



# The Impact of Artificial Intelligence on College Students' Education and Social Behavior

Gina Eairheart, Roya Azimzadeh

School of Industrial Sciences and Technology, University of Central Missouri, Warrensburg, MO, USA  
Email: eairheart@ucmo.edu, azimzadeh@ucmo.edu

**How to cite this paper:** Eairheart, G. and Azimzadeh, R. (2025) The Impact of Artificial Intelligence on College Students' Education and Social Behavior. *Open Access Library Journal*, 12: e12961.

<https://doi.org/10.4236/oalib.1112961>

**Received:** January 14, 2025

**Accepted:** February 22, 2025

**Published:** February 25, 2025

Copyright © 2025 by author(s) and Open Access Library Inc.

This work is licensed under the Creative Commons Attribution International License (CC BY 4.0).

<http://creativecommons.org/licenses/by/4.0/>



Open Access

## Abstract

As Artificial Intelligence (AI) becomes more prominent in societal careers and social networks, instructors and students are finding that they will need to adapt to technological advancements and artificial intelligence. The problem addressed in this review study was the issue of AI's increasing prevalence in societal careers and social networks, causing a significant challenge for educators and students who must adapt to technological advancements. The purpose of this study was to discover how AI-driven education affects college students' motivation, satisfaction, and self-efficacy. Data were gathered from 20 scholarly peer-reviewed journal articles, selected from 47 related articles using electronic search strategies across various academic databases. One of the articles reviewed for this study indicated that using an AI-based chatbot in after-class review improved public health students' academic performance, learning attitude, self-efficacy, and motivation. Likewise, several other studies show that AI-driven educational support improves and facilitates students' learning. In contrast, some other studies mentioned the negative effects of AI, such as anxiety related to data privacy, job loss, academic cheating opportunities for students, and the potential obsolescence of humans. These findings contribute to the development of AI-informed educational practices. Future research might include the impact of AI-based educational tools on college students' learning outcomes and academic performance.

## Subject Areas

Pedagogy

## Keywords

Artificial Intelligence, Education, Instructors, College Students, Social Behavior, Student Performance, Motivation, Self-Efficacy

## 1. Introduction

Artificial intelligence has the potential to significantly boost the world economy's annual growth rate. According to Hansraj [1], labor productivity could increase with the use of AI by approximately 40% when AI is created to replace certain technical and decision-making positions in the current workforce. Additionally, using AI to create a new kind of workforce by enabling it to learn and solve problems could help facilitate an environment where machines help us make decisions daily. This application could improve the economy by generating new revenue streams. However, these positive aspects could cause difficulties and advantages when managing different individuals' career paths, which should be looked at carefully [1]-[3].

There are emerging technologies associated with artificial intelligence, which researchers call Artificial General Intelligence (AGI). The difference to note between AI and AGI is that AI can do simple tasks, such as playing games and solving mathematical problems quickly. However, AI and AGI cannot outperform a human at intellectual conversation, decision-making, or other cognitive tasks. According to Tai [4], AGI programs can learn on a larger scale and follow logical ideas more effectively by evaluating what they are learning. AGI could also help humans evaluate systematic problems at work, school, and social challenges [5]-[9].

Some issues associated with AI and AGI include that as these technologies advance and integrate into our lives, they could end up curbing our ability to think divergently or create complacency about the technology that could threaten our ability to be compassionate, creative, and illogical, meaning that the decisions being made in the world could become too logical and take out the beauty of being social and human. This practice could paint the world in a dismal array of logical, super-efficient bland colors that do not appeal to human nature [6] [10]-[12].

