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Artificial Intelligences (AI) In Education

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Abstract

In this study, the researcher mainly focuses on how artificial intelligence (AI) has fused in the education system, How the learners and educators are using it in appropriate way. The main objective of this study is to understand the level of awareness and impact of AI in the education field. The statistical tools used for this study is Factorial ANOVA. In this study, the researcher highlights on various factors (knowledge level and year of experience) helps in determining level of awareness. Similarly, (implication of AI and Usage of AI) helps in determining level of impact. This study is based on both primary and secondary sources of data. Primary data is acquired through conducting interviews to the users of AI, and by circulating questionnaires to AI users. Whereas, secondary data is compiled with the help of many research journals, articles, and books. sample size of 25 is considered for measuring the replies from the selected respondents Some of the important findings of this paper by applying statistical tools can be concluded as the overall level of awareness is fairly higher and good, which shows learners has a good awareness level about AI in the education field along with that it is analyzed that the execution of AI technology in the education field will positively impact the overall effect of AI technology.

Keywords: Artificial Intelligences, AI, Education, AI in Education**.**

INTRODUCTION:

As we all know education plays a vital role in everyone's life so extra effects should be made to achieve good education. With the help of good education an individual can move towards a successful life. To provide a better and enhanced education to all learners, usage of AI was introduced. We can notice that there are always a lot of changes happening all around the globe right from the teaching styles to changes in syllabus, modules and subject programs. In order to overcome the gap and to upgrade the teaching and learning process Artificial Intelligences (AI) has got its acceptances in the field of education.

Artificial Intelligence is for sure a blooming technology and also gained a lot of success in other industries as well.AI in the education industry is a new concept from past few decades, but for sure will bring lots of changes in the way of thinking and the learning process.AI in education is enlarging its new ideas and concepts in accordance with demanding environment and conditions. Current trends shows that, AI is been used in almost all the educational institutions right from the schools, colleges and universities around the world. It has given a new approach for the users of AI (learners, teachers and parents) to look at the functioning and usage of AI.

It is very important to note down that, AI in education is not the replacement of robots to human teachers, but it's the way of utilizing artificial intelligence (computer knowledge) to assist learners and teachers for effective education in the most organized way. There is no doubt that the education industry in the future has a lot to do with AI and will have lots of AI tools to educate the learners.

HISTORY OF ARTIFICIAL INTELLIGENCE IN EDUCATION:

The various functions and uses of AI have expanded very well over the period years. Let us encapsulate the history associated with AI in field of education:

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1. From the year **1960 to 1970,** it was the early days for AI, during this time period lots of research was conducted with the help of computers, on how AI can be fused in the field of education. With lots of experiments made **PLATO (Programmed Logic for Automatic Teaching Operations)** system was introduced in education institutions first at the university of Illinois. This new program was first introduced with the means of rending interactive and flexible learning structures to all learners with the help of computers.

2. From the year 1970 to 1980, was the phrase where AI techniques were used to furnish personalized instruction to all learners. Some of the well-known learning systems from this decade were **TUTOR** and **GEOMETRY TUTOR** systems. With the help of these learning systems learners had potential individual learning experiences.

3. From the year 1**980 to 1990,** this was a period which was very well known for their **SYSTEMATIC AND SKILLFUL LEARNING SYSTEM** and this method of learning got popularized amongst all the learners' especially in medical and in programed based education. Main aim of this system is to provide domain based specific understanding thereby, providing expert like knowledge to all learners who are using such systems.

4. From the year **1990 to 2000,** was the time known for **ADVANCEMENT IN COMPUTING TECHNOLOGY**. This time is best known for successful attempts to fuse computer based learning with management based learning which helped in managing and delivering teaching ideas. These systems acted as a ground roof for incorporating AI technology in education.

5. From the year **2000 to 2010,** this decade was very well known for **MACHINE BASED LEARNING** where students opted for personalized learning process through AI to evaluate their (student) input and give them better learning experience on the basics of their potentials and challenges.

6. From the year **2010 to 2020,** this can told as the best of AI usage for learners were very simple to difficulty concept can be made understood easily using **GAMIFIED LEARNING ENVIRONMENT** and by using **VIRTUAL REALITY CONCEPT (VR) and AUGMENTED REALITY(AR).**These technology enhances learning experiences which helps the students to get motivated towards learning new concepts and idea.

