Role of Artificial Intelligence in Transforming Education Artificial Intelligence (AI) is revolutionizing education by reshaping traditional teaching methods, enhancing learning outcomes, and expanding access to quality education. AI-driven tools, such as Diksha, SWAYAM and cousera some are tailoring educational experiences to individual learners' needs, preferences, and pace.The introduction of AI brought both opportunities and challenges Although the use of AI tools for learning and teaching has improved education and skills .This study utilizes primary data and secondary data. Findings suggest that people rely AI tools for educational purpose which hence their knowledge and skills.

Keywords: Diksha, Swayam, Swayam Prabha Tv, Online Coaching for Competitive Exams, Bharat Skill, Coursera, Udemy, Byju's, Unacademy, Khan Academay

1. INTRODUCTION

Artificial intelligence (AI) refers to computer systems capable of performing complex tasks that historically only a human could do, such as reasoning, making decisions, or solving problems. It is a field of research in computer science that develops and studies methods and software that enable machines to perceive their environment and use learning and intelligence to take actions that maximize their chances of achieving defined goals. Such machines may be called AI. It is a field of research in computer science that develops and studies methods and software that enable machines to perceive their environment and use learning and intelligence to take actions that maximize their chances of achieving defined goals. Such machines may be called AIs.

2. LITERATURE REVIEW

Ke Zhang, Ayse Begum Aslan (2021) in his research paper on computer and: artificial intelligence, research 40 empirical studies an explode potential potential, artificial intelligence benefits for education. They generated practical examples for AI and education. They suggested interdisciplinary and disciplinary collaboration for AI ethics.

Hrishikesh Rajkhowa (2022) explained this in his thesis. Paradigms of artificial intelligence in India: A legal study of emerging trends, explains in his thesis, AI, ethical and legal issues. AI that has an advanced state may be counted as a person and must be regulated by a new set of rules. The study makes recommendations for what should be included in computer, ethics, and law courses. Education should focus on developing critical thinking and decision-making skills as well as knowledge acquisition.

Dr G. Yoganandham, Mr E. Mohammed Imran Khan, and Mr G. Elanchezhian(2023) explain in the research paper, impact of Artificial Intelligence on Indian Economic Growth and Population, he supported that AI can be employed in Military, agriculture, Medicine, energy, and other industrial sector. They improve security, productivity and efficiency. His article emphasises on effect of artificial intelligence on the global economy and its potential to expand the gap between workers, organizations and nations.

Dipak Kadve(2023) in his research paper on the impact of AI on employability in India. He explained the impact of AI employability can have positive and negative consequences. With respect to India, the employment of AI will lead to a decrease in employment. He explained that repetitive jobs will decrease and high-skill jobs are expected to remain in future. He discussed the concept of human-AI collaboration for enhancing productivity and efficiency. He focused on ethical considerations related to regulation to protect workers' rights.

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Neha Saini(2023) explains in a research paper, the different broader characteristics of AI and its ability to compute and observe complex decisions, the history of AI, the Application of AI in today's society

She suggested in his study, the importance of the development of computer science, and the responsibility of engineers to develop these fields for the betterment of growth and development of the world.

Shan Wang, Fang Wang, Zhen Zhu, Jingxuan Wang, Tam Tran, and Zhao Du (2024) explained the primary categories of AI application in education, pre-dominated research, topic and status of major research design elements. The study involved the technical design of the education system and the examination of the adoption of AI. The research suggests a future direction of the need to incorporate test AI techniques in education.

3. OBJECTIVE

- To study the impact of AI tools at school level
- To compare the effect of government and private AI tools at the school level
- To identify the most effective AI tools used at the school level
- To analyze the challenges of these tools.

4. RESEARCH METHODOLOGY

This study uses a mixed-method approach, combining both qualitative and quantitative.The primary data was gathered through structured surveys through questionnaires with the help of Google Forms. The sample size comprises 50 participants ensuring their representation from various segments like students, and teachers in the janjgir district of Chhattisgarh.

Data Collection:

- Primary Data: Structured surveys with the help of Google form were conducted to understand the direct impact of AI in School education. The survey focused on key issues such as the uses of AI and different tools.
- Secondary Data: Data from government ministry, research studies and portal websites are used to define AI tools.