This study aimed to discover how artificial intelligence affects humans, specifically college students and their education and social behavior. The growth of AI means that millions of jobs could be replaced all over the world, which affects what students need educationally to set them up for success. New positions would need to be created as well to govern AI and supply students with career opportunities. These new positions would be different to what is offered today and would need new aspects of study at the college level. Social aspects are also changing with the integration of AI systems and algorithmic analysis of human behaviors. It raises the question of whether we should be concerned about the isolating effects of AI. For instance, if a student can have conversations with AI that are as comforting as those with other humans, they may prefer to talk to a positive algorithm. There is also the concern that some of the AI programs may have some unintentional built-in biases stemming from their creators, which could be persuasive to the students [1] [3] [4] [11]-[14].

To improve our educational system, the above-mentioned points should be addressed. What worked in the past is no longer relevant to the future professions that

AI will inevitably create for students as they enter the workforce. Students will need to learn to work with AI as it is developing, creating an obligation for the educational industry to provide them with the support they need and identify issues affecting our human nature by evaluating the potential effects on motivation, satisfaction, self-efficacy, and biases [1] [6] [11].

### **Problem Statement, Purpose of the Study, and Research Questions**

The problem addressed in this study was the prominence of Artificial Intelligence (AI) in societal careers and social networks, causing a significant challenge for educators and students while necessitating adaptation to technological advancements. The purpose of this study was to discover the impact of artificial intelligence on college students. AI is becoming a self-taught and logical tool for various careers and social behaviors. This study aims to explore how these changes affect college students' motivation, satisfaction, and self-efficacy, as well as how the unintentional biases of AI affect them. By addressing these issues, the research seeks to provide insights that can inform effective adaptation strategies and contribute to the development of AI-informed educational practices.

Five research questions inform this study as follows:

- 1) What are college students' perceptions of artificial intelligence?
- 2) How does AI affect college students' motivation and overall satisfaction in learning?
- 3) What can be done to minimize any potential negative aspects of AI?
- 4) Do creators of AI impose their unconscious bias into the programs and algorithms?
- 5) How can educators ensure their curriculum is updated while integrating AI?

## **2. Literature Review**

As Artificial Intelligence (AI) becomes more prominent in societal careers and social networks, teachers and students are finding that they need to adapt to the advancements made in technology and artificial intelligence. This problem may cause some anxiety about and resistance to the further development of AI programs. It is human nature to question life changes, especially a change so vast that it covers the whole world. This is one of those massive changes in how we communicate with each other and work together [1]-[4] [6] [15].

There are a few points to consider how AI affects everyone, especially the college students who will soon oversee solving the world's problems. It is worth considering what college students think of AI and how it affects their motivation and satisfaction in learning. We should investigate whether the impact of AI is positive or negative, and what steps can be taken by AI creators to mitigate any negative effects. Educators must also keep their curricula up to date with the latest technological advancements, including AI. How can educators use AI to stay current?

Humanity is often afraid of new technology and tends to question it. However, this fear protects us, warns us, and helps us avoid making hasty decisions that

could have negative consequences. AI is becoming a self-taught tool for various careers and social behaviors. This study analyzes how AI affects students' motivation, satisfaction, and self-efficacy, and explores the impact of AI's unintentional biases on them.

To review the existing literature, the following section will include college students' perceptions of AI, the effect of AI on college students' motivation and satisfaction in learning, positive and negative effects of AI on college students, unconscious bias in AI programs and algorithms, changing negative aspects of AI, and updating the curriculum while integrating AI.

### 2.1. College Students' Perceptions of AI

The perception from the standpoint of college students is being studied and suggests that overall students feel the changes are positive as stated in one study, "The results of this study suggest that the general perception of AI is positive, but there exists some concern about the rapid development of AI and how it will affect humankind" [13] (p. 12). On the other hand, of course, there is concern about the possibility of negative outcomes. Most of this negative concern stems from misconceptions about AI, as noted here, "Furthermore, this paradox, along with the lack of understanding about AI, seems to add to a social tension arising from the inevitable advance of technology and the uncertainty of the effect of AI" [13] (p. 12).

