

The Golden Age of the Ottoman Empire and Africa: Examining a model for teaching interconnected histories through gamification

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Abstract

This study seeks to evaluate teachers' attitudes towards the use of gamification in the teaching of history. The study addresses three research questions and three hypotheses using a descriptive survey research design. The population of the study comprises all the teachers of History in Junior Secondary schools and all the teachers of Citizenship and Heritage Studies in Senior Secondary schools in selected schools within Nigeria. A sample size of 400 teachers was chosen for the study through a purposive sampling technique. Data were collected using the instrument: Gamification and Interconnected Histories Questionnaire (GIHQ), which was validated by relevant experts. The reliability of the instrument was also established using Cronbach's alpha, which yielded a reliability coefficient of 0.82; the data were collected through the direct administration of the questionnaire with the assistance of trained research assistants. The research questions were answered using the mean and standard deviation, while the hypotheses were tested using the independent-samples *t*-test statistics at the 0.05 level of significance. The findings revealed that teachers held positive perceptions of gamification as an instructional approach. In contrast, the traditional method of teaching history was perceived as less effective, while the 5E instructional model was considered an appropriate pedagogical framework for integrating gamification into history instruction. The study recommended the adoption of gamification and the 5E teaching model in history education to enhance students' engagement and learning

outcomes.. It also recommended the provision of adequate technological resources and continuous professional development programmes to equip teachers with the skills required for the effective implementation of gamified instruction. In conclusion, the study established that gamification increases students' engagement, critical thinking, and improves their understanding of the interconnected histories of the Ottoman Empire and Africa.

Keywords: Gamification, Ottoman Empire, Golden Age, Connected Histories, Historical Education, Africa

Introduction

History education in the 21st century encounters significant challenges. Globalisation, digitalisation, and the increasing interdependence of societies and nation-states in international relations demand that students of history acquire historical knowledge as a means of interacting across regions and cultures. Traditional approaches to teaching history have often been limited to national or regional contexts and have not adequately covered the wider inter-civilizational connections of international teaching contexts. This has further limited students' ability to understand and develop historical thinking and competence in intercultural studies.

The recent decades have seen the teaching of interconnected histories gaining prominence, as history scholars move beyond Eurocentric historical

narratives in their scholarly endeavours. The concept of 'Connected histories' proposed by Subrahmanyam (1997) provides an important insight in rethinking how history should be taught and learned. Rather than considering civilisation in isolation, this approach provides a framework for rethinking history education by focusing on the historical connections between different regions. "Connected Histories" refers to an analytical model within history education that focuses on the relationships and mutual influences between different regions and societies, instead of studying them in isolation. In the current study, the concept is employed to explore the dynamic exchanges between the Ottoman Empire and African states. It is particularly deployed to explain the relationship between the Ottoman Empire and the African continent. The study focuses on

the Golden Age of the Ottoman Empire (15th and 16th centuries) under Sultan Suleiman I (the Magnificent), who expanded the empire and established close ties with North Africa, strengthening its influence in regions such as Algeria (1529), Tunisia (1574) and Egypt (1517). These ties were not limited to military expansion but also included trade, diplomacy, culture and governance. The multifarious nature of such ties has been brought to light through historical scholarship. How the empire adapted the structures of its governance to local conditions while holding on to its central oversight function through the "devşirme" system, tax farming and the integration of Mamluk elites is demonstrated in Hathaway's work on Ottoman Egypt (2008).

Darling (2013) highlighted the flexibility of Ottoman administrative practices, which permitted varying degrees of autonomy in North African provinces through the facilitation of trade in grain, slaves, and luxury goods across the Mediterranean and Saharan networks. Similar studies emphasise that Ottoman's influence in North Africa also affected cultural exchange, the spread of Islamic legal and educational institutions, and the movement of people, ideas and

technologies. However, this rich trans-regional history is still underrepresented in school curricula, particularly outside Middle-Eastern and African educational contexts, where national or Eurocentric frameworks dominate.

Traditional history pedagogy is often inadequate in its conveyance of complex interconnections as earlier explained. Instead of being a dynamic process of interaction, history is usually presented to students as discrete facts and timelines, leading to shallow understanding and limited development of historical thinking skills (Wainwright, 2014). It is this limitation that led to the emergence of innovative pedagogical approaches to the teaching of history, which integrates gamification to attract students' attention and act as a medium of enhancing their engagement and deeper learning.

The historical connection between Africa and the Ottoman Empire is one of the most important areas of modern historiography. Darling (2013) studies the state governance system of the Ottoman Empire and highlights the flexibility of its administrative practices in different regions. Hathaway (2008) focuses on the analysis of the social and cultural

structures of Ottoman Egypt, showing the complex nature of its interregional integration. While Faroghi (2004) highlights the Empire's territory within the Mediterranean and African networks, Manning (2003) illustrates the significance of studying the Empire through global approaches to history. However, within the extant scholarship, pedagogical approaches to teaching Ottoman-African relations remain under-explored. This gap is capable of limiting students' creative and analytical capacities to understand the complex interconnectedness of history education. Students are often limited to memorizing historical facts without having the opportunity to deeply understand the cause-and-effect relationships existing among them. To address this gap, this study attempts to explore current innovative methods in the educational system, hence the concept of gamification.

Meanwhile, history education in the contemporary world has increasingly moved from domestic narratives into the study of vast approaches to trans-regional processes. At the core of this development is the concept of "Connected Histories." Introduced by Subrahmanyam (1997), the concept

emphasizes the interactions and interdependencies between different nation-states. It is employed in this study to showcase the weaknesses of traditional historiography through the study of the historical relations between the Ottoman Empire and some Northern African countries, understood as products of interconnected networks of trade, diplomacy, religion and cultural exchange. Researchers like Bayly (2004) and Cooper (2014) have deployed the concept of Connected Histories in their works which position Africa within a broader global village, hence, highlighting the significance of trans-regional cooperation in historical education.

Despite the importance of modern historiographical approaches, some pedagogical frameworks adopted in the learning of interconnected histories have remained conservative. They often deploy lecture-based approaches that uphold rote memorisation over logical reasoning. This has created a gap in the utilisation of complex and interconnected methods in teaching the elements of history as against fragmented and passive learning methods. Bridging this gap requires innovative pedagogical approaches of teaching complex historical elements

through practical and conceptual learning experiences.

