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Digital awareness and its relationship to achieve motivation among student teachers

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Abstract

The study aimed to identify the levels of digital awareness and achievement motivation among student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate and explore the relationship between digital awareness and achievement motivation. The study adopted a descriptive correlational research design. The primary sample consisted of 266 undergraduate students. The researchers utilized the Digital Awareness Scale Prepared by the researcher (2024) and the Achievement Motivation Scale developed by Al-Otaibi [1]. The study results showed that the level of digital awareness among college students was high, and the level of achievement motivation was also high. Furthermore, there were statistically significant differences in the level of digital awareness among students, favoring those majoring in Geography and Arabic Language. Similarly, there were statistically significant differences in achievement motivation among students, favoring those majoring in Geography and Arabic Language. The study also found a statistically significant relationship between the level of digital awareness and achievement motivation. The study's findings recommend enhancing college students' digital awareness through seminars and workshops conducted by experts to boost their achievement motivation. Additionally, educational programs and curricula aligned with students' abilities and potentials should be developed to enhance their motivation to achieve further.

Keywords: Achievement Motivation, Digital awareness, Education, Students, Teachers.

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1. Introduction

Acquiring digital skills is vital in the modern era, especially for students. In Saudi Arabia, rapid advancements in digital technology have prompted the Ministry of Education to introduce a digital skills course at the primary level and revise curricula accordingly. The challenges posed by technological growth and increased data volumes in education and digital security have driven nations to accelerate digital transformation. In this context, Saudi Arabia's Vision 2030 and National Transformation Program aim to advance digital education, enhance curricula, and cultivate a globally competitive and innovative generation.

Furthermore, in 2019, the Education and Teaching Evaluation Commission of Saudi Arabia established digital technology learning standards to enhance understanding of digital concepts and applications. Digital awareness is crucial for technological education, improving comprehension of the tech environment, addressing ongoing advancements, and mitigating negative impacts. Al-Faifi [2] emphasizes the importance of digital awareness for adapting to technological risks, while Abdel Sayed [3] highlights its role in skill development, fostering positive attitudes, and improving educational outcomes.

In addition to digital skills, University students encounter academic challenges that impact their motivation and problem-solving skills. To address these, fostering an environment that promotes creative thinking and resilience is crucial. Al-Yousifi [4] identifies motivation as a critical factor in academic success, noting that low motivation leads to diminished enthusiasm and achievement. Monad [5] highlights achievement motivation as a driver of excellence and innovation, while Qashqoush and Mansour [6] emphasize its role in problem-solving and overcoming obstacles. Understanding achievement motivation is vital, as it affects individual behaviour, perceptions, and interactions, contributing to self-realization, goal attainment, and overall quality of life [7].

Researchers argue that strong achievement motivation enhances perseverance and performance efficiency, contributing to personal development and growth. It boosts self-esteem, encourages ongoing improvement, and strengthens the ability to handle and resist pressure.

2. Review of Literature

2.1. Digital awareness

Digital awareness is essential for addressing the challenges of globalization and technological advancements. Its growing importance makes it a necessary solution for navigating complex changes in today's world. Specifically, Digital Awareness Indicates is defined as an individual's awareness of the knowledge and skills related to the field of modern technology, how to use it and know its secrets, the ability to deal with it and employ it in daily life, the ability to solve its problems, and the ability to use technology effectively [8]. Furthermore, researchers define digital awareness as understanding digital skills and using technology responsibly, effectively, and ethically. They benefit from it in learning and solving personal and professional problems, and it is included in school curricula and education programs. In addition, digital awareness includes awareness of the potential risks and challenges of using technology. Building on these concepts, digital awareness is rooted in several essential foundations, as detailed by Al-Shuwaili [8] and Abdel Sayed [3]. These foundations encompass cognitive, skill-based, and ethical dimensions. Specifically, the cognitive foundations involve understanding technology's principles, its societal and scientific context, and its application. The skill foundations include practical, critical, and innovative thinking and technical skills. Furthermore, the ethical foundations address the responsible and legal use of technology. These three interconnected foundations collectively provide a comprehensive framework for understanding and applying digital awareness responsibly and effectively.