Sampling Technique:

Purposive sampling was used to select participants from different segments of the education Industry, with a focus on teaching learning participants.

5. AI AND SCHOOL EDUCATION

The role of artificial intelligence in education is primarily to enhance teaching-learning experiences through data-driven solutions. Due to the pandemic, schools shifted to Digital learning, with challenges like slow digitization and limited IT infrastructure. Although this, AI drives better outcomes with tailored lessons and boosts classroom engagement.

5.1 Government Initiatives at school level

1. **DIKSHA (Digital Infrastructure for Knowledge Sharing)**: The Hon'ble Vice President of India officially introduced DIKSHA (Digital Infrastructure for Knowledge Sharing) for students, teachers, and parents on September 5, 2017. Multiple languages, location-based flexibility, class-wise, study, material, and QR code accessibility are some of its features. Additionally, the DIKSHA mobile app allows users to explore interactive materials, lessons, plans, worksheets, and class-appropriate activities.

2. **SWAYAM:** This initiative was started by the Indian government with the goal of achieving the three pillars of education policy: quality, equity, and access. The goal of this endeavor is to make the best educational resources available to everyone, including the most underprivileged. This tool is for students who have have been left out of the digital revolution and unable to integrate into the knowledge economy. SWAYAM aims to close the digital divide. The courses offered on SWAYAM are divided into four sections: (1) video lectures; (2) specially prepared

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readings that can be printed or downloaded; (3) self-assessment examinations in the form of quizzes and tests; and (4) an online discussion forum for questions.

3. SWAYAM PRABHA TV: On July 7, 2017, Swayam Prabha was officially opened. A collection of DTH channels called Swayam Prabha is committed to providing high-quality educational programming on television every day of the week. The GSAT-15 satellite is used for its operations.

Every day for at least four hours, Swayam Prabha presents fresh content. The NPTEL, IITs, UGC, CEC, IGNOU, NCERT, and NIOS are the providers of the content. The web portal is maintained by the INFLIBNET Center. There is a two-hour televised plan for classes1 to 10 and a three-hour schedule for classes 11 and 12.

4. Online Coaching for Competitive Exams: The Department of Higher Education has set up online courses for the IITPAL and E-Abhyas competitive exams. IIT professors have created a series of lectures called IITPal, or IIT Professor Assisted Learning, to aid students in getting ready for the Joint Entrance Exam (JEE). It has 193 videos on physics, 218 movies on math, 146 videos on chemistry, and 120 videos on biology. E-Abhyas is a customized adaptive learning environment for students preparing for the National Testing Agency's JEE and NEET competitive exams.

5. BHARAT SKILL: This project is to improve vocational skills. It offers two programmes – (i) Craftsmen Training Scheme comprise electrician, fitter, and welder and COPA courses. (ii) The Crafts Instructor Training Scheme offers courses for carpenters, plumbers, and foundry workers with varying skill development timelines.

5.2 Private Initiatives of AI at school level

1. **Coursera:** It is an American company that offers massively open online courses all over the world. Stanford University launched it in 2012. Coursera offers online courses, degrees, and certifications in a range of areas in collaboration with universities and other organizations. Coursera courses consist of one to two hours of video lectures every week and last between four and twelve weeks. Weekly exercises, peer-graded and reviewed assignments, quizzes, an optional Honors assignment, and occasionally a final project or exam are all part of these courses.
2. **Udemy:** It is an educational technology firm launched in May 2010 by Eren Bali, Gagan Biyani, and Oktay Caglar. Its headquarters are in San Francisco, California, with other locations in Denver, Dublin, Austin, Melbourne, Istanbul, and Gurgaon. The website provides over 250,000 courses and more than 75,000 instructors who teach courses in 75 languages.
3. **BYJU'S:** It is an Indian multinational educational technology firm based in Bengaluru. It was established in 2011 by Byju Raveendran and Divya Gokulnath. Byju's is an education tutoring software that operates on a freemium model, with free content available for 15 days after enrollment. It offered educational content for pupils from grades one to twelve. It also train students for examinations in India such as IIT-JEE, NEET, CAT, IAS, and international examinations such as GRE and GMAT. In 2019, the company announced that it would launch its app in regional Indian languages.
4. **Unacademy :**It is an Indian multinational educational technology firm that operates online. It is an Educational platform, with its headquarters in Bangalore. It train students for a variety of competitive exams (including JEE, NEET, UPSC, Chartered Accountancy, GATE, UPSC NDA, CUET, and Boards), as well as foundational (K-12) and skill-building courses. Gaurav Munjal, Hemesh Singh, and Roman Saini co-founded it in 2015. It gives students access to live classes taught by educators across the country in English and 14 Indian languages.