The current study intends to fill the identified gap by exploring the effectiveness of gamification as a tool of learning and imparting historical knowledge to students of history. Gamification, in its basic sense is the application of game elements such as points, levels, challenges, interactions, and feedback systems to non-game educational settings to provide an effective and motivating learning design. It is grounded in motivational theory, mainly on the differences between intrinsic and extrinsic motivation. This underscores the fact that structured gaming tools foster creative engagement in the delivery of learning experiences. Hence, Kapp (2012) argues that gamification is effective when it transforms learning into an active engagement with a structured instructional system of goals and feedback, instead of passive communication.

On the other hand, the teaching of the interconnected histories of the Ottoman-African relations is an integral component of building intercultural cohesion. In this sense, an impactful

pedagogy must go beyond the imparting of knowledge to enhancing intercultural competence and global cooperation. Gamification enhances students' ability to engage diverse cultural perspectives through simulative historical interactions. Through this growing innovative method, students can easily identify the complexity of cultural relations and appreciate the dynamics of historical integration.

In this article, it is important to note that although substantial scholarly efforts have been made in the areas of global discourse, trans-regional relations, gamification, and pedagogical history, an exceptional gap still remains in investigating how these areas can be effectively integrated. Existing scholarly works either prioritize a historical theory devoid of pedagogy or gamification, without a specific focus on education. As a result, there is a need for a systematic approach that would combine the above concepts in a valuable way within an educational context.

To this extent, the current study addresses this gap by incorporating the concepts of Connected Histories and gamification in creating a pedagogical framework for teaching the history of

Ottoman-African relations. By discussing the implementation of this model, it aims to bridge the gaps between classroom practices and interconnected methods of teaching complex historical events, through a framework that enhances collaboration and promotes a significant trans-regional teaching and learning.

Objectives of the Study

The primary aim of this research is the evaluation of teachers' attitudes towards gamification as a teaching method in the teaching of the intermingled histories of the Ottoman Empire and Africa. In particular, the research aimed to:

1. investigate teachers' attitudes towards the effectiveness of the use of gamification in the teaching of history using the Golden Age of the Ottoman Empire and Africa;
2. explore the constraints of conventional pedagogies in teaching interconnected histories such as the histories of the Golden Age of the Ottoman Empire and Africa;
3. explore teachers' perceptions of the effectiveness of using the 5E instructional model to incorporate gamification into the teaching of

the interconnected histories of the Golden Age of the Ottoman Empire and Africa.

Research Questions

The following research questions will be used to guide the study:

1. What are teachers' attitudes towards the effectiveness of the use of gamification in the teaching of history using the Golden Age of the Ottoman Empire and Africa?
2. What are the constraints of conventional pedagogies in teaching interconnected histories such as the histories of the Golden Age of the Ottoman Empire and Africa?
3. What are teachers' perceptions of the effectiveness using the 5E instructional model to incorporate gamification into the teaching of the interconnected histories of the Golden Age of the Ottoman Empire and Africa?

Hypotheses

The following null hypotheses will be tested at a 0.05 level of significance:

Ho₁: There is no significant difference in junior and senior secondary school

teachers' perceptions of the effectiveness of gamification in teaching the Golden Age of the Ottoman Empire and Africa based on gender.

Ho₂: There is no significant difference in junior and senior secondary school teachers' perceptions of the constraints of traditional teaching methods in teaching interconnected histories of the Golden Age of the Ottoman Empire and Africa.

Ho₃: There is no significant difference in junior and senior secondary school teachers' perceptions of the effectiveness of the 5E instructional model in integrating gamification into the teaching of interconnected histories of the Golden Age of the Ottoman Empire and Africa.

Literature Review

Gamification, which could best be described as the application of game elements (levels, leaderboard, points, etc) in non-game contexts, has widely attracted the interest of researchers since the early 2010s (Deterding Et al., 2011; Kapp, 2012). Positive effects on students' motivation, participation, and knowledge retention have been consistently shown by empirical studies. In a landmark meta-analysis, Hamari et al. (2014) found that

gamification increases behavioural and psychological engagement significantly, especially when intrinsic motivational needs are looked into. It aligns with Self-Determination Theory (Deci & Ryan, 2000; Ryan & Deci, 2017), which postulated that autonomy, efficacy and relatedness are fundamental to intrinsic motivation.

Gamification is a pedagogical innovation that is programmed to increase students' motivation, involvement and participation. Sangkyum et al. (2017) observed that game mechanisms, such as points, storytelling, badges, levels and competitive gameplay should be adopted to ensure that traditional learning environments are transformed into interactive environments, through engagement. The central argument is that these mechanisms make learning to be stimulating, and constitute a pedagogical approach to learning in which learners are active participants rather than passive recipients of knowledge. Adopting this framework, Sangkyum et al. (2017) explained that gamification increases student engagement, promotes continuous participation, and improves knowledge retention. Hence, traditional methods of teaching history such as fact-heavy, lecture-based, and class-based

theoretical methods are considered inadequate, especially in explaining complex trans-regional interactions, such as the Ottoman-African relations of the 15th and the 16th centuries. However, the main limitation of Sangkyum et al.'s (2017) work is the inability to tailor the use gamification to any particular academic discipline. However, the authors provided sufficient scientific analysis which exemplify how gamification could turn historical narratives into interactive exercises to enhance students' understanding of historical processes.

Musa (2025) emphasised that gamification illustrates how game elements such as rewards, competition, storytelling, and challenges can make learning more engaging and interactive. The book investigated teacher-oriented mechanisms and supporting strategies that teachers can easily implement across different disciplines. The book's significant strength is in its step-by-step approaches to the implementation of student-centred learning methodologies. These approaches support the argument that history education should be interactive and student-oriented, and promoting immersive learning through historical storytelling.

Furthermore, in their book, Fotaris et al. (2023) introduced a game-based framework which supports the use of gamification as a transformative approach in learning environments through the integration of interactivity, feedback, and experimental learning into pedagogy. The book adopts some empirical and research-driven perspectives, via the integration of case studies, experimental findings, and methodological analysis into different educational environments. It demonstrates that gamification can improve student productivity by engendering adequate learning outcomes and collaborative engagement.

Gamification in the academic context has been widely studied in the field of education in the last decade. It is the application of game elements such as points, badges, polls, narratives, and challenges within non-game educational settings to support students' engagement, motivation, and learning outcomes in relevant educational fields, such as history education. While Deterding et al. (2011) define gamification as the use of game elements in a non-game context; Kapp (2012) sees it as a method aimed at making the learning process more interesting and

effective. Gamification enhances cognitive processing and supports active knowledge construction. Psychologically, the effectiveness of gamification is explained by the self-determination theory proposed by Deci and Ryan (2000). According to this theory, human motivation is based on internal needs, and gamification activates the learning process by satisfying these needs.

