

The Effect of AI on the Development of the 4 Grade Social Studies Curriculum in Jordan from the Teachers' Perspective

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ABSTRACT:

Study aim to investigate Effect of AI on the development of the 4-grade social studies curriculum in from the perspective of teachers. A survey methodology was employed. It concluded that AI does have an Effect on the development of the 4-grade social studies curriculum in the Jordan from the teachers' perspective. Statistically significant differences ($\alpha = 0.05$) were found between the mean scores for the Effect of AI on the development of the 4-grade social studies curriculum in Jordan from the teachers' perspective, attributable to the variables of gender and teaching experience. It recommended incorporating AI-based activities and questions into the social studies curriculum, and including problem-solving skills, given their importance in teaching thinking skills, in a manner that suits students' interests and considers individual differences.

Keywords: AI, Social Studies curriculum development, Grade 4, Hashemite Kingdom of Jordan, Teachers.

Introduction:

Education, through its curricula and programs, strives to achieve the ultimate goal of preparing students to face the burdens of life and its rapid developments in light of scientific and technological advancements. The increasing challenges of life necessitate that individuals possess contemporary life skills, enabling them to cope with these accelerating developments that directly Effect daily life. AI and its practical applications have become among the most prominent topics in modern studies, expanding their scope to include fields unknown just a decade ago, especially after its practical applications permeated various aspects of life. Its represents one of most significant outcomes of the 4 Industrial Revolution, due to its diverse applications across numerous sectors, including

education. It opens the door to limitless innovations and leads to further revolutions in all fields, bringing about radical changes in various aspects of human life. The uses of AI have diversified into various sectors, such as digital marketing and social media platforms, as well as in security, medicine, and education (Cannas et al., 2024).

It can be defined as "the process that simulates the mental, cognitive and sensory abilities of human beings through a computer. These abilities include the ability to learn, solve problems, be creative, and other diverse abilities. This is then attempted through complex computer systems, relying on the exceptional development in the manufacturing of processors and computers" (Kosasih et al., 2024).

From the preceding theoretical definitions, it is

clear that AI revolves around the ability of a machine to behave like a human or to perform tasks that require intelligence. Therefore, despite the variations in these definitions, they have revealed three main characteristics of AI (Al-Shaarawi, 2025):

1. The ability to comprehend, learn, and apply rules.
2. The ability to collect, analyze, and find connections between data, thus facilitating the analysis of big data.
3. The ability to make decisions after analyzing information, in order to achieve a range of diverse and specific goals. AI possesses several characteristics that make it an effective investment across all fields, as outlined by Al-Tarhouni (2025) and Ongoren (2025):
1. The ability to solve problems through AI-connected applications, thus enhancing decision-making capabilities.
2. The ability to recognize voice, speech, and other elements through AI-connected applications.
3. These applications possess the ability to understand and analyze inputs to deliver outputs that efficiently serve users.
4. They have the capacity for continuous, automated learning without the need for supervision or monitoring.
5. The applications are capable of processing massive amounts of information.
6. There are AI-based devices that provide appropriate outputs to the user by analyzing inputs that can understand and analyze the inputs.
7. They are capable of continuous learning, as the learning process is automated and self-paced, requiring no monitoring or supervision.
8. AI applications can process massive amounts of information.
9. They can find solutions to unfamiliar problems

Curricula are also important tools for achieving appropriate learning outcomes, such as fulfilling objectives. They present knowledge, values,

attitudes, and skills to students, requiring curriculum developers to ensure they align with the challenges facing society in philosophy, content, and learning methods (Bersson, 2019).

The General Framework Document for the Developed Jordanian Curricula, issued by the National Center for Curriculum Development in 2020, served as the primary reference for curriculum development in Jordan, including the 4-grade curriculum. This document encompassed all standards for curriculum development.

The social studies curriculum includes a vast array of concepts, most of which are national in their content and meaning. These concepts are more capable of fostering positive national participation and developing national values and related concepts. Furthermore, the content and objectives of social studies contribute to the sound national education of teachers. This education has become a fundamental process imposed by the complex and challenging circumstances individuals face in their societies at the local, national, and global levels (Sarge, 2016).

Curriculum developers constantly strive to clarify the relationship between textbooks and the curriculum, as textbooks are a fundamental component of the curriculum. The curriculum cannot be implemented without textbooks, which are the means by which essential knowledge is conveyed to students. Textbooks are educational tools for preparing individuals and developing their knowledge, skills, and emotional intelligence. They bear the responsibility of shaping the cognitive, social, moral, and physical development of future generations (Hussein, 2024).