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5. **Khan Academy:** It was created in 2006, by Sal Khan; this American non-profit educational organization has produced over 10,000 video lessons for Class 1to 12 students with videos, exercises, and tests. They teach a wide spectrum of academic subjects, sciences, mathematics, literature, history, and computer science along with the CBSE and NCERT syllabus, and are available in English, Hindi, and many more regional languages.

6. Analysis and Interpretations:

This study is done on 50 participants in the Janjgir district of Chhattisgarh with the help of Google Forms. This study comprises 60 per cent of students and 40 per cent of teachers for evaluations of the use of AI tools at the school level and their impact on improvement.

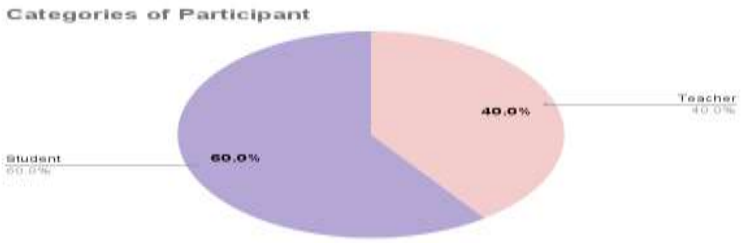
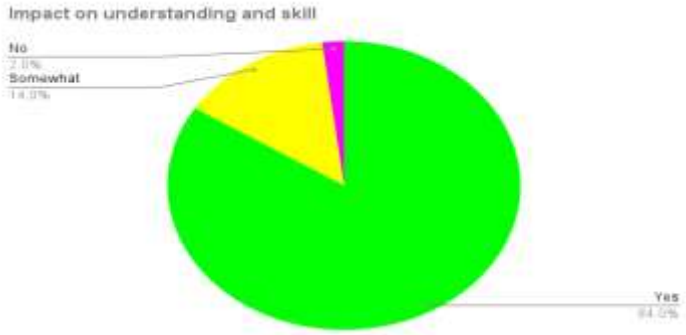


Figure: 1

6.1 Impact tool on understanding

According to the study it is found that more respondents find a positive impact of using AI tools in understanding Subjects and skills. Significant and improving skills and subject knowledge as it provides customised learning with difficult features like speed, adjustment, language, choice, and quality of video, etc with various options.



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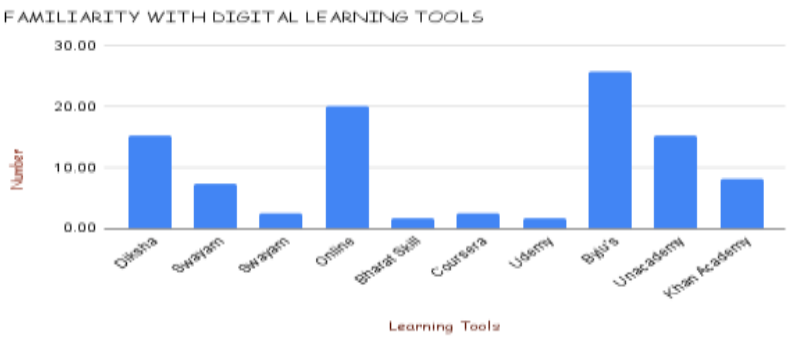
6.2 Familiarity with digital Learning Tools

As per the study conducted it is found that most of the Respondents are familiar with Byju's followed by online coaching and Diksha AI digital platform. Thiswider accessibility leads to integration of AI into the education system user-friendly. So familiarity increases over a period of time.



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6.3 Sources of Information

In this study, it is revealed that most of the respondents get awareness about these AI tools either through social media or through school administration. It implied that the school is actively taking part in spreading awareness among teachers, parents and students. As the new era is technological advancement, everyone should be well aware of the aspects of development and their effects.