The introduction over the years of smart applications has created some positive reinforcement for the argument for AI, which is due to the sustainability characteristics of the programs. This technology makes it easier to deliver information to students quickly and efficiently to help them learn. However, it seems that designers of AI still have a gap in making these programs sustainable, due to a lack of information [15].

According to Al-Gahtani [5], two important perceptions of AI technology include Perceived Usefulness and Perceived Ease of Use (see **Table 1** and **Table 2**). There is a set of determinants for each of the categories, along with their definitions that show the perception of college students regarding AI technology. **Table 1** indicates several human interpretations linked to the perceived usefulness of AI technology that can be used to determine how people react due to their beliefs about AI. The determinants listed in the table include perceived ease of use, subjective norms, image, job relevance, output quality, and result demonstrability. These determinants can be used to identify whether people would consider using AI and to what extent they believe that AI is useful to them in their jobs and day-to-day lives.

**Table 2** indicates several determinants of perceived ease of use which can measure if humans think the AI systems are easy to navigate and use to gain information they did not already know. These determinates are listed as computer self-efficacy, perception of external control, computer anxiety, computer playfulness, perceived enjoyment, and objective useability. Each category is clearly defined and

explains how people might perceive the ease of extracting information from the AI and how much they would enjoy using AI to gain knowledge. This table also shows how the anxiety of using AI might be rated by a person's apprehension or fear of using an AI system. Additionally, some of these determinants are theorized to diminish over time with fear and anxiety. Others are theorized to continue to increase, specifically with the enjoyment and usability of AI [5].

**Table 1.** Determinants of perceived usefulness.

Determinants	Definitions
Perceived Ease of Use (PEOU)	The degree to which a person believes that using an IT will be free of effort
Subjective Norm (SN)	The degree to which an individual perceives that most people who are important to him think he should or should not use the system
Image (IMG)	The degree to which an individual perceives that the use of innovation will enhance his or her status in his or her social system
Job Relevance (REL)	The degree to which an individual believes that the target system applies to his or her job
Output Quality (OQ)	The degree to which an individual believes that the system performs his or her job tasks well
Result Demonstrability (RES)	The degree to which an individual believes that the results of using a system are tangible, observable, and communicable [5] (p. 33)

Note: Adapted from the article "Empirical investigation of e-learning acceptance and assimilation: A structural equation model. Applied Computing and Informatics" by Al-Gahtani [5].

**Table 2.** Determinants of perceived ease of use.

Determinants	Definitions
Computer Self-Efficacy (CSE)	The degree to which an individual believes that they can perform a specific task/job using the computer
Perception of External Control (PEC)	The degree to which an individual believes that organizational and technical resources exist to support the use of the system
Computer Anxiety (CANX)	The degree of "an individual's apprehension, or even fear when she/he is faced with the possibility of using computers"
Computer Playfulness (CPLY)	"...the degree of cognitive spontaneity in microcomputer interactions"
Perceived Enjoyment (ENJ)	The extent to which "the activity of using a specific system is perceived to be enjoyable in its own right, aside from any performance consequences resulting from system use"
Objective Usability (OU)	A "comparison of systems based on the actual level (rather than perceptions) of effort required to complete specific tasks" [5] (p. 34)

Note: Adapted from the article "Empirical investigation of e-learning acceptance and assimilation: A structural equation model. Applied Computing and Informatics" [5].

**Table 1** and **Table 2** can be a starting point for research on the acceptance of AI by college students. The definitions described can be useful to change some of

the negative impressions of students and strengthen the enjoyment they feel when using AI-based learning. Additionally, the research suggests that this information can lead to improving the adoption of AI in an e-learning atmosphere [5].

Another source states that an e-learning system can be something that both students and teachers oppose due to a lack of acceptance. This is due to the students and teachers preferring older, more traditional methods. One of the main reasons for opposing an e-learning system is that there are trust factors, such as privacy, reliability, and security [16].