The Constructivist learning theory also supports the effectiveness of gamification. Lev Vygotsky's works show that it is important for a learner to construct knowledge through active action. Gamification provides this process, since students learn through their own experience during the game. Also, empirical research shows evidence of the effectiveness of gamification. Studies in digital pedagogy consider gamification as one of the main tools introduced into the education system. Hamari et al. (2014) demonstrate the role of gamification in increasing students' motivation to learn. Gee (2003) shows that learning through games is effective in developing the learner's cognitive abilities.

In the Kazakhstani academic circle, there has been a growing interest in innovative

teaching methods. . While Orazbayeva (2016) focuses on the effectiveness of communicative teaching methods; Suleymenova (2018) emphasises the importance of interactive technologies in language education. These studies prove that the introduction of gamification is relevant for the educational system in Kazakhstan. For instance, teaching historical relations between the Ottoman Empire and Africa through gamification allows students not only to acquire historical knowledge, but also to develop their intercultural competence. This can be achieved by giving students tasks to solve in relation to historical situations outside their environment, such as the role of an Ottoman administrator or an African ruler, which could enhance their knowledge of intercultural relations. This approach would help to deeply understand historical processes and the logic of the past era. Today, the development of digital technologies creates conditions for the widespread use of gamification. Online platforms, interactive maps, and simulation games allow for the visual and practical acquisition of historical knowledge.

It can, therefore, be deduced from the above review that gamification mechanisms enhance the transformation

of a passive learning method into a more effective learning method. They constitute an effective tool for modernising historical education. Gamification increases the motivation of history students and helps them to understand historical processes in a comprehensive way. Teaching the connections between the Golden Age of the Ottoman Empire and Africa through this method aligns fully with the requirements of the modern education system. Ottoman Empire is a vast Islamic Turkish empire that cut across both Europe and Asia as of 1299 to 1922. The empire also spanned Southeast Europe, West Asia, and North Africa. In the context of this study, the researchers adopted a historical framework to analyse the level of political, economic, cultural and trans-regional interactions between the Ottoman Empire and African societies.

To create a methodology for teaching the topic, "the Golden Age of the Ottoman Empire" through gamification, it is necessary to first investigate the pedagogical essence, development principles and application methods of gamification. Gamification is a method of increasing the motivation and activity of students by introducing game elements

and design methods into the learning process. Scientific research has recognised this methodology as an effective and promising approach in the field of higher education and proves that it plays an important role in improving learning outcomes (Castillo-Parra et al., 2022; Jun & Lucas, 2024). One of the main principles of gamification is the introduction of emotional and motivating elements through the use of badges, leaderboards, point systems, and achievements to stimulate the intrinsic and extrinsic motivation of students. These are characterised by engagements, developing self-regulation skills, and increasing students' sense of ownership over their learning (Jun & Lucas, 2024; Manzano-León et al., 2021). In addition, there is an emphasis on social interaction and cooperation, and the development of competition and teamwork within the classroom and among students (Dacre et al., 2018; Fonseca et al., 2023). When gamifying a complex and informative topic such as the history of the Ottoman Empire, it is possible to increase students' interest by using historical facts, cultural contexts, artistic images and role-playing elements. For example, by introducing important events, personalities, and cultural achievements of the "Golden Age" into game tasks and scenarios, the

learning process can be revitalised (Fonseca et al., 2023). Also, using authoring systems for teachers (a specially designed platform or programme) allows for the collaborative creation and adaptation of gamification content (Liu & Lu, 2021).

Based on extant scholarship, a teaching method for delivering the topic, Golden Age of the Ottoman Empire, using gamification can be developed through the following: designing adaptive game elements according to the learning content, introducing social interactivity to improve motivation and collaboration, creating structured curricula using the 5E learning model, and creating collaborative content with the active participation of students and teachers. Such a teaching method would increase the effectiveness of learning experiences in history, as well as strengthen students' interest and motivation to learn (Castillo-Parra et al., 2022; Dacre et al., 2018; Liu & Lu, 2021; Gallego-Durán et al., 2019). In other words, employing the gamification model in teaching the relationship between the Golden Age of the Ottoman Empire and African histories is in modern educational practice as a means of increasing motivation and improving student learning outcomes.

Evidence from empirical studies has shown that gamification is a modern method of making the learning process more interesting and effective by introducing game elements into the educational system (Li et al., 2023). According to Nguyen-Viet et al. (2024), it is a methodology that enhances learning motivation and increases students' active participation, intrinsic motivation, and learning satisfaction. It is important, therefore, to use social and cultural interactive elements of gamification in teaching such topics as the Golden Age and the historical context of Africa. Golden Age refers to the period of stable political power, economic growth, and cultural-intellectual development of the Ottoman Empire, otherwise known as the "Age of Enlightenment," between the 15th and 17th centuries. In this study, it was chosen to examine significant developments in Ottoman-African civilisations.

In particular, presenting the connections and historical events of the two cultures through role-playing games, quizzes, and collaborative tasks increases students' interest in history (Qudsi, 2024). In addition, the use of adaptive gamification strategies (game elements adapted to the individual motivational and learning

characteristics of each student), increases the effectiveness of learning (Zourmpakis et al., 2023). It is recommended to use the 5E learning cycle strategy (Participation/Engagement, Exploration, Explanation, Elaboration, Evaluation) when designing a learning model. Such a model allows for a systematic and structured introduction of gamification into the learning process and the gradual introduction of the connections between historical facts and cultures through game elements by teachers (Alsubhi et al., 2021). For example, the introduction of important figures and events of the "Golden Age" and the exploration of their impacts within the African context can be carried out through tasks based on in-game missions, levels, and rewards.

Another advantage of gamification is the introduction of an increased synchronous social interaction and collaborative experience. This allows students to deepen their knowledge by discussing historical events and cultural differences and making joint decisions (Dacre et al., 2018). Such collaborative gamification can develop the cognitive and social aspects of learning and help students to understand lessons in history. For a gamification model to be effective, it is necessary to carefully select game

elements and align them with the learning content and students' needs. In this regard, special authoring systems are recommended for teachers and educational designers, which help to create interactive and motivating learning content by combining game elements with historical materials (Liu & Lu, 2021). By creating a collaborative content, flexibility and interest in the learning process are increased.

