

# The Degree Of Practicing Educational Technology Competencies Among Social Studies Teachers In The Intermediate Stage In Saudi Arabia

**Kalthoum Arabi ALzatari**

*Department of Curricula and Teaching Methods, College of Education, University of Hail, Kingdom of Saudi Arabia, e-mail: [alzarikalathom@yahoo.com](mailto:alzarikalathom@yahoo.com)*

## **Abstract**

The study aimed to identify the degree of practicing educational technology competencies among social studies teachers in the intermediate stage and indicate statistical differences according to the variables of gender, educational qualification, and years of experience. The descriptive survey method was used. The study sample was chosen by stratified random sampling and consisted of (145) male and female teachers of social studies in Hail region in the Kingdom of Saudi Arabia. The questionnaire was used as a data collection instrument. The results showed that the degree of practicing educational technology competencies among social studies teachers in the intermediate stage on the total degree and all competencies came with a medium degree. The competency of technological planning obtained the highest mean. Also, the results revealed no statistically significant differences in the degree of practicing educational technology competencies among social studies teachers in the intermediate stage according to the study sample's responses on all competencies and the instrument as a whole due to the variables of gender, academic qualification, and years of experience. In light of the current results, the study recommended the need for educational leaders in the Ministry of Education to adopt training and development programs to develop the level of social studies teachers' practice of educational technology competencies in teaching.

**Keywords:** educational technology competencies, social studies teachers, intermediate stage.

## **Introduction**

The great development in the field of information and communication technologies led to the global trend toward employing these technologies in various fields including education. These technologies have become a tool for active societies to achieve sustainable human development in terms of a knowledge-based economy. Through these technologies, it became possible to access information as quickly as possible and obtain knowledge at any

time and place (Al-Jader, 2019). This technological development has led to an urgent need to exchange experiences with others and learners' need for rich multi-source environments for self-research and development. Many new methods and means have appeared in teaching and learning, which have been imposed on teachers to keep pace with them such as modern models in technology-based learning and e-learning services (Govindarajan, 2012). The Kingdom of Saudi Arabia was one of the first Arab countries

to move toward these modern technological models and employ them in the educational process (Al-Jafri & Tayeb, 2015).

Therefore, technological education and the accompanying various developments and applications in technological means made teachers required to invest them to reach an interactive and supportive educational system for traditional education using modern computer technologies and software. They also made them effective and highly qualified users of technology in education and teaching. This leads us to the importance of teachers practicing the competencies of educational technology (Al-Ashiri, 2017). Competencies refer to the set of knowledge, skills, and attitudes that can be achieved based on a level of mastery efficiently and effectively. The competencies contribute to facilitating the teacher's task and carrying out his duties, work, and performance in high quality by influencing learners' interaction and positive classroom participation (Omar, Ahmad, & Roslan, 2018). Therefore, teachers in general and social studies teachers need to be familiar with teaching competencies including educational technology competencies.

Educational technology competencies refer to the set of knowledge, abilities, skills, and trends that the teacher possesses and practices in the field of educational technology to design, implement, and evaluate the teaching and learning processes to achieve the effective and competent performance of his educational work. The educational technology competencies required for the teacher are represented in the design of educational aids, the selection of educational devices, the use of educational devices, production and evaluation, computer use competencies, Internet use competencies, and instructional lesson design competencies (Shaheen, 2017). The importance of teachers' practice of educational technology

competencies appears in its auxiliary role in the rapid delivery of information, its transfer, storage, and presentation again to students (Yalin, 2010). They also improve the quality of educational experiences and enable teachers to integrate and link the elements of the educational process and translate them into effective and influential educational situations and behavioral patterns (Al-Dali, 2020). In light of the evolution of the teacher's role, it has become necessary for the teacher to practice the basic competencies in educational technology to perform his teaching role effectively and efficiently, benefiting students and contributing to achieving the desired educational goals (Mohammed, 2017).