It is clear from the above that the close relationship between social studies curricula and the knowledge, attitudes, skills, and values they contain is only established through one of the components of that curriculum's content. Thus, it can be said that sound national education is only possible with the availability of social studies.

Study Problem and Questions:

Problem stems from the researcher's experience

teaching at various grade levels. She observed problems and difficulties associated with the teaching methods used in social studies curricula, and the lack of utilization of modern applications, such as (AI), in developing social studies curricula, as indicated in the studies by Al-Tarhouni (2025) and Al-Tarhouni and Zare' (2025).

And also lies in the scarcity of relevant previous studies that addressed the Effect of AI on developing social studies curricula thus creating a knowledge gap in this area.

The study answered following:

Question 1: What is the Effect of AI on the development of the 4-grade social studies curriculum in Jordan from the teachers' perspective?

Question 2: Are there statistically significant differences at the significance level ($\alpha = 0.05$) between the mean scores for the Effect of AI on the development of the 4-grade social studies curriculum in Jordan from the teachers' perspective, attributable to the gender variable?

Question 3: Are there statistically significant differences at the significance level ($\alpha = 0.05$) between the mean scores for the Effect of AI on the development of the 4-grade social studies curriculum in Jordan from the teachers' perspective, attributable to the teaching experience variable?

Study Objectives:

1. identify level of AI from the teachers' perspective.
2. To determine the extent to which AI can develop the 4-grade social studies curriculum in Jordan, based on the teacher's gender.
3. Extent to which AI can develop the 4-grade social studies curriculum in Jordan, based on the teacher's teaching experience.

Study Significance:

First: Theoretical Significance:

- 1- Defining Effect of AI on developing the 4-grade social studies curriculum in Jordan from the perspective of teachers.

- 2- The theoretical significance also lies in guiding other researchers in this field to write on the subject of this study.

- 3- Attempting to enrich the Arabic library with new variables related to the current study.

Second: Applied Significance:

From an applied perspective, its significance lies in:

- 1- It will provide teachers and supervisors with recommendations on how to use AI in developing curricula in general and social studies curricula in particular.
- 2- Possibility of opening the door for other researchers to conduct similar studies.

Study Scope and Limitations:

1. Geographical Scope: The secondary schools in the University District.
2. Temporal Scope: 2024/2025 academic year.
3. Human Limitations: current study will be limited to a sample in the University District Education Directorate in Amman.
4. Thematic Limitations: Examine the Effect of AI on the development of the 4-grade social studies curriculum in t Jordan from the teachers' perspective.

Study Limitations:

These limits are determined by the extent to which the sample responds to the study instruments and the psychometric properties of these instruments.

Arabic Studies:

Curzon's study (2025) aimed to demonstrate effect of (AI) In reshaping models of traditional education, how to utilize applications in Several aspects of process educational. Employed a qualitative approach. The study population consisted of research papers, studies, and dissertations that explored AI in education. The sample comprised papers research, , dissertations on AI publishes 2020 and 2023. study revealed a role for AI in providing innovative teaching methods and recommended further application of AI in education.

The aim of Al-Tarhouni's (2025) study was to determine awareness level at teachers social studies regarding use of AI in teaching middle school students in Beheira Governorate, Egypt. A quantitative approach was employed, and the population consisted of all social studies teachers in Beheira, with a sample size of 150 teachers. awareness level at social studies teachers regarding the use of AI was moderate. recommendations is to work on raising teachers' of the importance of using AI in teaching.

Study by Tarhouni Zare (2025) aimed to focus on the concept of AI (AI) in education field, the challenges of its implementation in light of Egypt's Vision 2030, and the integration of AI into curriculum design and the implementation of teaching strategies for geography. A quantitative approach was employed, and the population consisted of geography teachers in Egypt, with a sample of 120 individuals. A content analysis model was developed, revealing challenges to the application of AI in the teaching process. The study recommended training teachers in the use of these applications.

The aim of the study by Humaidan and Hawatmeh (2024) was to demonstrate role of AI in improve quality of the educational process in Jordan, and the challenges this poses from the teachers' perspective. A quantitative approach was employed. The population consisted of all male and female teachers from the Wadi Al-Seer and Marka Education Directorates, and the sample comprised 154 individuals. collect data by A questionnaire results: AI applications contribute to improve quality of education in Jordan, recommendations was the necessity of training teachers on the use of AI.

