A COMPARATIVE STUDY OF USAGE OF ARTIFICIAL INTELLIGENCE AMONG HIGHER SECONDARY SCHOOL STUDENTS IN DIFFERENT EDUCATION BOARDS

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## 1.	Introduction

Artificial Intelligence (AI) refers to the development of computer systems that can perform tasks typically requiring human intelligence. These tasks include visual perception, speech recognition, decision-making, and language translation. Artificial Intelligence (AI) has rapidly transformed various sectors, including education. Artificial Intelligence (AI) is increasingly being integrated into school-level education, offering a range of benefits and some challenges. In the context of school students, AI offers opportunities to personalize learning, provide real-time feedback, and support teachers in creating a more engaging and effective educational experience.

As Artificial Intelligence (AI) continues to revolutionize various sectors, its role in education is becoming increasingly significant. By integrating AI into their learning processes, students can not only enhance their educational outcomes but also develop essential skills for the future workforce. However, the adoption of AI in education requires proactive encouragement and structured strategies. This paper explores how educators, policymakers, and institutions can encourage students to use more AI in their education, enabling them to learn this transformative technology faster. Additionally, it discusses the potential beneficiaries of this research. So to know the usage.

## 2.	Statement of Problem

In present research the researcher studied on use of artificial intelligence of higher secondary school students of English medium in context to their educational board and gender. The statement of problem for current research is as follows

A Comparative Study of Usage of Artificial Intelligence among Higher Secondary School Students in Different Education Boards

## 3.	Objectives of the Study

The objectives of present research are as under

1.	To study the level of use Artificial Intelligence of higher secondary school students.

2. To compare the use of Artificial Intelligence among higher secondary school students of different board.

3. To study the use of Artificial Intelligence between higher secondary school male and female students.

4. Variables of the Study

In research there are five types of variables are there. In present research three types of variables are used i.e. Independent variable, Dependent variable and the Moderate Variable. The table showing variables is as under.

Table 1

Table Showing Variables

Sr. No.	Variable	Types of Variable	Level
1	Gender	Moderate Variable	1.Male 2. Female
2.	Education Board	Independent Variable	1. GSEB 2. CBSE 3. ICSE
3	Usage of Artificial Intelligence	Dependent Variable	

5. Hypothesis of the Study

In present research the researcher has constructed null hypothesis as follow

Ho_1 There is no significant difference among the mean score of higher secondary school students of GSEB, CBSE and ICSE board on the Artificial Intelligence scale

Ho_2 There is no significant difference between the mean score of higher secondary male and female students on the Artificial Intelligence scale

6. Importance of the Study

The importance of the present research are as under

Educators:

➢ Teachers and Instructors: This research provides teachers with practical strategies to integrate AI into their classrooms, enhancing their teaching methods and improving student engagement and outcomes.

> ➤ Curriculum Developers: The insights from this research can inform curriculum developers on how to incorporate AI-related topics into educational programs effectively.

Students:

> ➤ Higher Secondary Students: The primary beneficiaries, students will gain early exposure to AI technologies, enabling them to develop relevant skills and knowledge that will be crucial for future academic and career success.

> ➤ Lifelong Learners: Beyond traditional students, lifelong learners looking to up skill in AI will find value in the strategies discussed, helping them navigate the rapidly evolving job market.

Policymakers and Educational Institutions:

> ➤ Educational Administrators: School and college administrators can use this research to implement AI-focused initiatives that align with broader educational goals.

> ➤ Government and Policy Makers: The research can guide policymakers in creating supportive frameworks and policies that encourage the integration of AI in education at various levels.

Tech Companies and AI Developers:

> ➤ Ed Tech Companies: Companies developing AI tools for education can leverage the research to better understand the needs of educators and students, leading to the creation of more effective and user-friendly AI solutions.

> ➤ AI Researchers: Academics and researchers in the field of AI can use the findings to explore new avenues for AI applications in education, contributing to the ongoing development of the field.

7. **Review of Related Literature**

The review of related literature are as follow

Cathrin and Wikandaru (2023) did their study on, "The future of character education in the era of Artificial Intelligence." The objective of the study to analyse the future and sustainability of character education in the era of Artificial Intelligence. It is philosophical research on the using qualitative research. The data was collected through document studies. It is found that the development of Artificial Intelligence in the field of education is an unavoidable phenomenon. The finding of the study emphasis the importance of developing character education and Artificial

Intelligence in education in a harmonious manner in order to maintain the continuity of character education in the future of Artificial Intelligence.