The importance of the social studies teacher stems from the special nature of the social studies subject in that it links the temporal and spatial dimensions. It is also distinguished from the rest of the study subjects by a social nature as is clear from its name. All of this made it a fertile environment that contributes to a greater role in preparing a generation of young people to be outstanding individuals in their society and informing them of the realities of the social and economic developments surrounding them (Alayan, 2017). In addition, it highlights the role of the social studies teacher in helping the student to be enlightened and acquire the customs, traditions, and values prevailing in his society and knows its controls (Abu Tayeh & AL-Khawaldeh, 2022). Further, it highlights the teacher's role in enabling the student to know the place in which he lives, understands his geography, and respect the history and past of his ancestors and how this past helped shape the present in which he lives now. Moreover, he increases the student's awareness, makes him aware of the social, political, and economic problems that surround him, and directs him to help his community (Al-Husary, 2016). The

social studies subject plays a role in focusing on general knowledge in its human, theoretical, and technical dimensions. It makes the student familiar with the basic aspects of the culture of the society that enable him to adapt to the environment around him, feel a sense of belonging and loyalty to the homeland, identify social problems, and contribute to his solution and knowledge of current events, and link him to his real life (Al-Kayali & Al-Maamri, 2022). Therefore, the researcher believes that teachers in general and social studies teachers in specific need to be familiar with teaching competencies including educational technology competencies and work to employ them to make the social studies subject more beneficial for learners.

The topic of educational technology competencies among teachers has received the attention of researchers. Al-Kayed's (2014) study showed a statistically significant difference in the degree to which Arabic language teachers in Jordan possess educational technology competencies due to the variable of experience in favor of those with longer experience; however, there were no differences in the sex variable. Mando et al. (2016) showed that the level of practice of educational technology competencies among general education teachers in Syria was low. Al-Ashiri (2017) showed that the possession of e-learning competencies among general education teachers in government schools in the State of Bahrain came to a medium degree. Al-Modares, Al-Mutairi, and Al-Hammar (2021) showed that the degree of availability of competencies for employing e-learning technology among secondary school teachers came with a medium rating. It also showed a statistically significant difference in the degree of availability of these competencies among teachers due to the variable years of experience for the level of experience less than ten years; however, no

statistically significant differences existed due to the variables of gender and educational qualification.

Based on the foregoing, the social studies subject plays a very important role in consolidating and enhancing national concepts among students. Also, the developmental characteristics in the intermediate stage are one of the fertile stages for investing in educational technology and employing it in educational lessons, especially since learners at this stage have a great ability to interact with the stimuli of the multimedia elements provided by the educational computer. Given their tendency to explore and curiosity and their use of the senses in the process of interacting with the surrounding classroom, school, and social environment, the need for this study came to reveal the degree of practicing educational technology competencies among social studies teachers in the intermediate stage in the Kingdom of Saudi Arabia.

### **Statement of the problem**

The problem of this study emerged from previous studies indicating that there are problems among teachers in possessing and employing educational technology competencies in teaching (Al-Kayed, 2014; Mando et al., 2016; Al-Madares et al., 2021). The study of Abu Salem, Al-Agha, and Akl (2022) also showed that there is a need to raise the level of social studies teachers with technological skills and competencies in the light of recent developments and encourage the use of technology tools, means, and techniques during face-to-face or electronic education alike. It was found that there is a weakness of these teachers in their educational technological competencies. Therefore, the researcher conducted an exploratory study on a sample of (20) male and female teachers of social studies

in the intermediate school. The results indicated that there was a discrepancy in the sample responses about their practice of educational technology competencies between the weak and medium grades. Hence, the problem of this study aimed to reveal the degree of practicing educational technology competencies among teachers of social studies in the intermediate stage in the Kingdom of Saudi Arabia. The study problem can be identified by answering the following questions:

1. What is the degree to which social studies teachers practice educational technology competencies in the intermediate stage?
2. Are there statistically significant differences in the responses of the study sample about the practice of educational technology competencies among social studies teachers in the intermediate stage due to the variables of gender, academic qualification, and years of experience?