Hussain's 2024 study aimed to explore how AI (AI) can be used in developing history curricula. Using descriptive-analytical approach and. The sample comprised 40 teachers.. A questionnaire was developed to collect data Among the most prominent findings were that multiple AI applications, such as smart guidance systems and virtual reality, can be used to develop history curricula, and that there were no statistically significant differences in the use of AI in history

curriculum development attributable to teachers' teaching experience. It recommended greater integration of AI applications into history curricula.

Foreign Studies:

The study (Ongoren, 2025) aimed to provide an overview of AI culture in social studies education in Turkey. The study used a qualitative approach by reviewing a number of previous studies and literature that addressed AI culture in social studies education. The study population consisted of a review of some previous literature and studies. The study concluded that there is a benefit to AI in education and in the individual development of students by providing them with skills in using AI technologies. The study recommended that AI culture is an important skill in the twenty-first century, and the need to work on increasing opportunities and improving AI technology.

The study by Dogan et al. (2025) aimed to evaluate the application of AI (AI) in teaching social sciences to students. The study employed a quantitative-qualitative research methodology. The study population consisted of children attending pre-primary education in Switzerland, and the sample comprised 40 children. A questionnaire was designed to measure the children's perceptions of the topic. The study concluded that AI applications contribute positively to the learning process and to several factors that influence learning. The study recommended further research integrating AI into courses at different educational levels.

The study by (Szmyd & Mitera, 2024) aimed to address the important topic of the use of modern technologies such as AI and its Effect on the development of critical thinking skills among students in Poland. The study used the qualitative survey method. The study population consisted of full-time students in a master's program, and the sample consisted of (159) students. The questionnaire was used to collect data. The study concluded that there is a positive Effect of using AI technology on developing students' critical thinking skills. The study recommended the need for a comprehensive approach through which it

is possible to reach the effectiveness of applying AI technology to support students' intellectual skills.

Research Methodology:

Employed a survey methodology.

Research Population:

The researcher selected 212 social studies teachers from secondary schools in the University District Education Directorate in Amman, who were still employed during the 2025-2026 academic year.

Research Sample:

simple random sample of (100) social studies teachers working in secondary schools at University District Education Directorate in Amman, the capital, to administer the study instrument, a questionnaire, during the 2025-2026 academic year.

Instrument Study:

a questionnaire, based on several relevant previous studies, such as Al-Tarhouni's study (2025), Hussein's study (2024), and Dogan et al.'s study (2025). A five-point Likert scale was used.

The questionnaire consists of two parts:

- 1- Demographic variables: including gender and teaching experience.
- 2- Questionnaire items.

The questionnaire was developed by drawing on several previous studies, and the items were formulated and linguistically reviewed to establish reliability and validity.

Study Instrument Validity:

Questionnaire presented to expert reviewers from the curriculum and teaching methods departments at several different Jordanian universities. These reviewers evaluated the questionnaire, The items were revised, achieving an 80% agreement rate.

Study Instrument Reliability:

Confirmed instrument's reliability by administering it to a pilot sample of 25 teachers. The questionnaire was administered again two weeks later, reliability coefficient calculated to be 0.82%. This value is considered acceptable as it is greater than 0.70, indicating internal consistency among the questionnaire items.

Table (1) Item Correlation Coefficients with the Total Questionnaire Score

Information Technology Infrastructure		Digital knowledge		Digital culture	
No.	Item correlation coefficient with dimension	No.	with dimension	No.	with dimension
1	0.286	8	0.623	15	0.480
2	0.492	9	0.273	16	0.273
3	0.273	10	0.457	17	0.457
4	0.067	11	0.545	18	0.545
5	0.176	12	0.273	19	-0.204
6	0.512	13	0.457	20	0.306
7	0.455	14	0.525	21	0.507

The data in Table (1) the discrimination indices for scale's dimensions from (-0.024 to 0.623).

Items (5, 19, and 22) were removed, resulting in acceptable item correlation indices.

Procedures:

The following procedures were followed:

- 1- Preparing the questionnaire, identifying the research participants, and determining the sample.
- 2- Administering the questionnaire to the randomly selected sample. The researcher met with them at their workplaces, providing details about the questionnaire. The administration was supervised by the researcher, and the completed questionnaires were collected. The teachers were thanked for their cooperation.
- 3- Collecting and analyzing data from the sample using SPSS software.
- 4- Discussing the results and presenting the main recommendations.