7. From the year **2020 till,** AI is gaining lots of its users and there is advancement in AI with the passing years. Now it has become life term support for learners with the skillful learning approach. Now a day's most of the learning work is done with the help of these AI technologies. Learners find it very interesting and motivated as well by using technologies.

REVIEW OF LITERATURE:

Nil Goksel and Aras Bozkurt (2020), in their study says that, Once just a mere fantasy, artificial intelligence (AI) has now manifested into reality, seamlessly integrating into our daily routines and permeating all facets of our lives, including the realm of education. Despite being in its infancy, AI's evolution holds tremendous potential waiting to be harnessed. This chapter delves into the current insights and future prospects of AI across various domains, such as natural language processing (NLP), machine learning, and deep learning. By using social network analysis (SNA) as a guide, the chapter sheds light on the essential AI concepts within an educational context. The research identifies three overarching themes: (1) adaptive learning, personalization, and catering to different learning styles, (2) expert systems and intelligent tutoring systems, and (3) AI as an integral part of future educational processes.

Jagadeesh Kengam (2021), this study outlines the utilization and current applications of Artificial Intelligence within the Educational sector. As evidenced by the 21st International Conference on Artificial Intelligence in Education held in 2020, AIED represents a rapidly emerging field in Educational technologies. However, educators are still grappling with how to fully leverage AI's pedagogical benefits on a wider scale and comprehend its potential impact on teaching and learning, particularly in higher education. This work presents a comprehensive exploration of the advantages and drawbacks of AI in education, alongside a specific approach to crafting an AI-enabled platform for educational purposes. Lastly, the study delves into the consequential effects of AI implementation in the educational realm.

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OBJECTIVE OF THE STUDY:
i. To understand the awareness about AI in the education field.
ii.To study the impact of AI in the education field.

METHODOLOGY:
Both primary and secondary data is used for this study, primary data is acquired through conducting interviews to the users of AI, and by circulating questionnaires to AI users. Whereas, secondary data is compiled with the help of many research journals, articles, and books. For this research study a sample size of 25 is considered for measuring the replies from the selective respondents. Descriptive research design method and Factorial ANOVA is used for result inference.

DATA ANALYSIS AND INTERPRETATION:

i. To understand the awareness about AI in the education field:

According to the objectives of this study, the very first objective is to measure the awareness about AI in the education field. In order to understand two independent variables such as "knowledge level in education" and "Year of Experience in education" may have influence in "level of Awareness" about AI in education as a dependent variable. For the analysis, dependent variable is measured on the scale of 1 to 10 that is, (1= Low in awareness and 10=High awareness) similarly, both the independent variables "knowledge Level" is considered as Factor 1 and "Year of experiences" is considered as Factor 2.whereas, Factor 1 is measured in terms of Low, Moderate and high and Factor 2 is measured in terms of numerical variables.

TABLE-1(UNDERSTANDING THE AWARENESS ABOUT AI IN THE EDUCATION FIELD)

Participant	Dependent Variable	Factor 1	Factor 2
1	7	Moderate	8
2	5	High	5
3	3	Low	2
4	6	High	4
5	8	Moderate	6
6	4	Low	1
7	9	High	7
8	6	Low	3
9	8	Moderate	9
10	7	High	6
11	5	Moderate	5

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12	6	High	7
13	4	Moderate	3
14	3	Low	2
15	7	High	5
16	6	Low	4
17	8	Moderate	8
18	9	High	6
19	5	Moderate	3
20	4	Low	1
21	7	Moderate	7
22	6	High	5
23	3	Low	4
24	5	Moderate	6
25	4	High	2

ii. To study the impact of AI in the education field:

According to the objectives of this study, the next objective is to study the impact of AI in the education field. Here "Implementation of AI" and "Usage of AI, "are two independent variables that may influence the "Impact of AI" as a dependent variable. For the analysis, dependent variable is measured on the scale of 1 to 5 that is,(1= Low in Impact and 5=High in Impact) similarly, both the independent variables "Implementation of AI" is considered as(Factor 1) and "Usage of AI" is considered as (Factor 2). Whereas, Factor 1 is measured with two variables Yes or No and Factor 2 is measured with two variables Yes or No.