### Significance of the study

This study gains its significance from the importance of its topic, which deals with the degree of practicing educational technology competencies among social studies teachers in the intermediate school stage. This may contribute to the fact that this study is a tributary to enriching human knowledge on the topic of social studies teachers' practice of educational technology competencies. It is hoped that the results of this study will benefit social studies teachers in identifying the necessary practices related to educational technology competencies

that will enable them to make the teaching of social studies course more exciting and interesting. It is also hoped that the educational officials in the Ministry of Education will benefit from the results of this study by designing training programs that support and enhance the practice of educational technology competencies among social studies teachers. Finally, the study provided an instrument with psychometric indications suitable for the Saudi environment, which may open the way for other researchers for scientific research in line with the requirements of the current era.

### Methodology

#### Research design

In this study, the descriptive approach was used in a survey method. It is the most appropriate approach to the nature of this study by applying the study instrument (questionnaire) to know the degree of practicing educational technology competencies among social studies teachers in the intermediate stage.

#### Population and sample of the study

The study population consisted of all intermediate school social studies teachers in Hail educational region in the Kingdom of Saudi Arabia, totaling (250) male and female teachers in the academic year 2022/2023. The study sample consisted of (145) male and female teachers who were chosen by the stratified random method. Table 1 shows the characteristics of the sample.

Table 1. Characteristics of the study sample

Variable	Group	N.	%
Gender	Male	78	53.8
	Female	67	46.2
Academic qualification	Bachelor	114	78.6
	Higher studies	31	21.4

Year of teaching experience	Less than 10 years	41	28.3
	More than 10 years	104	71.7
Total		145	100

### Instrument of the study

The study instrument was developed to measure the degree of practicing educational technology competencies among social studies teachers in the intermediate stage (Al-Kayed, 2014; Mando et al., 2016; Al-Ashiri, 2017; Al-Modares et al., 2021). In its final version, the instrument consisted of (30) items distributed into five competencies. They are the competency of technological planning (6-1), the competency of technological methods and strategies of teaching (7-12), the competency of selecting technological devices (13-18), the competency of using technological devices (19-24), and the competency of technological evaluation (25-30). To interpret the respondents' ratings, a five-point Likert scale (very high, large, medium, few, very few) was used. The responses of the study sample were given the following values (5,4, 3, 2, 1).

### Validity and reliability of the study instrument

To verify the validity of the content of the instrument, it was presented in its initial version to ten experts with experience in educational techniques and social studies curricula and methods of teaching in Saudi universities. In light of their opinions and suggestions, which were agreed upon (80%) or more, the required amendment of the instrument was made. After that, the instrument was produced in its final version. The reliability of the study instrument was also confirmed using the test-retest method. The instrument was applied and reapplied after two weeks on an exploratory sample from outside the study sample (20 male and female social studies teachers) in the intermediate

stage. Then, the Pearson correlation coefficient was calculated between their responses at both times. The overall reliability coefficient of the instrument was (0.85). The internal consistency reliability coefficient was calculated using Cronbach's Alpha equation from the first application. The overall reliability coefficient of the instrument was scored (0.81). This result justifies the reliability of the study instrument to achieve the study objective.

### Procedures of the study

First, the study problem, questions, and variables were identified. Second, an approval letter was obtained to facilitate the task from the official government agencies at the University of Hail and the General Education Department in Hail region in the Kingdom of Saudi Arabia to facilitate the researcher's task in applying the instrument and collecting the necessary data. Third, the study instrument was prepared, and its validity and reliability were verified. Fourth, the study instrument was distributed using an electronic link on (Google Drive) and distributed to the study sample using e-mail. Fifth, the data were collected and checked for completeness. Then, the Social Statistical Analysis Package (SPSS) program was used to analyze the data. Finally, the results were extracted and discussed, and recommendations and research suggestions were written. To interpret the respondents' responses, the following statistical standard was used:

(1.00 --- 1.80) = very low

(More than 1.80 --- 2.60) = low

(More than 2.60 --- 3.40) = medium

(More than 3.40 --- 4.20) = high

(More than 4.20--5.00) = very high

## Results

This section dealt with the results that were reached, and they were presented as follows:

**Results of the first question:** What is the degree to which social studies teachers practice educational technology competencies in the intermediate stage?