Statistical Analysis:

The following statistical analyses were used:

- 1- Calculating the mean and standard deviation for each item or group of items (themes) and the overall mean for each thematic area to answer the research questions.
- 1- 2. T-test to compare the mean responses of the research participants.
2. One-way ANOVA.
3. Stepwise multiple regression analysis.

Study Results:

To test the first question, as shown in Table (2).

Table No. (2)

Multiple regression analysis to identify

Dimensions	B	Standard Error	Beta	T Value	T significance level
Information Technology Infrastructure	.298	.064	.274	4.674	*.000
Digital Knowledge	.380	.060	.357	6.298	*.000
Digital Culture	.296	.048	.313	6.167	*.000

Table (2), values of the (t) test, the sub-variables related to AI applications have an effect, as the calculated (t) values reached (4.674), 6.298, 6.167) respectively, values are significant at a significance level of ($\alpha \geq 0.05$).

Table No. (3)

Multiple Regression Analysis for Predicting Curriculum Development through AI Applications

Model	The order in which independent elements enter the prediction equation	(R) Value	R ² Value	(Beta)	Value (F)	Level of significance
1	Information Technology Infrastructure	.580 ^a	.336	.357	246.843	*0.000
2+1	Digital Knowledge	.630 ^b	.397	.313	160.558	*0.000
3+2+1	Digital Culture	.640 ^c	.409	.291	112.223	*0.000

Table (3), which shows the order in which the independent variables entered the regression equation, reveals that the IT infrastructure variable came in first place, explaining (33.6%) of the variance in the dependent variable. The digital literacy variable came in second, explaining (39.7%) of the variance in the dependent variable. The digital culture variable came in third, explaining (40.9%) of the variance in the dependent variable. This indicates that AI has an Effect on the development of the 4-grade social studies curriculum in the Hashemite Kingdom of Jordan from the teachers' perspective.

This can be explained by the fact that AI are among the modern trends that have proven effective in many fields, including education. These applications and technologies can provide the potential for research to improve the quality of the teaching and learning process, and to develop all related teaching methods and strategies, as well as curriculum development. This benefits the educational process and all its aspects, which necessitates that those involved in the teaching and learning process, and those responsible for curriculum development, utilize applications and technologies to enhance students' benefit from these curricula.

This can also be explained by the fact that the General Framework for Curricula document, issued in 2020, focused primarily on utilizing technology applications in curriculum

development, given its Effect on equipping students with the necessary knowledge and fundamental skills. This aligns with the philosophy of the knowledge economy and prepares many graduates suitable for the labor market.

This result is consistent with the result of the study (Dogan et al, 2025) that AI applications make a positive contribution to the learning process, and it differs from the result of the study by Al-Saidi et al (2023) which concluded that the degree of inclusion of AI concepts in social studies curricula was weak.

Results of the analysis of the second

question: Are there statistically significant differences at the significance level ($\alpha = 0.05$) between the arithmetic means of the Effect of AI on developing the 4-grade social studies curriculum in the Hashemite Kingdom of Jordan from the teachers' perspective, attributable to the gender variable?

The arithmetic means and standard deviations of the study sample's responses regarding the Effect of AI on developing the 4-grade social studies curriculum in the Hashemite Kingdom of Jordan from the teachers' perspective, attributable to the gender variable, were calculated. A t-test was used to examine the differences between the means, and Table (4) shows the results.

Table (4)

Results of the t-test for differences

G	no	Arithmetic Mean	St De	T Value	significance Level
Male	60	3.09	0.74	0.40	0.97
Female	40	3.25	0.84		

Table (4) indicate no statistically significant differences at the significance level ($\alpha \leq 0.05$) between the average Effect of AI on the development of the 4-grade social studies curriculum in Jordan, from the teachers' perspective, attributable to the gender variable.

This is based on the calculated t-value of (0.40), with a significance level of (0.97).

This can be explained by fact that social studies teachers recognize the importance of employing AI applications in developing social studies curricula at various levels. These applications provide teachers with alternatives that allow them

to use multiple methods to deliver information to students through AI-simulated models. Furthermore, these applications can provide graphics and maps that suit students' levels and individual differences. They also contribute to transferring the learning Effect to students through the development of these curricula, which helps improve student achievement in social studies and makes the subject more engaging. This can also be explained by the fact that teachers benefited from the General Curriculum Framework document issued in 2020, which focused primarily on adopting technological applications in the curriculum to enhance experience learning.