Ultimately, Almaiah *et al.* [16] suggest that utilizing AI resources helps to improve the delivery and planning for teachers. Artificial intelligence can also track students' progress with their education leading to more confidence in learning. When schools must close for emergencies or conditions where it is not safe to travel to school, the learning environment can continue with the help of AI. This means that students may experience more motivation to learn and gain satisfaction even when they are not present in a classroom.

## **2.2. Effect of AI on College Students' Motivation and Satisfaction in Learning**

Many distinct articles in this study reveal positive effects on student learning related to motivation and satisfaction among college students. These findings are especially relevant in the context of the COVID-19 pandemic, during which educational institutions were forced to transition to online learning. Despite initial challenges, students demonstrated a willingness to engage with digital learning formats, including mobile learning (m-learning) platforms. This shift to online education also highlighted the importance of quality-designed educational applications that prioritize user satisfaction, ease of use, and the perceived usefulness of the technology. Like AI-driven application tools, these platforms improved the learning experience by offering personalized support, immediate feedback, and a flexible, accessible learning environment. As a result, both educators and students recognized that mobile and online learning could greatly enhance student motivation and self-efficacy, similar to how AI tools have proven effective in more recent educational settings [6] [17] [18].

## **2.3. Positive and Negative Effects of AI on College Students**

The positive effects of AI on college students could come from having a positive attitude to begin with and an above-average level of computer experience. This means if a student perceives the programs as easy to use, enjoyable, and useful, they may find that it positively affects their perceived experience. Conversely, students with limited computer experience may experience higher levels of computer anxiety, which can negatively impact their perceived experience [6]. The positive and negative effects of AI can also be related to its delivery system. If the system has a good set of guidelines, a safe platform, and reliable internet access, it would be perceived in a more positive light. The opposite is true when these needs are

not met [4].

Additionally, Almaiah *et al.* [6] pointed out that some anxiety among students and educators stemmed from a sense of always being watched and criticized, leading to lower results and achievements. Additionally, they identify this experience as computer anxiety which can closely be related to social anxiety. One of the closing statements of Almaiah *et al.* included:

It has concluded that various factors can affect AI anxiety and proposes eight factors, namely, privacy violation anxiety, bias behavior anxiety, job replacement anxiety, learning anxiety, existential risk anxiety, ethics violation anxiety, artificial consciousness anxiety, and lack of transparency anxiety [6] (p. 10).

Various factors can contribute to stress and anxiety for college students, affecting their personal, social, academic, and global concerns. These anxieties can cause challenging conditions for students to focus, manage workloads, or plan for the future, possibly leading to chronic stress, burnout, and mental health issues such as depression or panic disorders. Providing a supportive environment for students through open conversation, access to mental health resources, and tools to strengthen resilience is essential for addressing these challenges.

#### 2.4. Unconscious Bias in AI Programs and Algorithms

Unconscious bias is something that we hear a lot about these days, and it is when we, as humans, have a set of trained biases, and these biases leak out almost completely undetected by ourselves. Since this is a real anomaly in everyday interactions with other people, it only shows that it can come out in our work without us being aware of it. Likewise, AI programs are written by people, and our personal bias is always present just below the surface. This practice can have a negative effect on AI in ways that we would not notice right away. This could be dangerous if AI forms a negative opinion about groups of people [12]. There is also, the unconscious bias within all of us that AI is considered less than helpful and unable to reason the same as we do. Therefore, a negative attitude is formed on the basis that public opinion considers AI to be less scientifically robust and prestigious than we are [8].

#### 2.5. Changing the Negative Aspects of AI

Artificial Intelligence is becoming an interface with humans and will need to be watched carefully to ensure that it does not turn into a negative and dangerous entity. With unconscious bias seeping into the algorithms unintentionally, it could cause some human rights violations. In the article *Artificial Intelligence and its Impacts on the Society*, they offer this statement to control the programming, “The well-developed standards of international human rights law are expected to provide effective congenial inputs to different countries to actualize executable remedial mechanisms to prevent and to mitigate this ominous situation” [2] (p. 307).