To answer this question, the means and standard deviations of the responses of the study sample were calculated about the degree of practicing educational technology competencies among social studies teachers in the intermediate stage. Table 2 shows the results.

Table 2. Means, standard deviations, and rank of the degree of practicing educational technology competencies among social studies teachers in the intermediate stage

No.	Competencies	Mean	Standard deviation	Rank	Degree
1	Technological planning	3.39	0.46	1	Medium
3	Selecting technological devices	3.36	0.48	2	Medium
2	Technological methods and strategies of teaching	3.14	0.51	3	Medium
4	Using technological devices	3.12	0.51	4	Medium
5	Technological evaluation	3.06	0.44	5	Medium
	Total	3.21	0.33		Medium

Table 2 showed that the total degree of the study sample's responses about the degree of practicing educational technology competencies among social studies teachers came with a mean of (3.21), a standard deviation of (0.33), and a medium degree. "Technological planning" came in the first rank with a mean of (3.39) and a medium degree, followed by "Selecting technological devices" in the second rank with a mean of (3.36) and a medium degree. "Technological evaluation" came in the last rank with a mean of (3.06) and a medium degree.

**Results of the second question:** Are there statistically significant differences in the responses of the study sample about the practice of educational technology competencies among social studies teachers in the intermediate stage due to the variables of gender, academic qualification, and years of experience?

To answer this question, the means and standard deviations about the degree of practicing educational technology competencies among social studies teachers were extracted due to the variables of gender, academic qualification, and years of experience. Table 3 depicts the results.

Table 3. Means and standard deviations about the degree of practicing educational technology competencies among social studies teachers (gender, academic qualification, and years of experience)

Variable	Group	Technological planning		Technological methods and strategies of teaching		Selecting technological devices		Using technological devices		Technological evaluation		Total	
		M	SD	M	SD	M	SD	M	SD	M	SD	M	SD
Gender	Male	3.39	0.47	3.09	0.53	3.37	0.49	3.09	0.53	3.02	0.44	3.19	0.32
	Female	3.38	0.44	3.19	0.48	3.34	0.47	3.16	0.50	3.11	0.42	3.24	0.30
Academic qualification	Bachelor	3.38	0.44	3.17	0.49	3.37	0.47	3.15	0.50	3.07	0.42	3.23	0.29
	Higher studies	3.41	0.53	3.04	0.55	3.31	0.50	3.03	0.56	3.02	0.48	3.16	0.36
Years of teaching experience	-10 years	3.44	0.47	3.15	0.52	3.37	0.45	3.13	0.52	3.08	0.41	3.23	0.31
	+10 years	3.39	0.47	3.09	0.53	3.35	0.49	3.09	0.53	3.02	0.44	3.19	0.32

Table 3 shows that there were apparent differences in the means of the study sample's responses about the degree of practicing educational technology competencies among social studies teachers according to the

variables of gender, academic qualification, and years of experience. To show the significance of the differences between the means, multiple analysis of variance was used. Table 4 displays the results.

Table 4. Analysis of variance of the degree of practicing educational technology competencies among social studies teachers in the middle school according to gender, academic qualification, and years of experience

Source	Competencies	Sum of squares	df	Mean of squares	f	Sig.
Gender Hotelling's Trace V=.057 Sig.=.174	Technological planning	.004	1	.004	.020	.888
	Technological methods and strategies of teaching	.323	1	.323	1.231	.269
	Selecting technological devices	.033	1	.033	.142	.707
	Using technological devices	.139	1	.139	.511	.476
	Technological evaluation	.251	1	.251	1.311	.254
	Total	.057	1	.057	.573	.450
Academic qualification Hotelling's Trace V=.023 Sig.=.677	Technological planning	.026	1	.026	.120	.729
	Technological methods and strategies of teaching	.340	1	.340	1.297	.257
	Selecting technological devices	.099	1	.099	.420	.518
	Using technological devices	.315	1	.315	1.163	.283
	Technological evaluation	.039	1	.039	.202	.654
	Total	.089	1	.089	.900	.344

