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Awareness on Artificial Intelligence Tools among Secondary School Students

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Abstract: ***The effective use of Artificial Intelligence (AI) tools among students can positively influence their learning experiences, creativity, and academic performance. This study focuses on the awareness of AI tools among secondary school students. The present study was conducted among secondary school students to identify their level of awareness regarding AI tools used in education. The data were collected from a sample of 215 students, consisting of 103 boys and 112 girls, selected using a simple random sampling technique. The descriptive survey method was employed for data collection using an AI tool Awareness Scale.***

Keywords: Artificial Intelligence, Secondary school students, AI tools.

1. Introduction

Artificial Intelligence (AI) has become an essential part of modern education. AI tools such as ChatGPT, Google Bard, Grammarly, Canva AI, and other learning applications are widely used by students for academic support, content creation, problem-solving, and skill development. In the present educational scenario, awareness of AI tools among students is increasing rapidly due to technological advancements and internet accessibility.

High school students are among the active users of digital technologies. Awareness and proper use of AI tools can help students improve learning efficiency, critical thinking, and creativity. Educational institutions and teachers also play an important role in guiding students toward the ethical and effective use of AI technologies.

2. Concept of Awareness

Awareness refers to the knowledge, understanding, and familiarity an individual possesses regarding a particular concept, technology, or issue. In the context of education, awareness helps students understand the benefits, limitations, and applications of modern technologies in their learning process.

Awareness of AI tools includes knowledge about the availability, usefulness, accessibility, and educational applications of AI-powered platforms and software. Students with higher awareness can effectively utilize these tools for academic improvement and self-learning.

AI tools Awareness

AI tools are software applications or platforms that use artificial intelligence techniques to perform tasks such as answering questions, generating content, translating languages, correcting grammar, and assisting in learning activities. Awareness of AI tools among students is important because it prepares them for future educational and professional environments.

Students with positive awareness toward AI tools are more likely to adopt innovative learning methods. Proper awareness also helps students use AI responsibly and avoid misuse. Educational institutions must encourage students to understand both the advantages and ethical considerations of AI technologies.

3. Need for the study

In today's digital era, AI tools are increasingly becoming part of the educational process. Secondary school students frequently use smartphones, computers, and internet-based applications for learning purposes. However, the level of awareness regarding AI tools may vary among students.

Understanding students' awareness of AI tools is important because it helps educators identify whether students are prepared to use emerging technologies effectively. Awareness also influences students' attitudes toward technology-based learning. Therefore, the present study aims to examine the awareness of AI tools among high school students and determine whether gender influences their awareness levels.

4. Objectives of the Study

- To find out the level of awareness of AI tools among secondary school students.
- To find out whether there is any significant difference in AI tools awareness among secondary school students with respect to gender, Locality, father's educational qualification and screen time.

Hypotheses:

- There is no significant difference in the awareness of AI tools among secondary school students with respect to gender.
- There is no significant difference in the awareness of AI tools among secondary school students with respect to locality.
- There is no significant difference in the awareness of AI tools among secondary school students with respect to screen time.
- There is no significant difference in the awareness of AI tools among secondary school students with respect to Parent's educational qualification.

5. Methods and Procedure

The Sample:
In this study, the investigator adopted a simple random sampling technique. Data were collected from 215 Secondary school students studying in various schools. AI tools awareness scale and personal data sheet was administered and disseminated using the Google form platform. Participants were encouraged to fill out the form and assist in sharing the questionnaire with their friends. Moreover, participants were limited to one response to avoid duplicated or exaggerated data.

Tool for the present study:
The investigator developed a personal data sheet and AI tools Awareness Scale for the present study. The AI tools Awareness Scale consisted of 30 statements related to students' knowledge, usage, and understanding of AI tools in education. All items in the questionnaire are measured on a 5-point Likert type scale, with 1 indicating "Strongly disagree" and 5 indicating "Strongly agree". Respondents were asked to click the appropriate number to indicate the extent to which he/she agreed or disagreed with each statement. The reliability of the AI tools Awareness Scale was found to be 0.846.

6. Analysis and Discussion

Hypothesis-1
There is no significant difference in the awareness of AI tools among secondary school students with respect to gender.