The gamification model of teaching the Golden Age of the Ottoman Empire and African histories increases student motivation and ability to gain a deeper understanding of historical knowledge. This approach enhances social, cognitive, and emotional engagement in learning and the effective demonstration of the connections between historical contexts using game elements. Hence, an integrated and adaptive gamification elevates learning experience to a new level and improves educational outcomes (Li et al., 2023; Nguyen-Viet et al., 2024; Rivera & Garden, 2021; Dacre et al., 2018; Zourmpakis et al., 2023; Liu & Lu, 2021).

Theoretical Framework

This study employs a theoretical triangulation of three related

frameworks, namely constructivism, self-determination, and digital pedagogy or connectivism theories. This combination yields a significant framework for understanding how gamification advances the teaching and learning of interconnected histories. Associated with the scholarly works of Lev Vygotsky and Jean Piaget, constructivism in the context of education contends that learners actively develop knowledge through experiences rather than passive receptivity. Learning in this context is perceived as a means to understand realities through interaction, reflection, and social engagement. Hence, gamification resonates with constructivism by providing students with the opportunity to actively engage with learning experiences, assume roles, and make decisions aligned with their lessons. This type of learning through interaction supports a deeper experiential understanding of the Ottoman–Africa relations rather than rote memorisation.

Self-determination theory emphasises human motivation based on three basic psychological factors: autonomy, competence, and relatedness (Devi & Ryan 2002). Gamification directly encourages these factors by offering learners control over learning activities,

providing feedback and a progression process, and enhancing cooperation through group-focused activities and role-playing. In the context of this study, the theory illustrates how gamified learning environments increase motivation and engagement among history students.

Connectivity theory, associated with the scholarly work of Siemens (2005), demonstrates learning as a networked process through which knowledge is disseminated across digital platforms and social networks. In most modern education systems, students learn through interactive cohesion with technology, online resources, and collaborative environments. Hence, this theory supports gamification as it encourages the integration of digital tools in a learning context to improve students' performance. Digital pedagogy further enhances connectivity theory by emphasising the use of technology to improve performance, accessibility and efficiency in knowledge reception.

The integration of the above theories provides a comprehensive framework for this study. While constructivism emphasises how students create historical understanding through

experiences, Self-determination theory demonstrates how gamification strengthens motivation. On the other hand, digital pedagogy reveals how technology enables interactive and networked learning environments. The combined framework of the three theories balances the argument that gamification is not merely a teaching method, but rather a structured pedagogy designed to transform how interconnected histories are used in teaching to improve understanding.

Methodology

Research Design

The study adopted a descriptive survey research design. Descriptive survey is a research design employed to gather information from a population about their opinions, attitudes, perceptions, behaviours and experiences on a specific phenomenon where no variable is manipulated (Rahi, 2017). The design was deemed suitable for this study because it helped the researcher to collect data based on history teachers' perceptions of the effectiveness of gamification and the 5E instructional model for the teaching of Golden Age of the Ottoman Empire and Africa histories.

Area of Study

The study was carried out in selected secondary schools in Nigeria. These include secondary schools teaching History, Citizenship and Heritage Studies both in the junior and senior secondary levels. The choice of Nigeria as the area of study was guided by the growing focus on innovative teaching approaches and curriculum reforms in the country, designed to enhance the teaching and learning of history and students' understanding of the world and interconnected histories.

Population of the Study

The study population include all the History teachers in the junior secondary schools and all the teachers of Citizenship and Heritage Studies in the senior secondary schools in the selected schools within the study area. These teachers were chosen because they are directly involved in the design and delivery of learning experiences in history and civic-related subjects where interconnected histories can be incorporated in the classroom to enhance learning.

Sample Size and Sampling Technique

The study sample comprised 400 teachers, including 218 Junior Secondary

School History teachers and 182 Senior Secondary School Citizenship and Heritage Studies teachers. A purposive sampling technique was used for the selection of the respondents in the study. The purposive sampling technique was adopted because the study involved only teachers who teach History at Junior Secondary Schools and Citizenship and Heritage Studies at the Senior Secondary Schools . Only the respondents with knowledge and teaching experience in these subjects were involved in the research.

Instrument for Data Collection

A structured questionnaire, called "Gamification and Interconnected Histories Questionnaire (GIHQ)" was used for data collection in the study as designed by the researcher.

The questionnaire has two sections A and B. Section A is designed to collect the demographic data of the respondents, while Section B contains items designed to gather information on the research questions and hypotheses of the study.

The questionnaire items were worded in the following way:

- Strongly Agree (SA) = 4
- Agree (A) = 3

- Disagree (D) = 2
- Strongly Disagree (SD) = 1

The instrument is considered suitable as it allowed the researcher to gather data from a vast number of respondents in a short time. It also helped to gather information on teacher's attitude, perception, and understanding of gamification, traditional pedagogies, and the 5E model of instruction in teaching interconnected histories.

Validation of the Instrument

Three experts performed face validation of the instrument. One of the experts was from the Department of Arts and Social Science Education (History Education), and the other two experts were from the Department of Educational Foundations and Measurement and Evaluation.

The items of the questionnaire were analysed by the validators with the aim of clarifying their relevance, language appropriateness, coverage of the study objectives and suitability in measuring the variables under investigation. Modifications and improvements of the final version of the instrument were made based on their observations, comments, and suggestions prior to administration. The validation process

was conducted to ensure that the questionnaire was able to capture teachers' perceptions of gamification, traditional pedagogies and the 5E instructional model when using it to teach interconnected histories.

Reliability of the Instrument

The instrument reliability was checked through a pilot study with 30 teachers who were not included in the main study but had similar characteristics to the respondents in the study. The internal consistency of the instrument was determined by the Cronbach's alpha reliability method; the answers obtained from the pilot test were then analysed. The reliability coefficient that was obtained was 0.82 which shows the instrument to be reliable for the study. The coefficient was judged to be acceptable because reliability scores of above 0.70 are usually considered satisfactory for educational research. This indicated the consistency of the measurement of the variables of the study by the items in the questionnaire.

Method of Data Collection

The researcher gathered information using the GIHQ, which was personally administered by the researcher with the assistance of two trained research

assistants. The school authorities were asked for permission before the administration of the instrument and the purpose of the study was well communicated to the respondents. The questionnaires were sent to the teachers during school hours and retrieved immediately after completion to avoid loss and to get a high response. The respondents were assured of confidentiality and anonymity of their responses. The direct administration method was deemed suitable for this research since the researcher could help clarify any problems as needed and because the questionnaires were completely administered and retrieved.