Teaching experience Hotelling's Trace V=.008 Sig.=.954	Technological planning	.009	1	.009	.034	.855
	Technological methods and strategies of teaching	.003	1	.003	.013	.911
	Selecting technological devices	.001	1	.001	.005	.945
	Using technological devices	.024	1	.024	.126	.723
	Technological evaluation	.022	1	.022	.225	.636
	Total	.009	1	.009	.034	.855
Error	Technological planning	30.625	141	.217		
	Technological methods and strategies of teaching	36.934	141	.262		
	Selecting technological devices	33.328	141	.236		
	Using technological devices	38.242	141	.271		
	Technological evaluation	26.992	141	.191		
	Total	13.995	141	.099		
Total	Technological planning	1693.444	145			
	Technological methods and strategies of teaching	1466.472	145			
	Selecting technological devices	1665.750	145			
	Using technological devices	1451.889	145			
	Technological evaluation	1385.861	145			
	Total	1510.737	145			

Table 4 shows no statistically significant difference at (0.05) in the responses of the study sample about the degree of practicing educational technology competencies among social studies teachers in the intermediate stage on the total score and all competencies of the study instrument attributed to the variables of gender, academic qualification, and years of experience.

## Discussion

### The first research question:

The results showed that the degree of practicing educational technology competencies among social studies teachers in the intermediate stage was medium. This result may be attributed to the low level of attitudes among some social studies teachers towards the practice of

educational technology in teaching social studies courses because of their insufficient training to practice those competencies in the right way. Perhaps, some teachers find that traditional education is better as they are accustomed to employing it in teaching. This may be due to the lack of technological equipment. The technological devices require the teacher to spend more effort and time in employing and using them, which constitutes an additional burden for him when teaching social studies courses. This result agrees with that of Al-Ashiri's (2017) study, which showed that the degree to which general education teachers in government schools in Bahrain possessed the competencies of e-learning technology was medium. The result is also in line with Al-Modares et al.'s (2021) study, which showed that the degree of use of e-learning technology



competencies among secondary school teachers was medium. The current result differs from that of Mando et al.'s (2016) study, which showed that the level of classroom teachers' practice of educational technology competencies came to a low degree.

The results also showed that the first competency "technological planning" came in the first place with a medium degree. This may be attributed to the importance of planning, which is the basic rule in the teacher's work, which acquires this competency through the subjects at university. Also, the in-service teacher training programs in the Ministry of Education in the Kingdom of Saudi Arabia pay great attention to the competency of planning to be consistent with the role of the new teacher as a planner and guide to the educational process.

#### **The first research question:**

The results showed no statistically significant differences between the responses of the study sample about the degree of practicing educational technology competencies among social studies teachers in the intermediate stage on all dimensions and the total degree of the instrument due to gender, academic qualification, and years of experience. This result may be attributed to the similar nature of educational and academic conditions, environmental facilities, and equipment in public schools in the intermediate stage of Hail educational region in the Kingdom of Saudi Arabia, and their educational orientations and policies. Those policies urge them to keep pace with scientific and technical development. This result is also because teachers may have possessed the same educational technology competencies as a result of undergoing the same training courses and programs offered by the Ministry of Education. This result agrees with that of Al-Kayed's (2014) study, which showed

no statistically significant difference in the degree to which Arabic language teachers possess educational technology competencies due to gender. The result is also consistent with that of Al-Modares et al.'s (2021) study, which showed no statistically significant difference in the degree of availability of e-learning technology competencies among teachers due to the gender variable. In addition, This result is in line with that of Mando et al.'s (2016) study, which showed no statistically significant difference in the extent to which teachers practice educational technology competencies due to the educational qualification variable.

#### **Recommendations**

In light of the results of the current study, it is recommended that educational and academic leaders in the Ministry of Education in the Kingdom of Saudi Arabia adopt training and development programs to develop the level of social studies teachers' practice of educational technology competencies in teaching. The study also recommends paying attention to implementing plans for teachers' activities that include training programs and educational lectures on activating practices related to educational technology competencies in the classroom because of their significant impact on making learning social studies courses more enjoyable and useful. In addition, it is suggested that studies similar to this study be conducted by addressing other communities, larger samples, and other variables such as the school stage, the educational region, and training courses in the field of technology.

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