In another article, *Rethinking the Entwinement between Artificial Intelligence*

*and Human Learning: What Capabilities Do Learners Need for a World with AI*, the authors point out that we need to move away from “AI-centered views of capabilities and consider the ecology of technology, cognition, social interaction, and values” [19] (p. 1). This idea that we need to look at AI’s ecological values, means that we should be cautious while building this technology and make sure that it goes in the right direction, for the betterment of humankind.

Understandably, students may feel anxious while using online learning tools based on the examples discussed so far. To address this problem, we can use scales like the Social Anxiety Scale for E-Learning (SASE) to measure the intensity of anxiety. We must be aware of this type of anxiety and develop appropriate treatments to mitigate it. Another suggestion is to create more opportunities for interaction between teachers and fellow students to reduce the negative effects of online learning [6].

## 2.6. Updating Curriculum While Integrating AI

Curriculum needs constant updating, and as innovations continue to change and grow, the information educators share with college students must also change and grow. One solution to keeping the curriculum up to date is to use an Artificial Neural Network (ANN) for planning and advising. This kind of program can simulate real data to validate the information and analyze it for accuracy. Once the curriculum is updated, the ANN can also monitor how well the plans work [9].

## 3. Methodology

To gather literature on AI in education, 47 articles were collected from various peer-reviewed publications using databases such as EBSCOhost, ProQuest, SAGE, and ScienceDirect, as well as the World Wide Web. Search terms included “artificial intelligence”, “education”, “instructors”, “college students”, “social behavior”, “student performance”, “motivation”, “student satisfaction”, and “self-efficacy”. The results were confined to online and peer-reviewed articles, while irrelevant or duplicate articles were removed. Key terms were searched for in the articles using the “Ctrl + F” function, and any articles in which the terms appeared only in keywords or references were excluded. In the end, 20 articles were considered relevant for this review study. It’s important to note that a sample of 20 articles may not represent all AI-related applications in higher education. However, this sample was suitable for the study. The authors concluded searching once no new information was found in the literature.

## 4. Summary

The effects of AI on college students have been studied by many groups to identify problems that can be easily solved. The positive and negative effects of students’ perception of AI, motivation to use AI, and satisfaction with using AI have been evaluated on relatively small scales, according to the research. Additionally, some unconscious bias could be integrated into AI programs, potentially affecting users

negatively. This issue should be carefully examined and removed to ensure that AI does not harm students. AI can have a positive effect on college students by helping educators keep their curriculum engaging with AI-enhanced tools and up to date. Utilizing an Artificial Neural Network [14], educators can design and plan their curriculum with the most up-to-date information that can be found on the internet [20].

## 5. Discussion, Conclusions, and Future Research

The problem addressed in this review study was the prominence of Artificial Intelligence (AI) in societal careers and social networks, causing a significant challenge for educators and students who must adapt to technological advancements. This study aimed to discover how AI-driven education affects college students' motivation, satisfaction, and self-efficacy. Data were collected from 20 scholarly peer-reviewed journal articles using electronic search strategies from various academic databases. Several journal articles conveyed that AI-based educational support improves and facilitates students' learning. Conversely, some other studies mentioned the negative effects of AI, such as anxiety related to data privacy, job loss, academic cheating opportunities for students, and the potential obsolescence of humans.

The results of this study may help with revising our educational system. What worked in the past is no longer relevant to the future professions that AI will inevitably create for students as they enter the workforce. Students will need to learn to work with AI as it is developing. The educational industry should provide the support students need and identify issues affecting human nature by evaluating the potential effects on motivation, satisfaction, self-efficacy, and biases [1] [6].