Method of Data Analysis

Data for the study were analysed using mean and standard deviation to answer the research questions, and *t*-test statistics were also used to test the hypotheses at a significance level of 0.05. Mean and standard deviation were used to determine how varied the respondents' opinions were from each other. The justification for the use of mean and standard deviation was based on the fact that the study adopted a descriptive design, which has to do with the description of teachers' perceptions and attitudes towards gamification,

conventional pedagogies, and the 5E instructional model.

Since the study compared the mean responses from two independent groups (Junior secondary school teachers and Senior secondary school teachers), the t-test statistical tool was used to test the hypotheses. The t-test was used because it helped to determine if there were significant differences between the mean ratings of the two groups for the variables studied.

The decision rule that was used for the hypotheses was that any value of the

probability less than 0.05 was considered significant and the null hypothesis was rejected, and any value of the probability greater than 0.05 was considered not significant, and the null hypothesis was accepted.

Results

Research Question 1

What are teachers' attitudes towards the effectiveness of the use of gamification in teaching the Golden Age of the Ottoman Empire and Africa?

Table 1: *Mean and Standard Deviation Analysis of Teachers' Attitudes Towards the Effectiveness of the Use of Gamification in Teaching the Golden Age of the Ottoman Empire and Africa*

n = 400

Item Statement: Teachers' Attitudes Towards the Effectiveness of the Use of Gamification		Mean	SD	Remarks
1	Gamification helps to make the teaching of Ottoman empire and African history more interesting.	3.56	.51	Agree
2	Students' understanding of the interrelatedness of histories is enhanced through gamification.	3.72	.48	Agree
3	Students are more involved in history lessons when using the game-based activities.	3.74	.45	Agree
4	Gamification is useful for students to remember historical information for longer periods.	3.65	.50	Agree

5	Gamified strategies are more effective in promoting student enthusiasm in history.	3.25	.58	Agree
6	Students have an easier time learning difficult concepts in history with Gamification.	3.77	.45	Agree
7	The use of rewards and badges motivates students to learn history.	3.74	.45	Agree
8	Gamification increases engagement in History lessons.	3.75	.45	Agree
9	Gamification fosters students' co-education.	3.00	.57	Agree
10	The use of gamification helps foster critical thinking in the learning of History.	3.78	.48	Agree
Cluster Mean		3.63	.49	Agree

The results presented in Table 1 revealed that teachers' attitudes towards the use of gamification in teaching the interconnected histories of the Ottoman Empire and Africa were positive, with a cluster mean score of 3.63, in the "Agree" decision range. This indicates that teachers think gamification can be a good teaching method in the teaching and learning of history. This outcome is quite significant to the objectives of the current study, as teaching of interconnected histories must be developed using approaches which make it more accessible for students to understand the relationships, interactions or cultural exchanges that have occurred. Gamification seems to provide this

opportunity by involving students in interactive, engaging and student-centred learning processes. For instance, the item that said that when using game-based activities, students get more involved in history lessons had a high mean of 3.74. This means that gamification boosts students' engagement and involvement in the classroom. Interconnected histories like those between the Ottoman Empire and Africa can be complicated by a variety of political, economic, religious and cultural dynamics, which can be more easily understood when students are engaged in learning processes rather than merely listening to a lecture. Likewise, the item "students have an easier time learning

difficult concepts in history with gamification" had a mean score of 3.77, showing that teachers believe that gamification is helpful in making the learning of difficult historical concepts easier. This is significant because the impact of the Ottoman Empire in Africa, trade routes, Islamic scholarship, diplomacy and transcontinental interactions from the Ottoman period could be hard for students to imagine through a traditional teaching style. The result also revealed that gamification encourages critical thinking with a mean score of 3.78. This indicates that the students are given opportunities to analyse historical events, compare civilisations and to understand cause-and-effect relationships between Africa and the Ottoman Empire in relation to

game-based learning. Learners can actively experiment how various regions, in the past, influenced each other through simulations, role play, quizzes, missions, and badges. Moreover, rewards and badges also motivate students (Mean = 3.74), and this shows that gamification can stimulate students' enthusiasm towards history lessons, which are perceived as boring. Thus, the findings indicate that the gamification approach can make history education more interesting and engaging.

Ho₁: There is no significant difference in junior and senior secondary school teachers' perceptions of the effectiveness of gamification in teaching the Golden Age of the Ottoman Empire and Africa based on gender.

Table 2: *T-Test Analysis of the Difference in the Mean Ratings of Junior and Senior Secondary School Teachers' Perceptions of the Effectiveness of Gamification in Teaching the Golden Age of the Ottoman Empire and Africa.*

Teachers	N	Mean	Std. Deviation	df	t	Sig	Decision
Junior School	218	3.57	.15	398	-5.519	.000	S
Senior School	182	3.69	.27				

S = Significant

The significance value in Table 2 showed that there is a significant difference between the perceptions of Junior Secondary School teachers and Senior Secondary School teachers on the effectiveness of gamification, as the value of 0.000 is below the alpha value of 0.05 (significant). Thus, the null hypothesis was rejected. The mean score of Junior Secondary School teachers was 3.57, while that of Senior Secondary School teachers was 3.69. This indicates that Senior Secondary School teachers may have a better understanding of the interwoven nature of the historical event under study and are more attuned to the importance of gamification. The Senior

Secondary School also has more advanced historical concepts in their syllabus, which are more relevant in deploying gamification to facilitate understanding and retention. The above finding is relevant to the objectives of this study because it shows that gamification is more applicable for the teaching of advanced interconnected historical topics, such as the Golden Age of the Ottoman Empire and its connection with African societies.

Research Question 2

What are the constraints of conventional pedagogies in teaching interconnected histories of the Golden Age of the Ottoman Empire and Africa?

Table 3: *Mean and Standard Deviation Analysis of the Constraints of Conventional Pedagogies in Teaching of Interconnected Histories of the Golden Age of the Ottoman Empire and Africa*

n = 400

Item Statement: Constraints of Conventional Pedagogies in Teaching of Interconnected Histories				
	Mean	SD	Remarks	
11 Traditional teaching methods make history lessons monotonous.	3.76	.46	Agree	
12 Traditional teaching methods do not adequately explain interconnected histories.	3.72	.45	Agree	
13 Traditional teaching methods are less effective in teaching Ottoman-African interconnected histories.	3.29	.51	Agree	

14 Traditional methods limit the practical application of historical knowledge.	3.80	.43	Agree
15 Conventional teaching approaches do not adequately address diverse learning styles.	3.77	.46	Agree
16 Traditional methods make it difficult to sustain students' attention throughout the lesson.	3.77	.43	Agree
17 Traditional teaching methods discourage problem-solving skills in history education.	3.33	.48	Agree
18 Traditional methods limit students' creativity during history lessons.	3.78	.43	Agree
19 Traditional teaching methods reduce students' motivation to study history.	3.76	.45	Agree
20 Students have limited opportunities to explore historical events independently in traditional classes.	3.81	.42	Agree
Cluster Mean	3.68	.45	Agree