TABLE-2 (IMPACT OF AI IN THE EDUCATION FIELD):

Participant	Dependent Variable	Factor 1	Factor 2
1	3	Yes	Yes
2	4	Yes	No
3	4	No	Yes
4	5	Yes	Yes
5	2	No	No

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6	3	No	Yes
7	5	Yes	No
8	4	No	Yes
9	5	Yes	Yes
10	3	Yes	Yes
11	4	Yes	No
12	3	Yes	Yes
13	2	No	Yes
14	4	No	Yes
15	5	Yes	No
16	4	No	Yes
17	5	Yes	Yes
18	3	Yes	No
19	4	No	Yes
20	3	Yes	Yes
21	4	Yes	No
22	3	Yes	Yes
23	2	No	Yes
24	4	Yes	Yes
25	5	No	No

FINDINGS AND SUGGESTIONS:

A. Based on the first objective of the study that is (**To understand the awareness about AI in the education field**) and assessment of the variables. Let's examine the potential findings and suggestion:

a. Findings:

i. The study reveals that learners on the basics of independent variables ("knowledge level in Education" and "Year of Experience in Education") shows moderate to high level of awareness will have influence on "Knowledge Level in Education".

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ii. The respondents with a high knowledge level in education may tend to have a higher level of awareness about AI in the education field compared to those with low or moderate knowledge levels.

iii. The study reveals there may be a positive connection between the number of years of experience in the education field and the level of awareness about AI. Participants with more years of experience may have a higher awareness level.

iv.The overall awareness level about AI in the education field is measured on a scale basis. Which helps in recognizing participants feedback, according to the data the overall level of awareness is fairly higher and good. Which shows learners has a good awareness level about AI in the education field.

b. Suggestions:

i. Taking in account of data in terms of "knowledge level" in AI education awareness, it is considered to arrange for training and development opportunities for all learners in order to uplift their comprehension towards usage of AI's applications and make the most out of it in education.

ii. It is important to note that in today's current scenario most of the learners are lacking the knowledge of AI usage is because of Non-inclusion of AI related knowledge in education syllabus, it is very important to keep in mind that people with good knowledge about AI should only give opportunities to teach on such vast topic.

iii. Focusing on data-based decision making processes in the field of education will help in assisting students' achievements and can work upon key areas to focus on. Advocating more and more on data-driven techniques will help in creating more awareness in undertaking AI technology.

iv. Coordinating more and more live workshop sessions, seminars, and planning for more awareness programs especially on AI oriented ones in education will help a lot.

B. Based on the next objective of the study that is (**To study the impact of AI in the education field**) and assessment of the variables. Let's examine the potential findings and suggestion:

a. Findings:

i. The study reveals that learners on the basics of independent variables ("Implementation of AI in Education" and "Usage of AI in Education") shows more of a positive impact of AI in the education field.

ii. The respondents who have applied AI in the education field have reported higher impact on education in comparison to those who have implemented AI systems.

iii. It can be noticed that the execution of AI technology in the education field will positively impact the overall effect of AI technology.

b. Suggestions:

i. There is take around for the implementation of AI technology all over, implementation alone will not help along with the implementation. A constant effect should be made to encourage learners to actively involved in usage of AI technology also.

ii. Constant observing and analysis of impact about AI in education can be done through collecting feedback, conducting surveys and by performing metrics. By actively doing all these things the real impact of AI can be known and will help in identifying areas where upgradation is required.

iii. Motivating a lot of fusion working with learners ,researcher people and tech developers will be the best way to encourage sharing of AI knowledge and help in improving strategies for AI implementation.

iv. Investing more and more on AI research development with greater effect will gather greater impact.

Conclusion

In this study, we have delved into present-day understandings of AI within an educational context.AI in education heralds a transformative shift. As per data collected and analyzed the potential for AI in Education is yet to be fully explored, with untapped possibilities awaiting invention. It is crucial for those working on AI

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applications to impart comprehensive knowledge for the learners and education policymakers. Despite the various challenges in implementing AI in the educational sector, it is undeniable that AI is our future. Thus, educational institutions should gradually introduce their students to this technology, starting with some AI integration. The impact of AI will initially manifest in lower education levels and gradually extend to higher education. Only time will determine the ultimate impact of AI in education. The primary goal of AI is to aid educators rather than replace them, making their work more efficient and effectively.

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