Karwowski et.al (2022) studied on "Explainable Artificial Intelligence for Education and Training." In this research they discussed many examples, methods for evaluating explanations and explored Artificial Intelligence and Tenth Artificial Intelligence use in the training and education domain. They studied many reviews the essential capabilities, limitations and delimitations of Tenth Artificial Intelligence tools developed over recent years and reviews the history of Tenth Artificial Intelligence and Artificial Intelligence in Education. This study focused mainly on Artificial Intelligence and Machine learning in Education.

Hamalet. al (2022) studied that the application of Artificial Intelligence in Education. Artificial Intelligence combine inter disciplinary field. The field of Education, psychology, neuroscience, language, sociology and anthropology developed effective adaptive learning 28 environments. It should be flexible and used inclusive tools. ICT and MOOC applications are useful in Education.

Xue and Wang (2022) did their research on "Artificial Intelligence for Education and Teaching". In this paper, aimed that combines Artificial Intelligence to progress research on teaching, which is implemented on Artificial Intelligence and promote the development of cognitive and pedagogical skills. The different research methods are literature, case analysis and interview method. Different designs are used in the teaching platform. For Education, this digital platform is useful in each dimension.

Agrusti and Bonavolontà (2021) studied on "Artificial Intelligence and Education: the perceptions of the students of the Department of Educational Sciences at Roma Tre University on the concept of Artificial Intelligence." In the field of Education world, at any level has to consider the predominant role that Artificial Intelligence plays in modern world. They showed that the initial results of an exploratory survey conducted among the students of the department of educational sciences. It is an exploratory study which is use for gathering students' opinion on the concept of Artificial Intelligence.

8. Population

In present research the all students of English medium higher secondary schools of GSEB, CBSE and ICSE board of Ahmedabad city are the population

9. Sample

In present research the researcher has used multi stage sampling technique to select the sample. The researcher has first stratified population, from that she selected randomly one school from each Board. And then all the students of standard 11th present on the day of data collection was selected as sample. Thus the researcher has selected 3 schools and 140 students as a sample.

10. Tools of the Study

In present research the researcher used standardized Artificial Intelligence scale prepared by Dr.Huma Naz. In this scale there are 31 statements with five rating point scale i.e. strongly agree, Agree, Undecided, Disagree and strongly disagree. From total 31 statements 19 positive statements and 12 negative statements are there. In this scale there are five dimensions i.e. awareness about artificial intelligence, self-development, self-esteem and confidence, learning conditions and applications of artificial Intelligence in education.

The reliability of the scale is 0.91 by spilt half method. The researcher has decided validity of the scale by content validity and face validity method.

11. Research Method

As the subject for research is "A Comparative Study of Usage of Artificial Intelligence among Higher Secondary School Students in Different Education Boards" the researcher has applied survey method for data collection from Higher Secondary school students.

12. Limitations of the Study

In present research the researcher has decided following limitations

1. The present research is limited to the higher secondary school students of commerce stream of GSEB, CBSE and ICSE board only.

2. The present research is limited to the students of only English medium higher secondary schools.

3. The present research is limited to the students of higher secondary schools of Ahmedabad city only.

13. Data Collection

In present research to collect the data the researcher has taken prior permission of the principals of GSEB, CBSE and ICSE schools randomly selected in the sample. Then she personally went to the school and explained the purpose of research to the students and

with the help of their teacher distributed questionnaire to the students of grade 11. The students has filled up the questionnaire enthusiastically. The researcher has collected the questionnaires and gratitude her thanks to the students, teachers and principal for their cooperation in data collection.

14. Statistical Techniques used

After the data collection the data was analyzed using the following statistical techniques Mean, Standard Deviation, t test and Anova.