Table 3 shows that teachers strongly agreed that traditional teaching methods have a number of limitations when it comes to teaching connected histories. The overall cluster mean of 3.68, is consistent with the general perception that traditional teaching and learning practices are not effective in this context. This finding is significant to the focus of the current study. Learners should be taught through approaches that will demonstrate the relationships, interactions, movements, exchanges and global connections existing in the

interconnected histories. Educational approaches that are based on lectures alone may not be effective in conveying these dynamics of relationships. The mean score for the item "traditional teaching methods make history lessons monotonous" was 3.76, which implies that students might be bored in history lessons delivered using a traditional teaching method. One-way teaching stifles students' interest and involvement, particularly in long tales such as the history of the Ottoman-Africa relations. The mean was 3.72 for the item

"traditional teaching methods do not adequately explain interconnected histories". This shows that traditional methods tend to focus on individual events and do not demonstrate interactions among civilisations. Students should be familiar with the importance of trade, religion, politics, migration, and diplomacy in uniting different areas across time in the history of the Ottoman Empire and Africa. Moreover, teachers found that traditional learning methods are not conducive to the imparting of historical knowledge (Mean = 3.80) and do not provide opportunities for independent study of historical events (Mean = 3.81). These imply that students are more likely to be information receivers than information seekers in the field of history. The results above also

reveal that traditional teaching practices hinder learners' problem-solving skills (Mean = 3.33), which also suggests that the traditional teaching process does not sufficiently equip the learners to make a critical analysis of historical relationships. In contrast, gamification as a method fosters exploration, inquiry and strategic thinking. Overall, the results justify the need for innovative methods such as gamification in teaching interconnected histories.

Ho₂: There is no significant difference in junior and senior secondary school teachers' perceptions of the constraints of traditional teaching methods in teaching interconnected histories of the Golden Age of the Ottoman Empire and Africa.

Table 4: *T-Test Analysis of the Difference in the Mean Ratings of Junior and Senior Secondary School Teachers' Perceptions of the Constraints of Traditional Teaching Methods in Teaching Interconnected Histories of the Golden Age of the Ottoman Empire and Africa.*

Teachers	N	Mean	Std.		t	Sig	Decision
			Deviation	df			
Junior School	218	3.68	.12	398	.168	.867	NS
Senior School	182	3.68	.33				

NS = Not Significant

The significance value (0.867) of teachers in Junior Secondary Schools compared

with that of the Senior Secondary School teachers is > 0.05, as shown in Table 4,

and there is no significant difference between their perceptions of the constraints of the traditional teaching method. Thus, the null hypothesis was accepted. The mean score was 3.68 for both groups, signifying a common view that traditional pedagogies are not effective for teaching interconnected histories. This finding supports the argument of the study as it showed that there exists a general agreement among all teachers, irrespective of their level, that the traditional methods used to teach complex global historical interactions such as the relations between the Ottoman Empire and Africa were ineffective. The above findings are quite relevant to the aim of the current study. They reveal that teachers in the

study area generally have a positive view of the effectiveness of gamification and the 5E instructional model in teaching interconnected histories, especially the history of Ottoman Empire and its relationships with Africa. The findings also illustrate how the traditional approach to teaching is not enough to effectively convey interrelated historical stories in an interesting and meaningful manner.

Research Question 3

What are teachers' perceptions of the effectiveness of using the 5E instructional model to incorporate gamification into the teaching of the interconnected histories of the Golden Age of the Ottoman Empire and Africa?

Table 5: *Mean and Standard Deviation Analysis of Teachers' Perceptions of the Effectiveness of Using the 5E Instructional Model to Incorporate Gamification into the Teaching of the Interconnected Histories of the Golden Age of the Ottoman Empire and Africa*

n = 400

Item Statement: Teachers' Perceptions of the Effectiveness of Using the 5E Instructional Model	Mean	SD	Remarks
21 The 5E instructional model supports student-centred learning in history education.	3.22	.68	Agree
22 The 5E model improves classroom interaction during gamified lessons.	3.75	.48	Agree

23 The 5E model enhances students' curiosity about historical events.	3.79	.43	Agree
24 The 5E model supports collaborative learning among students.	3.74	.46	Agree
25 The 5E instructional model promotes critical thinking in history lessons.	3.35	.48	Agree
26 The 5E model makes gamified history lessons more organised.	3.80	.41	Agree
27 Students understand interconnected histories better through the 5E instructional model.	3.81	.39	Agree
28 The 5E model encourages active exploration of historical issues.	3.74	.47	Agree
29 The 5E instructional model improves students' retention of historical knowledge.	3.31	.51	Agree
30 The 5E model supports effective integration of technology into history teaching.	3.78	.42	Agree
Cluster Mean	3.63	.47	Agree

Table 5 shows that the mean of all the teachers was 3.63, indicating that they all agreed that the 5E instructional model is suitable to be used to support the implementation of gamification in the teaching of history. This result reinforces the premise of this study by demonstrating that the 5E model is an effective tool for facilitating active learning and enhancing students'

understanding of the historical interconnectedness between the Ottoman Empire and Africa. The teachers agreed that the model facilitates student-centred learning (Mean = 3.22), that is, the students can be active in class rather than relying on the teacher's explanations. Students engage more with the relationship between the Ottoman Empire and African societies through role play, story and simulations. The results

also indicated an increase in the students' curiosity over historical events (Mean = 3.79) and in classroom interaction (Mean = 3.75) while using the 5E model. This indicates that students are being encouraged by the gamified lesson to investigate historical links and interactions including links in trade, religion, diplomacy and cultural exchanges between Africa and the Ottoman Empire that they otherwise would not have engaged in. In the same way, the teachers showed a positive agreement on the collaborative learning support (Mean = 3.74) and critical thinking support (Mean = 3.35) of the 5E model. In the context of teaching interconnected histories, these skills are crucial because students need to consider historical events from various angles. The highest mean score indicated that students' understanding of

interconnected histories through the 5E model (Mean = 3.81) was improved. The teachers also agreed that the model helps to organise gamified lessons (Mean = 3.80) and helps the integration of technology in history teaching (Mean = 3.78). The overall results, therefore, show that the 5E instructional model using gamification is effective in improving engagement, collaboration, exploration, and understanding in the teaching of the Golden Age of the Ottoman Empire and Africa.