This finding aligns with the results of Al-Tarhouni's study (2025), which showed no statistically significant differences in social studies teachers' awareness of using AI applications in teaching based on gender. However, it differs

from the findings of Humaidan and Al-Hawatma's study (2024), which concluded that there are statistically significant differences in the role of AI applications in improving the quality of the educational process based on gender.

Results of the analysis of question 3: Are there statistically significant differences at the significance level ($\alpha = 0.05$) between the arithmetic means of the Effect of AI on developing the 4-grade social studies curriculum in Jordan from the teachers' perspective, attributable to the variable of teaching experience?

The arithmetic means and standard deviations of the study sample's responses regarding the Effect of AI on developing the 4-grade social studies curriculum in Jordan from the teachers' perspective, attributable to the variable of teaching experience, were calculated. Table (5) shows the results.

Table (5)

Arithmetic means and standard deviations

Exper	No	Arithmetic Mean	St De
From 1 to less than 5 years old	30	3.04	0.74
From 5 to less than 10 years old	45	3.16	0.70
From 10 years old and above	25	3.12	0.76

Table (5) shows apparent differences between the arithmetic means according to the educational experience variable. To determine these differences, a one-way ANOVA was applied, and Table (6) shows this:

Table(6)

Results of the one-way ANOVA

Source of variation	Sum of squares	Degrees of Freedom	Average of squares	F Value	Level of significance
Among the groups	2.18	2	1.09	2.02	0.13
Within the groups	451.47	97	0.54		
The whole	453.65	99			

Table (6) indicate no statistically significant differences at the significance level ($\alpha \leq 0.05$) between the mean scores for the Effect of AI on developing the 4-grade social studies curriculum in Jordan, from the teachers' perspective, attributable to the variable of teaching experience. This is based on the calculated F-value of (2.02), with a significance level of (0.135).

This can be explained by the fact that social studies teachers, regardless of their experience, recognize the importance of employing AI applications in developing social studies curricula. They have gained this understanding through their experiences teaching this subject, as they face numerous difficulties related to conveying information to students. This necessitates finding solutions, and AI applications may provide these solutions by offering methods and models that can improve the teaching of social studies at all levels using modern approaches that are appropriate for students' interests and individual differences.

This can also be explained by the fact that teachers, through their teaching experience, benefited from the 2020 Curriculum Framework document, which focused primarily on adopting technological applications in the curriculum to enhance learning outcomes.

This finding aligns with Hussein's (2024) study, which concluded that there were no statistically significant differences in the use of AI

in developing history curricula attributable to teaching experience. However, it differs from Humaidan and Hawatmeh's (2024) study, which found statistically significant differences in the role of AI applications in improving the quality of education, attributable to teaching experience.

Recommendations:

1. Developing social studies curricula by utilizing AI applications, provided that the textbooks are prepared by a collaborative team of curriculum specialists, and that participation is broadened to include feedback from teachers and supervisors before the distribution of any textbook.
2. Incorporating social studies activities and questions that utilize AI applications, and including problem-solving skills in the curriculum, given their importance in teaching thinking skills, in a way that suits students' interests and considers individual differences.
3. Conducting workshops and training courses for those responsible for developing social studies curricula using AI applications, in order to produce high-quality textbooks and materials, thus minimizing problems arising from their application in the field.
4. Establishing specialized committees to monitor the implementation of the new social studies curricula, identify all obstacles hindering their implementation, and address the problems faced by teachers and students.
5. Conducting a similar study using other textbooks and grade levels.

References:

Arabic references:

- Al-Tarhouni, Siham (2025) The extent of social studies teachers' awareness of using AI applications in teaching students in the second cycle of basic education, *Journal of the Faculty of Education*, 143(1): 413-457.
- Al-Tarhouni, Siham, and Zare', Ahmed (2025) AI applications and the development of geography curricula as one of the requirements of Egypt's Vision 2030: Challenges and future prospects, a working paper presented at the International Conference of the Educational Association for Social Studies: Curricula and Social Cohesion in Light of Contemporary Challenges: *A Future Vision*, 1(147): 364-388.
- Hussein, Samah (2024) AI applications and the development of history curricula, *Journal of the Faculty of Education*, 34(4): 277-314.
- Humaidan, Rula, and Al-Hawatma, Muhammad (2024) The role of AI applications in improving the quality of education in Jordan and its obstacles from the teachers' perspective, *Journal of Educational Studies and Research*, 4(11): 390-419.