Achievement Motivation

The study of motivation is central to psychology, as all behaviours, whether explicit or unclear, positive or negative, are driven by underlying motives. Achievement motivation, as defined by Adler [9] is a compensatory drive stemming from childhood experiences. Al-Ghannam [10] argues that achievement motivation drives individuals to compete in challenging situations to avoid pain and seek pleasure, ultimately aiming to satisfy needs. Building on this, Abu Hammad [11] defined achievement motivation as the drive to excel, pursue success, perform well, persevere, and achieve specific goals in challenging situations. Given the significance of achievement motivation in societal development, it has garnered substantial attention from scholars, notably [12] who pioneered research in this area and significantly advanced the field [13]. In this context, Achievement motivation arises from various sources identified by Al-Jandil and Falih [14]. These include behavioural sources (responses to stimuli with reinforcement or avoidance), social sources (imitating community standards), cognitive sources (understanding and solving problems), emotional sources (improving self-concept), dispositional sources (overcoming challenges and developing self-efficacy), and spiritual sources (understanding one's existential purpose). Building on these sources, Al-Rimawi [15] further classifies achievement motivation into two types: self-motivation, which is driven by personal goals and experiences, and social motivation, which is shaped by societal standards and peer interactions. Thus, while the sources provide a broad basis for understanding achievement motivation, the types offer a framework for how these sources manifest in individual behaviours and goals.

Moreover, Individuals with high achievement motivation are noted for their competitiveness, responsibility, and belief that success relies on their efforts. They embrace challenges, set ambitious goals, and perform well in various situations, preferring roles that require initiative and avoiding routine tasks [14]. In contrast, Al-Kholy [16] described that high achievers aim for excellence, work diligently, and make realistic decisions, while those with low achievement motivation may set unrealistic goals and need help in collaborative efforts. In light of these observations, Understanding achievement motivation involves exploring various theoretical frameworks illuminating how individuals are driven to achieve their goals. Two prominent theories in this domain are those proposed by Atkinson [12]. McClelland [17] theory suggests that

motivation is fundamentally an emotional construct shaped by our expectations of outcomes based on previous experiences. When individuals anticipate positive results, they are likely to exhibit approach behaviours; however, if they foresee negative consequences, avoidance behaviours are more probable [13].

On the other hand, Atkinson [12] theory posits that achievement motivation is driven by the value individuals place on completing tasks. He argues that while challenging tasks can provoke anxiety and avoidance, they also serve as motivational catalysts when goals are seen as attainable. High achievement expectations motivate individuals to engage with tasks they perceive as achievable, thereby promoting motivation and facilitating success [14]. Thus, these theories collectively highlight that both emotional expectations and the perceived feasibility of goals influence achievement motivation.

The researcher considers Atkinson's theory the most comprehensive. It links achievement motivation to success-related factors, task difficulty, and the motivating value of success. These elements are deemed essential in explaining the driving forces behind student achievement.

Previous studies emphasize the importance of the concepts of (digital awareness and achievement motivation) among students. In this context, Khanal, et al. [18] found that the level of digital awareness was high among the participants. Similarly, Nagy [19] found that students had excellent awareness of digital citizenship, with no statistically significant differences based on age group or duration of digital device use. Building on this, Hussein [20] found that students at the University of Hail had high competence in information and digital literacy and communication but lower competence in digital content creation.

Al-Desouki [21] found a significant correlation between students' attitudes toward electronic learning and their achievement motivation. Al-Shamrani [22] found a high level of achievement motivation among students, with no differences based on changes in specialization. Al-Majami [23] found significant differences in academic achievement motivation between high- and low-achieving students, with higher motivation among high achievers. Alismail [24] found a positive correlation between social interaction and achievement motivation, with overall achievement motivation above average. The Braj [25] revealed high motivation for academic achievement among psychology students, with no significant differences based on gender. Finally, Al-Kaabi [26] found a positive correlation between motivation toward academic achievement and university students' ambition level.

Moreover, this study explores the relationship between digital awareness and achievement motivation among student teachers. The following questions frame the problem of the study:

1. What is the level of digital awareness among student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate?
2. What is the level of achievement motivation among student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate?
3. Are there statistically significant differences between students' average scores on the Digital Awareness and Achievement Motivation scales depending on the variable (academic specialization)?
4. Is there a correlation between digital awareness and motivation for achievement among student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate?

3. Methodology of Research

3.1. Research Design

The study examines the relationship between digital awareness and motivation among student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate. To achieve this, a descriptive correlational approach, which is defined as the method to determine the relationship and degree of relationship between two or more variables, is used [27].

3.2. Sampling and Population

3.2.1. Population

The study population includes 328 student teachers at the College of Sharia and Islamic Studies, with 266 responding (81.1%). The study examines their academic specialization, daily and hourly digital device usage, and preferred social networks.

Table 1 shows the distribution of the study individuals according to their demographic characteristics. As for the academic specialization variable, there are (103) students (38.7%) in the Sharia Department, while there are (21) students (7.9%) in the English Department. Regarding the hourly rate of use of digital devices daily, there are (119) students (44.7%) who use these devices between (3 - less than 6 hours). There are (2) students (0.8%) who use these devices for less than an hour daily. As for the most used social networks, Snapchat came in first place with (134) students, with a percentage of (50.4%), while TikTok was the least used with (7) students, with a rate of (2.6%).