Ho₃: There is no significant difference in junior and senior secondary school teachers' perceptions of the effectiveness of the 5E instructional model in integrating gamification into the teaching of interconnected histories of the Golden Age of the Ottoman Empire and Africa.

Table 6: *T-Test Analysis of the Difference in the Mean Ratings of Junior and Senior Secondary School Teachers' Perceptions of the Effectiveness of the 5E Instructional Model in Integrating Gamification*

Teachers	N	Std.		df	t	Sig	Decision
		Mean	Deviation				
Junior School	218	3.57	.15	398	-5.519	.000	S
Senior School	182	3.69	.27				

S = Significant

Table 6 showed that there were significant differences between the perceptions of the effectiveness of the 5E instructional model in the integration of gamification in history teaching by junior and senior secondary school teachers. The value for significance was 0.000, which is lower than the alpha level of 0.05; thus, the null hypothesis was rejected. The average score for the Senior Secondary School teachers (3.69) was higher than that of the Junior Secondary School teachers (3.57). This means that teachers in senior secondary schools found the 5E learning model to be more effective in teaching interconnected histories via gamification. The difference could be attributable to the fact that history topics in the Senior Secondary Schools are more detailed and analytical, necessitating approaches to teaching and learning that allow for a sense of enquiry, critical thinking and active participation. The Golden Age of the Ottoman Empire and Africa has complex historical connections such as trade, religion, political influence and cultural connection that may be better addressed in the context of a structured 5E model. The above finding, therefore, advances the objectives of the

current study in that 80% of the students who constitute the subjects of the study were able to learn the connected history in a single instruction as effectively as the 20% who were at a higher level of the same learning.

Discussion of Findings

The findings of Research Question 1 revealed a cluster mean of 3.63, indicating that the teachers agreed that gamification is an effective instructional approach for teaching the Golden Age of the Ottoman Empire and Africa. This suggests that the teachers generally viewed gamification as a positive teaching method to enhance their students' knowledge, involvement, participation, and retention in history education. This discovery reinforces the view that new methods of teaching are needed for teaching interconnected histories, as these histories are complicated by interconnections between societies, cultures, politics, trade, and religion.

The study also found that teachers agreed on the four aspects of gamification which make the learning of history more interesting, engaging, and aligned with

critical thinking and motivation through rewards and badges. This finding suggests that gamification can transform history education from being teacher-centred to an interactive learning process where students are actively involved in building history knowledge. The current study has shown that gamification contributes to students' understanding of how the Ottoman Empire interacted with African societies through collaborative and inquiry-based learning activities (simulations, quizzes, storytelling, role-playing).

The results of this study align with a study conducted in Russia by Moseikina et al. (2022), which revealed that gamification had a significant effect on the motivation of students and their participation in history lessons. The teachers used gamified learning to maintain students' interest in history and other subject areas. Similarly, Liu et al. (2020) in a study conducted in Republic of Tatarstan, Russia, found that students exposed to game-based learning and gamification demonstrated increased motivation and engagement with learning. The students also made additional efforts in assimilating the material studied, and achieved significantly higher learning outcomes

compared to those in the control group. Their findings show that the introduced game-based learning made a great impact on students' understanding of social studies' concepts and helped them to retain those concepts more easily.

The results of the current study are also consistent with studies from African. Gotom and Bassi (2024), in Nigeria, found that the use of gamified instructional strategies improved students' learning in social studies and history-related courses. Similarly, Lachman (2024) did an investigation on digital game-based learning in South Africa, and discovered that digital game-based learning raised the learners' motivation and interaction in the history classroom. These studies confirm that gamification facilitated collaboration and active learning among students.

Further, a study conducted in Pakistan by Amjad et al. (2025) revealed that some teachers thought that gamification was time-wasting and challenging to implement because of the lack of technological facilities. This misconception could be the reason for the existence of various levels of infrastructural development in schools as well as teachers' preparedness.

Nevertheless, this study shows a positive attitude of teachers towards gamification in learning interconnected histories in general.

The results of Hypothesis 1 revealed that there was a difference between the perceptions of the effectiveness of gamification for teaching the Golden Age of the Ottoman Empire and Africa among Junior and Senior Secondary School teachers. Senior Secondary School teachers had a higher mean score than Junior Secondary School teachers. This indicates that gamification could be more useful to teachers in the Senior Secondary Schools as an instructional tool to make complex topics in history easier to understand, and to increase critical thinking among students. Senior Secondary School teachers appear to value gamification more than the Junior Secondary School teachers because the topics they are required to teach involve a deeper analysis of the interaction between history.

The above finding corresponds with the study conducted by Garba et al. (2015) in Malaysia, where teachers who taught advanced classes were more inclined to use technology-based instructional practices than teachers at lower levels of

education. Similarly, in Nigeria, the degree of teachers' acceptance of learner-centred innovations in the teaching of Senior Secondary School subjects was influenced by the analytical nature of the Senior Secondary School curriculum.

In general, the findings of Research Question 1 suggest that the integration of gamification in teaching the topic, "Golden Age of the Ottoman Empire and Africa" is an effective teaching method. The findings confirm that game-based instructional methods can enhance students' engagement, curiosity, collaboration, and knowledge of historical relationships between places and civilisations.

On the other hand, the findings of Research Question 2 results revealed a cluster mean score of 3.68, which indicates that conventional pedagogies in teaching interconnected histories of the Golden Age of the Ottoman Empire and Africa have several limitations. In other words, traditional methods of instruction are perceived by the teachers as ineffective in fostering meaningful understanding of the relationship and interconnectedness of historical events.

The findings revealed that teachers perceived the traditional approach to history instruction as less effective, noting that it often leads to student boredom, low motivation, limited creativity, poor problem-solving abilities, and reduced attention during classroom instruction. This means that the "lecture approach" is not sufficient to facilitate active learning or critical engagement with historical content. In line with the focus of the current study, teaching approaches that would be useful to demonstrate relationships between societies, cultures, and civilisations should be able to reveal the interconnectedness of these variables. Hence, the findings of the Research Question 2 reinforces the constructivist approach to learning, which holds that students have to be active in learning and building of knowledge. Students need to learn about trade connections, cultural exchanges, diplomacy, religion and politics in the interconnected history of the Ottoman Empire and Africa. It is important to teach this history well. However, traditional pedagogies do not always do this as they tend to focus on rote memorisation rather than encouraging enquiry and exploration.