15. Analysis of Data

The level of artificial intelligence in higher secondary school students

level of Artificial Intelligence

■ Very high   ■ high   ■ Average   ■ Low   ■ Very Low
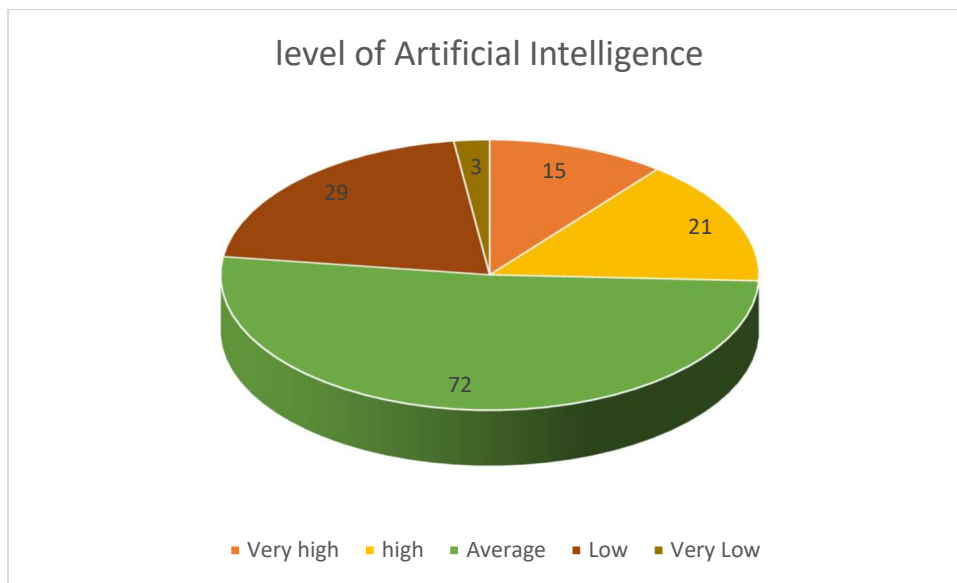
From the above graph we can see that from total students 15 students very highly use artificial intelligence in their study, 21 students use artificial intelligence in their study at high level. 72 students use at average level , 29 students use artificial intelligence at low level and only 3 students use artificial intelligence at very low level in their study.

16. Findings of the study

The major findings of the present study is as follow

1. The use of artificial intelligence in higher secondary school students seems average.
2. The students of higher secondary school students of ICSE board use Artificial Intelligence more in comparison of GSEB and CBSE.
3. The male students use more artificial intelligence than female students.

17. Suggestions

The educational implications of present researches are as under

1. Teachers should use these technologies to enhance their teaching practice and professional experience.

2. Teacher should explain the basics of AI, including its applications in daily life and various industries. Highlight the growing importance of AI in the global economy and the need for students to be familiar with this technology.

3. Teacher should discuss how AI can enhance education by providing personalized learning experiences, offering real-time feedback, automating administrative tasks, and fostering a more engaging and interactive learning environment.

4. Teacher should emphasize the importance of AI literacy for future career opportunities. AI-related skills such as data analysis, machine learning, and automation are increasingly in demand across various fields.

5. Teacher should provide students with access to AI-powered educational tools, such as adaptive learning platforms, AI-based tutoring systems, and virtual assistants. These tools can help students experience the benefits of AI first hand.

6. School should promote the use of free or low-cost AI resources available online, such as AI courses, tutorials, and coding platforms. These resources can supplement classroom learning and allow students to explore AI at their own pace.

7. School should Establish AI-focused labs and student clubs where students can experiment with AI technologies, collaborate on projects, and share their learning experiences with peers.

8. Education board should Offer training programs for teachers to familiarize them with AI tools and their educational applications. Teachers need to be comfortable using AI in the classroom to effectively guide and support students.

9. Board or school should organize AI-themed competitions and hackathons to challenge students to solve real-world problems using AI. These events can spark interest and motivation while providing practical experience.

10. Teach students about the ethical implications of AI, including issues related to data privacy, bias, and the societal impact of AI technologies. Encouraging critical thinking around these topics can lead to more responsible and informed use of AI.

11. Teacher should use AI-related challenges to develop students' problem-solving skills. By tackling complex issues using AI, students can enhance their analytical and critical thinking abilities.

18.   Recommendations for Future Research

The recommendations for future research are as under

- In present research the research was held on usage of AI at Higher secondary school one can research on Primary, Secondary or college students
- Research should focus on developing curricula that teach students about AI technologies, their applications, and their societal impacts.
- One can research on method to protect students data privacy while using AI tools, ensuring compliance with legal and ethical standard
- Research can held to develop adaptive assessment tools that provide feedback and support to students based on their performance.
- One can study on the use of AI to support students with special educational needs
- Ensure AI tools are designed to be inclusive and accessible to all students, regardless of their abilities.
- Research the scalability of AI solution in diverse educational settings from urban to rural schools.

19. Conclusion

The quench for use of Artificial Intelligence is a never quenching thirst. Efforts in the direction have been done by many scholars and experts, and are still undergoing by many. Such efforts will continue as long as there is innovation and more use of AI started.

From the present research we can conclude that many factors affect the AI. The use of AI is more in ICSE board school than the GSEB as well as CBSE.