Computer and social anxiety among college students should be addressed to help students maintain a healthy and happy life. A proper individualized treatment plan for students suffering from these ailments should be created. AI is a powerful tool that is advancing as time goes on. It solves problems and creates new problems. There should be a balance between AI and humans, especially as we integrate this technology into every aspect of our lives. A symbiotic relationship should be established.

Based on the analysis of this study, AI has positively changed the world around college students over the last five years. Students are adapting to AI and using it for positive learning experiences, which increase their satisfaction and self-efficacy. Satisfaction speaks to college students becoming more comfortable with technology, while self-efficacy points towards students feeling more capable of solving problems on their own. In this case, AI appears to have had a positive impact on students' learning experiences. The motivation was only slightly low and showed signs of leveling out once college students fully adapted.

This study included a limited number of scholarly articles, which were appropriate and relevant to the topic of this study related to the impact of artificial intelligence on college students. The literature reviewed for this study provided valuable

insights into college students' experiences with AI-driven educational tools. Future research might encompass the impact of AI-based educational tools on college students' learning outcomes and academic performance.

## Acknowledgements

The authors of this study would like to express their sincere gratitude to the Editorial Office of the Open Access Library Journal, Peer-Reviewed Scientific Research Publishing. Special thanks go to the Managing Editor, Mr. Ray Wong, for his invaluable support during the publication of this article. Thank you!

## Conflicts of Interest

The authors declare no conflicts of interest.

## References

- [1] Hansraj, D.C. (2022) The Social Impact of Artificial Intelligence. Medium. <https://medium.com/@180dc.hansraj/the-social-impact-of-artificial-intelligence-8e218cab7895>
- [2] Chattopadhyay, H.K. and Majumdar, D. (2020) Artificial Intelligence and Its Impacts on the Society. [https://www.researchgate.net/publication/345896219\\_Artificial\\_intelligence\\_and\\_its\\_impacts\\_on\\_the\\_society](https://www.researchgate.net/publication/345896219_Artificial_intelligence_and_its_impacts_on_the_society)
- [3] Cockburn, I.M., Henderson, R. and Stern, S. (2018) The Impact of Artificial Intelligence on Innovation. [https://www.nber.org/system/files/working\\_papers/w24449/w24449.pdf](https://www.nber.org/system/files/working_papers/w24449/w24449.pdf)
- [4] Krupiy, T. (2020) A Vulnerability Analysis: Theorising the Impact of Artificial Intelligence Decision-Making Processes on Individuals, Society and Human Diversity from a Social Justice Perspective. *Computer Law & Security Review*, **38**, Article ID: 105429. <https://doi.org/10.1016/j.clsr.2020.105429>
- [5] Al-Gahtani, S.S. (2016) Empirical Investigation of E-Learning Acceptance and Assimilation: A Structural Equation Model. *Applied Computing and Informatics*, **12**, 27-50. <https://doi.org/10.1016/j.aci.2014.09.001>
- [6] Almaiah, M.A., Alfaisal, R., Salloum, S.A., Hajje, F., Thabit, S., El-Qirem, F.A., *et al.* (2022) Examining the Impact of Artificial Intelligence and Social and Computer Anxiety in E-Learning Settings: Students' Perceptions at the University Level. *Electronics*, **11**, Article 3662. <https://doi.org/10.3390/electronics11223662>
- [7] Chiu, T.K.F. (2021) A Holistic Approach to the Design of Artificial Intelligence (AI) Education for K-12 Schools. *Tech Trends*, **65**, 796-807. <https://doi.org/10.1007/s11528-021-00637-1>
- [8] Cukurova, M., Luckin, R. and Kent, C. (2019) Impact of an Artificial Intelligence Research Frame on the Perceived Credibility of Educational Research Evidence. *International Journal of Artificial Intelligence in Education*, **30**, 205-235. <https://doi.org/10.1007/s40593-019-00188-w>
- [9] Fayoumi, A.G. and Hajjar, A.F. (2020) Advanced Learning Analytics in Academic Education: Academic Performance Forecasting Based on an Artificial Neural Network. *International Journal on Semantic Web and Information Systems*, **16**, Article 18. <https://www.igi-global.com/article/advanced-learning-analytics-in-academic-education/256547>