The results of the Research Question 2 are consistent with a study by Tirado-Olivares et al. (2021) conducted in Spain. The study uncovered that students' interest in history lessons diminishes with the use of a lecture-based pedagogical model which does not facilitate the critical analysis of historical events. In the same way, Yao et al.'s (2019) study in China revealed that traditional teaching methods were not suitable for teaching students with different learning styles; hence, their performances were not high enough in general courses due to the traditional method used.

Also, the results are corroborated by the study of Abdu-Raheem (2012) in Nigeria, which showed that experimental group students' achievement mean scores were significantly different from the control group mean scores, showing that the problem-solving method is more effective than the conventional lecture method in enhancing students' achievement in sociological studies. Further, Mvenene's (2025) study in South Africa indicated that the traditional approach to history teaching suppressed the learners' creativity and their personal investigation of history topics since they were only passive learners.

For Hypothesis 2, there was no significant difference between the perceptions of the constraints of the traditional teaching strategies of the Junior and Senior Secondary School teachers. The two groups had similar perspectives on the shortcomings of traditional pedagogies. This indicates that the teachers of all levels in the school are aware of the need for new teaching methods in the teaching of history.

This finding is in line with a similar study carried out by Zhang et al. (2020) in China, which found that teachers at varying levels of education generally felt that traditional pedagogies failed to promote critical thinking and engagement on the learners. Similarly, Wekwete (2020) in Zimbabwe discovered that both Junior and Senior Secondary School teachers perceive the traditional approach to lecture as restricting students' participation in class and personal research.

In summary, the findings of the Research Question 2 suggest that traditional instructional models may be inadequate in today's classrooms for teaching interconnected histories. The findings thus, corroborate the use of gamification and learner-centred instructional

methods in teaching the Golden Age of the Ottoman Empire and Africa.

The findings of Research Question 3 revealed a cluster mean of 3.63, which shows that teachers generally perceive the use of gamification with the 5E instructional model in teaching the Golden Age of Ottoman Empire and African history as positive. This finding suggests that teachers see the 5E model as a good framework to increase the level of engagement, exploration, collaboration, critical thinking, and use of technology in the area of history education.

The finding also indicated that the 5E model could be used to promote students' curiosity in learning historical events, improve classroom interaction, facilitate students' collaborative learning, and help students grasp the interconnectedness of histories. This is particularly relevant to the focus of the current study as it involves learning how to teach interconnected histories in ways that involve inquiry and students' participation to understand the relationships between different histories.

The highest mean score was found in students' understanding of the interconnected histories based on the 5E

model. In this case, the model provides students with a connection to historical events and enables them to gain an understanding of connections between the Ottoman Empire and African societies. Students can participate in a structured and meaningful investigation of trade systems, Islamic scholarship, diplomacy, and cultural interactions, along the 5E stages of engagement, exploration, explanation, elaboration, and evaluation.

The findings of Research Question 3 are consistent with the results of Abebe et al.'s (2025) study in Ethiopia, which revealed that the improvement of attitudes to the learning of history was influenced by the interactive and student centredness of the 5E model. The same applies in Indonesia, with Siswati et al.'s (2026) finding that students in a gamified inquiry-based learning group achieved significantly higher gains in critical thinking skills and cognitive learning outcomes than those in a control group; while differences in affective and psychomotor outcomes were not statistically significant. The findings are also supported by Aliu's (2023) study in Nigeria which argued that, regardless of all the challenges faced by learners, good teachers are those who are willing to use

the learner's approach. The study reveals that there are indeed many possibilities for the utilisation of learner's approach in Nigeria. Similarly, in South Africa, Dlamini found that inquiry-based teaching methods facilitated collaborative learning and the incorporation of technologies in the humanities.

However, the findings of Research Question 3 conflict with the study by Enugu and Hokayem (2017), who found in a private university in North Texas, USA, that the PST faces main challenges with explaining and elaborating phrases of the 5E. They also face challenges and difficulties with managing the time to teach the 5E model, and mapping the lesson to the different parts of the 5E. However, more than this, the present study shows that teachers consider the model effective in the integration of gamification in the teaching of history.

For Hypothesis 3, the results showed that there was a significant difference between the perceptions of Junior and Senior Secondary School teachers regarding the effectiveness of the 5E instructional model. However, the mean scores of the Senior Secondary School teachers were higher than those of the

Junior Secondary School teachers, indicating that Senior Secondary School teachers might have a better assessment of the importance of using inquiry-based and gamified approaches in advanced topics in history. The finding is consistent with the study conducted by Inoue et al. (2019) in Japan, which found that teachers who taught advanced classes were more receptive to inquiry-based learning models in Japan.

The overall results suggest that the 5E instructional model is an effective way of implementing gamification in the teaching of interconnected histories. The model encourages students' curiosity, involvement, co-construction, exploration and critical thinking, which ultimately elevates the students' knowledge about the Golden Age of the Ottoman Empire and Africa.

Conclusion and Recommendations

This study has shown that gamification is an effective instructional method for teaching the interconnected history of the Golden Age of the Ottoman Empire and Africa. The findings revealed that teachers' attitudes towards gamification were positive, as it improves students' engagement, motivation, collaboration, critical thinking, curiosity, and historical

knowledge retention. The study also revealed that traditional pedagogical methods are ineffective in the teaching of interconnected histories, as they render the learning process monotonous, and restrict students' creativity, as well as diminish their involvement in active research on historical facts.

The study also revealed that the 5E instructional model is an effective model to be used in the implementation of gamification in the teaching of history. The model encourages student-centred learning, the involvement of the students in the classroom, group learning, inquiry, and integration of technology, which will facilitate students' understanding of the historical relationships between the Ottoman Empire and African societies. Moreover, the substantial differences found between the perceptions of Junior and Senior Secondary School teachers indicate that the senior teachers might have greater appreciation of innovative teaching methods as they deal with advanced topics in history, which are more complicated.

Based on its findings, the study recommended that the use of gamification techniques, including simulations, quizzes, role-playing,

storytelling, and digital games, can be used to enhance the understanding of interconnected histories in history education. Gamification in the teaching of history should be integrated into the educational curriculum by curriculum planners and education policymakers to make history education more engaging and learner-centred.

The research also recommended that teachers should be educated on history teaching with effective gamification and the 5E instructional model through

workshops and professional development programmes organised in schools.

Further, the government and school authorities should ensure that there are sufficient technological facilities like computers, internet facilities, projectors, educational softwares, etc. available for the gamification of learning. Finally, further studies should focus on the long-term outcomes of gamification on students' academic performance and historical thinking ability in various educational settings.

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