Al-Sayyidi, Hamid, Al-Balushi, Fahd, and Al-Kaabi, Muhammad (2023). The Availability of AI Applications in Social Studies Curricula in Basic Education Schools in the Sultanate of Oman. *Journal of Curricula and Methodology of Instruction*, 2(3): 1-14.

Al-Shaarawi, Alaa (2025). The Five Foundations of AI and the Teaching of Social Studies. *Journal of the College of Education*, 1(1): 1-9.

Karzon, Nour El-Din (2025). The Role of AI in Reshaping Traditional Educational Models: An Analytical Study of Digital Transformations in Various Fields of the Educational Process. *Journal of the Palestinian Educators Association for Arts, Educational and Psychological Studies*, 8(16): 1-14.

General Framework Document for the Developed Jordanian Curricula, issued by the National Center for Curriculum Development (2020), Ministry of Education, Amman, Jordan.

Foreign Studies:

Al-Sayyidi, H, Al-Balushi, F, and Al-Kaabi, M (2023). The Availability of AI Applications in Social Studies Curricula in Basic Education Schools in the Sultanate of Oman. *Journal of Curricula and Methodology of Instruction*, 2(3): 1-14.

Al-Shaarawi, A (2025). The Five Foundations of AI and the Teaching of Social Studies. *Journal of the College of Education*, 1(1): 1-9.

Al-Tarhouni, S (2025) The extent of social studies teachers' awareness of using AI applications in teaching students in the second cycle of basic education, *Journal of the Faculty of Education*, 143(1): 413-457.

Al-Tarhouni, S, and Zare', A (2025) AI applications and the development of geography curricula as one of the requirements of Egypt's Vision 2030: Challenges and future prospects, a working paper presented at the International Conference of the Educational Association for Social Studies: Curricula and Social Cohesion in Light of Contemporary Challenges: *A Future Vision*, 1(147): 364-388.

Berlson , B. (2019). *Content Analysis in communication*, New York, Heffner publishing company.

Cannas, V. G., Ciano, M. P., Saltalamacchia, M., & Secchi, R. (2024). AI in supply chain and operations management: a multiple case study research. *International Journal of Production Research*, 62(9): 3333-3360.

Dogan, Y., Batdi, V., Topkaya, Y., Ozupekce, S., and Aksab, H. (2025). Effective of AI Practices in Teaching of Social Sciences' A Nulti – *Complementary Research Approach on Pre-School Education, Sustainability*, 17(3159): 1-28.

General Framework Document for the Developed Jordanian Curricula, issued by the National Center for Curriculum Development (2020), Ministry of Education, Amman, Jordan.

Humaidan, Rula, and Al-Hawatma, Muhammad (2024) The role of AI applications in improving the quality of education in Jordan and its obstacles from the teachers' perspective, *Journal of Educational Studies and Research*, 4(11): 390-419.

Hussein, S (2024) AI applications and the development of history curricula, *Journal of the Faculty of Education*, 34(4): 277-314.

Karzon, N (2025). The Role of AI in Reshaping Traditional Educational Models: An Analytical Study of Digital Transformations in Various Fields of the Educational Process. *Journal of the Palestinian Educators Association for Arts, Educational and Psychological Studies*, 8(16): 1-14.

Kosasih, E. E., Papadakis, E., Baryannis, G., & Brintrup, A. (2024). A review of explainable AI in supply chain management using neurosymbolic approaches. *International Journal of Production Research*, 62(4): 1510-1540.

Ongoren, H. (2025). A View of AI Literacy from Social Studies Education, *Ulusbarasi Egitim Ve Bilim Arasturmalan Dergisi*, 2(1): 83-100.

Onyekpe, S. (2025). AI Adoption in Social Studies Instruction: A Study of Universities in South- South Nigeria, *Asian Journal of Education and Social Studies*, 51(8): 1060-1069.

Sarge, A (2016). To Analyze the Content of the National Education Textbook in Iran and Provide a Theoretical Framework for appropriate Criteria to Determine the Content of the Book Based on the Concepts of Political Participation, *Journal of Education and Practice*, 8(13): 36-57.

Szmyd, K and Mitera, E. (2024). The Effect of AI on the Development of Critical Skills in Students, *European Research Studies Journal*, 27(2): 1022-1039.