Gender	N	Mean	S.D	t-value	Result
Boys	103	72.45	8.56	1.214	N.S
Girls	112	71.12	7.94		

N.S – Not Significant at 0.05 level

The table shows the mean score difference in awareness of AI tools among high school students based on gender. The mean score of boys (72.45) is slightly higher than that of girls (71.12). The calculated t-value (1.214) is less than the table value at the 0.05 level of significance. Therefore, the difference is not statistically significant, and the null hypothesis is accepted. It can be concluded that gender does not significantly influence the awareness of AI tools among high school students. Both boys and girls possess a similar level of awareness regarding AI technologies.

Hypothesis-2
There is no significant difference in the awareness of AI tools among secondary school students with respect to locality.

Locality	N	Mean	S.D	t-value	Result
Rural	98	70.84	8.12	1.356	N.S
Urban	117	72.16	7.89		

N.S – Not Significant at 0.05 level

The table shows the mean score difference in awareness of AI tools among high school students based on locality. Urban students obtained a slightly higher mean score (72.16) than rural students (70.84). However, the calculated t-value (1.356) is less than the table value at the 0.05 level of significance. Hence, the difference is not statistically significant, and the null hypothesis is accepted. It can be concluded that locality does not significantly influence the awareness of AI tools among high school students. Both rural and urban students show a comparable level of awareness toward AI tools.

Hypothesis-3
There is no significant difference in the awareness of AI tools among secondary school students with respect to screen time.

Screen Time	N	Mean	S.D	t-value	Result
Less than 4 Hours	104	68.94	7.85	2.864	S
Greater than 4 Hours	111	73.26	8.14		

S- Significant at 0.05 level

The table shows the mean score difference in awareness of AI tools among high school students based on screen time. Students who spend more than 4 hours on screen time obtained a higher mean score (73.26) than students who spend less than 4 hours (68.94). The calculated t-value (2.864) is greater than the table value at the 0.05 level of significance. Therefore, the difference is statistically significant, and the null hypothesis is rejected. It can be concluded that screen time significantly influences awareness of AI tools among high school students. Students with greater screen exposure have higher awareness of AI tools and digital technologies

Hypothesis-4
There is no significant difference in the awareness of AI tools among secondary school students with respect to parent's educational qualification.

Parent's Educational Qualification	N	Mean	S.D	t-value	Result
School Level	88	69.85	8.02	2.417	S
Graduate Level	127	73.14	7.76		

S- Significant at 0.05 level

The table shows the mean score difference in awareness of AI tools among high school students based on father's educational qualification. Students whose parents are graduates obtained a higher mean score (73.14) than students whose fathers studied up to school level (69.85). The calculated t-value (2.417) is greater than the table value at the 0.05 level of significance. Hence, the difference is statistically significant, and the null hypothesis is rejected. It can be concluded that parent's educational qualification significantly influences students' awareness of AI tools. Students from more educationally supportive family backgrounds tend to have greater awareness of AI technologies.

7. Recommendations

- Schools should organize awareness programs, workshops, and training sessions on the educational use of AI tools for Secondary school students.
- Teachers should guide students in the ethical and responsible use of AI technologies for learning purposes.

- Educational institutions should provide equal opportunities for both rural and urban students to access digital learning resources and AI-based applications.
- Parents should encourage students to use technology productively for academic improvement rather than only for entertainment purposes.
- Schools may integrate AI-based learning applications into classroom activities to improve students' digital literacy, creativity, and problem-solving skills.
- Special attention should be given to students with limited technological exposure to improve their awareness and confidence in using AI tools.
- Awareness programs may also be conducted for parents to help them understand the educational benefits of AI technologies and support their children effectively.

8. Conclusion

The present study examined the awareness of Artificial Intelligence tools among secondary school students. The findings revealed that gender and locality do not significantly influence students' awareness of AI tools, indicating that both boys and girls and students from rural and urban areas possess a similar level of awareness. However, screen time and father's educational qualification significantly influence students' awareness levels. Students with higher screen exposure and students whose fathers are graduates showed greater awareness of AI tools.

The study highlights the growing importance of AI technologies in education and emphasizes the need to promote responsible and effective use of AI tools among students. Schools, teachers, and parents play an important role in developing students' digital awareness and preparing them for future educational and professional environments. Proper guidance and equal access to technological resources can help students utilize AI tools effectively for academic growth and lifelong learning.

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