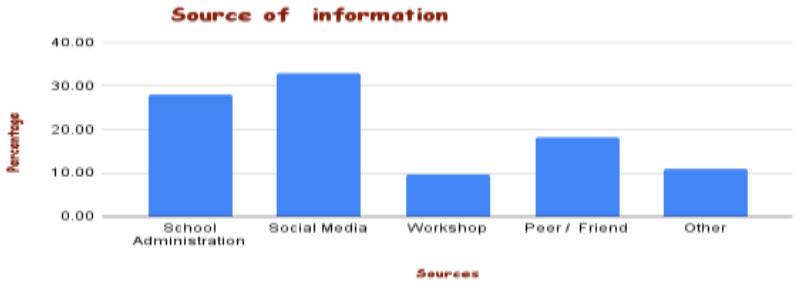


Figure: 4

6.4 Purpose of use

As per the study, most of the respondents use these AI learning tools both for accessing study material, for watching video lectures to enhance their knowledge and skill development. This helps to prepare notes and develop their innovative skills, promote self-administration and encourage them to learn new concepts at their own pace. Thus it will promote customized learning experience. It also enhance efficiency of human capital.

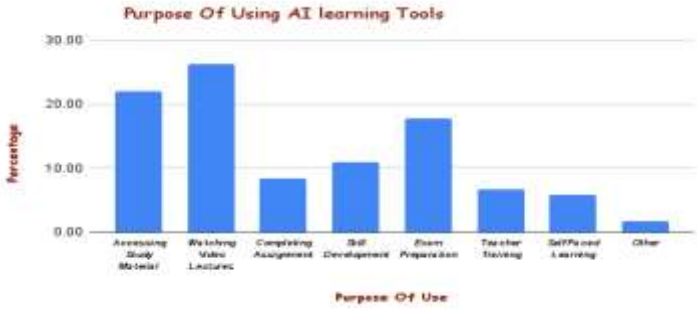
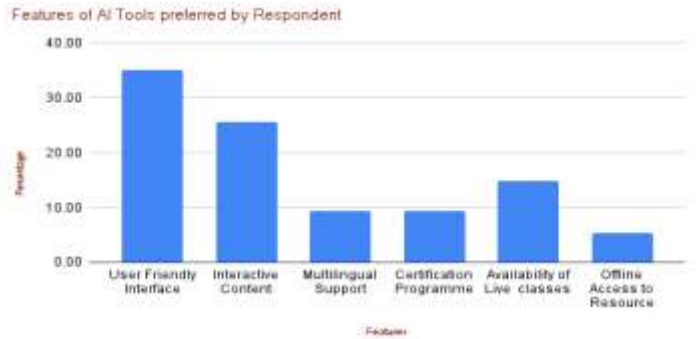


Figure: 5

6.5 Features most preferred

This study indicated that a predominant share of respondents favor AI digital tools for their Intuitive usability and dynamic content engagement. Since pandemic work from home, culture has increased drastically so application of user-friendly interfaces and interactive content has become a integrative part of regular jobs senrio. Everyone needs additional certificates and knowledge for the promotion. So these tools are most preferred.



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6.6 Grade level

The study shows that at the senior secondary level, these tools are widely used by teachers and students as they reduce time for the teaching leraning process and will increase the retention power of the students. These AI tools provide a platform where teachers and learns discuss their concepts and quarries without considering geographical and time barriers.