- [10] Alsyouf, A., Lutfi, A., Al-Bsheish, M., Jarrar, M., Al-Mugheed, K., Almaiah, M.A., *et al.* (2022) Exposure Detection Applications Acceptance: The Case of COVID-19. *International Journal of Environmental Research and Public Health*, **19**, Article 7307. <https://doi.org/10.3390/ijerph19127307>
- [11] Lee, Y., Hwang, G. and Chen, P. (2022) Impacts of an AI-Based Chabot on College Students' After-Class Review, Academic Performance, Self-Efficacy, Learning Attitude, and Motivation. *Educational Technology Research and Development*, **70**, 1843-1865. <https://doi.org/10.1007/s11423-022-10142-8>
- [12] Panel, E. (2022) Council Post: 14 Ways AI Could Become a Detriment to Society. <https://www.forbes.com/sites/forbestechcouncil/2021/06/14/14-ways-ai-could-be-come-a-detriment-to-society/?sh=662f076627fe>
- [13] Jeffrey, T. (2020) Understanding College Student Perceptions of Artificial Intelligence. *Journal of Systemics, Cybernetics and Informatics*, **18**, 8-13. <https://www.iiisci.org/Journal/PDV/sci/pdfs/HB785NN20.pdf>
- [14] Yang, S.J.H., Ogata, H., Matsui, T. and Chen, N. (2021) Human-Centered Artificial Intelligence in Education: Seeing the Invisible through the Visible. *Computers and Education: Artificial Intelligence*, **2**, Article ID: 100008. <https://doi.org/10.1016/j.caeai.2021.100008>
- [15] Amri, M.A. and Almaiah, M.A. (2021) Sustainability Model for Predicting Smart Education Technology Adoption Based on Student Perspectives. *International Journal of Advances in Soft Computing and Its Applications*, **13**, 60-77. <http://www.i-csr.org/Volumes/ijasca/2021.2.5.pdf>
- [16] Almaiah, M.A., Al-Khasawneh, A. and Althunibat, A. (2020) Exploring the Critical Challenges and Factors Influencing the E-Learning System Usage during COVID-19 Pandemic. *Education and Information Technologies*, **25**, 5261-5280. <https://doi.org/10.1007/s10639-020-10219-y>
- [17] Alhumaid, K., Habes, M. and Salloum, S.A. (2021) Examining the Factors Influencing the Mobile Learning Usage during COVID-19 Pandemic: An Integrated SEM-ANN Method. *IEEE Access*, **9**, 102567-102578. <https://doi.org/10.1109/access.2021.3097753>
- [18] Lutfi, A., Saad, M., Almaiah, M.A., Alsaad, A., Al-Khasawneh, A., Alrawd, M., *et al.* (2022) Actual Use of Mobile Learning Technologies during Social Distancing Circumstances: Case Study of King Faisal University Students. *Sustainability*, **14**, Article 7323. <https://doi.org/10.3390/su14127323>
- [19] Markauskaite, L., Marrone, R., Poquet, O., Knight, S., Martinez-Maldonado, R., Howard, S., *et al.* (2022) Rethinking the Entwinement between Artificial Intelligence and Human Learning: What Capabilities Do Learners Need for a World with AI? *Computers and Education: Artificial Intelligence*, **3**, Article ID: 100056. <https://doi.org/10.1016/j.caeai.2022.100056>
- [20] Gao, B. (2022) Research and Implementation of Intelligent Evaluation System of Teaching Quality in Universities Based on Artificial Intelligence Neural Network Model. *Mathematical Problems in Engineering*, **2022**, 1-10. <https://doi.org/10.1155/2022/8224184>