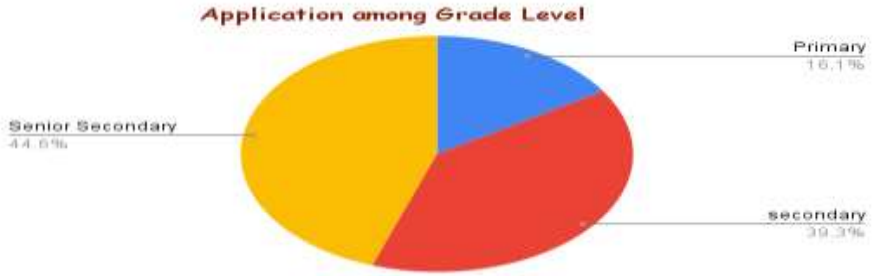


Figure: 7

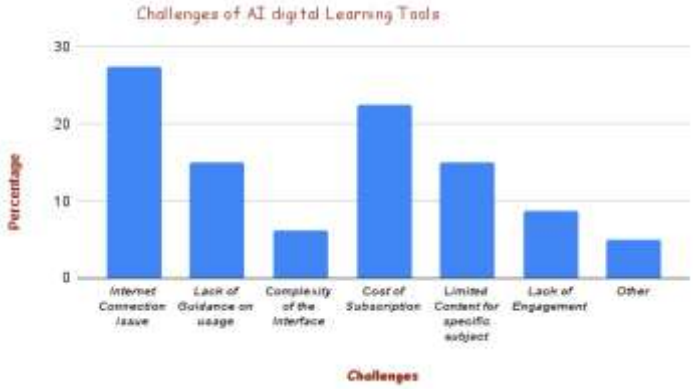
6.7 Rating given by respondents

The study revealed that most of the respondents gave higher ratings to these AI digital learning tools. This tool directly or indirectly has a positive impact on the development of teaching teaching-learning process. It also shows that certification courses possess importance in the teaching profession for career development. It provides 24×7 content availability for users.

Figure: 8

7. CHALLENGES

As per the response of the respondents, the people in this region are facing the issues of basic infrastructural amenities like Internet connectivity and due to the backward region; the cost of subscription is out of pocket for most of the respondents. As it is an era of technology upliftment, there is a lack of proper guidelines to handle the complexity of this tool. Most of these tools require personal information access, which creates doubt in the mind of user with respect to data privacy breach.



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8. CONCLUSION

The study was conducted on 50 participants of Janjgir which comprises 60% students and 40% teachers. After analyzing the responses of these participants we can draw the conclusion that most people in this section prefer YouTube as the convenient source of platform for enhancing their learning, knowledge and skill as it is free from subscription and user-friendly. However, when compared to AI-driven digital tools this section mostly relies on structured platforms like Diksha, an online coaching platform and Byju's as their preferred learning tools. It implied that people in this region are not very aware of the importance of AI as digital learning tools in their career progression. The people here are still facing the issue of Internet connectivity which could make these tools less appealing for them. However, we cannot deny the fact that the government is taking the initiative in this drive to make India digitally progress as most people aware of these tools are either through social media advertisements or through school administration.

The study further revealed that teachers and students who are using these digital tools are mostly senior secondary grade level. This conveys that people who are at higher grades are more user-friendly with these Digital learning platforms It could be a good sign for educational improvement as the Application of these AI tools will enhance creativity, analytical and innovative skills among the students. Additionally, these tools are enhancing the whole teaching-learning process. Moreover, the people in this region are facing the infrastructural challenges of internet connectivity which somewhere enforced them to use these tools mostly occasionally. However, even with this limitation the study further revealed that the ones who are using the tools are mostly for watching video lectures and for accessing study material which implied that the curriculum and the content offered by these tools are enriched and relevant to their needs. The startling fact that comes out of this study is that most respondents have given a 5 rating to all these tools. The result conveys that although these AI tools are effective at the school level their use is for the most part limited to higher grade levels. Thus their application needs to be enlarged to the medium and primary grade level as well.

DIKSHA app is more popular, which indicates the importance of government over private as these tools are freely available and promoted by the school administration. It help in improving personalize Learning by giving them the opportunity to access these resources at their own pace.

These AI digital tools help in the drive to achieve the objectives of a multilingual classroom as well. As new education policy, supports vocational skill development, we need to guide students to handle AI tools for skill development.

9. SUGGESTION

- To promote proper use of AI twos for the betterment, the government should adopt public private partnership model.
- There should be proper data privacy and security rules for managing these tools to prevent data breach.
- It should be ensured that data and video content are authentic, correct and relevant for the purpose.
- AI tools should provide platform where we can utilize our human capital knowledge and their experience that can be shared for building a sound nation.
- Since the current school scenario, a way that teachers are over burden by school administration work, there should be administrative automation in schools which will improve productivity of work.
- For optimum utilization of these AI tools, workshops and seminars should be organized by the administration.

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9. RESEARCH LIMITATION

- This study is based on a questionnaire method. It will be difficult to avail their time. It is restricted to the Janjgir district of Chhattisgarh only.
- Time and cost are the major constraints of this research.
- The accuracy of data largely depends on the correctness of information provided by the respondents.
- The researcher has no control over the variable of the research.
- The present study only reports what has happened and what is happening.
- The present study will be based on the reliability of the primary data.

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