3.2.2. Instrument

3.2.2.1. Digital Awareness Scale

Prepared by the researcher (2024). The scale in its final form consists of (28) statements distributed over four dimensions: Digital awareness and digital education. It includes (7) statements, Digital awareness and modern technology (7) statements, Digital awareness and social media. (8) Phrases, Digital awareness and curriculum (6) Phrases.

Table 1.
Distribution of study individuals according to their demographic characteristics.

Variables	Categories	Duplicates	Percentage
Academic specialization	Fundamentals of Religion Department	52	19.5
	Department of Geography	36	13.5
	Sharia Department	94	35.3
	English department	30	11.4
	the department of Arabic language	54	20.3
Average daily use of digital devices by hour	Less than an hour	2	0.8
	An hour - less than 3 hours	42	15.8
	3- Less than 6 hours	119	44.7
	6 hours or more	103	38.7
The social networks you use most	Twitter	37	13.9
	snap chat	134	50.4
	Instagram	18	6.8
	WhatsApp	50	18.8
	The YouTube	20	7.5
	Tik Tok	7	2.6
Total		266	266

3.3. Key to Correcting the Scale

The scale consists of (28) statements and a triple Likert scale was used in its form (disagree - neutral - agree), where the response takes Disagree (1), Neutral (2), and Agree (3) in the case of positive statements. This is reversed in the case of negative phrases, which are phrases No. (1, 3, 7, 9, 13, 17, 24, 25, 28), and therefore, the response score on the scale ranges from (28) to (84).

3.4. Psychometric Properties of the Digital Awareness Scale

The psychometric properties of the scale were verified through application to a survey sample of (25) students, as follows:

3.4.1. Validity of Internal Consistency

Table 2.
Pearson correlation coefficient for the relationship between the phrases of the dimensions of the Digital awareness scale and the total score for each dimension.

The importance of digital awareness and digital education		Digital awareness and modern technology		Digital awareness and social media		Digital awareness and curriculum	
M	Correlation coefficient	M	Correlation coefficient	M	Correlation coefficient	M	Correlation coefficient
1	0.541**	8	0.723**	15	0.737**	23	0.600**
2	0.645**	9	0.781**	16	0.711**	24	0.575**
3	0.565**	10	0.637**	17	0.882**	25	0.595**
4	0.739**	11	0.815**	18	0.514**	26	0.640**
5	0.651**	12	0.547**	19	0.796**	27	0.559**
6	0.570**	13	0.582**	20	0.719**	28	0.638**
7	0.585**	14	0.625**	21	0.556**	-	-
-	-	-	-	22	0.533**	-	-
0.663**		0.693**		0.696**		0.771**	

Note: ** p at 0.01.

It is clear from Table 2 that all the correlation coefficients of the statements with the total score of the axis and the axes with the total score of the scale were significant at the level of (0.01), where the values of the correlation coefficients for the dimensions of the Digital awareness scale ranged between (0.663, 0.771), which are correlation coefficients. Acceptable and reliable in applying the current study tool.

3.4.2. Reliability of the Digital Awareness Scale

Table 3 shows the Digital Awareness Scale has acceptable statistical stability. The overall reliability coefficient (alpha) value reached (0.899). The stability coefficients of the study tool ranged between (0.814 and 0.892), which are acceptable reliability coefficients that can be trusted in the application—current study instrument.

Table 3.
Cronbach's alpha coefficient to measure the reliability of the Digital awareness scale

M	Dimensions	Number of phrases	Stability coefficient
1	The importance of digital awareness and digital education	7	0.808
2	Digital awareness and modern technology	7	0.892
3	Digital awareness and social media	8	0.860
4	Digital awareness and curriculum	6	0.814
Total stability		28	0.899

3.4.3. Achievement Motivation Scale

They were prepared by (Al-Otaibi, 2015), where the scale in its final form consists of (37) statements distributed over four dimensions: perseverance and includes (13) statements, ambition (12) statements, competition (6) statements, carrying Responsibility (6) phrases.

3.4.4. Key to Correcting the Scale

The scale consists of (37) statements and the five-point Likert scale. This is in the case of negative phrases, which are phrases No. (6, 8, 13, 16, 21, 30, 32), and therefore, the response score on the scale ranges from (37) to (185).

Psychometric properties of the achievement motivation scale:

The psychometric properties of the scale were verified through application to a survey sample of (25) students, as follows:

Validity of internal consistency:

Table 4.
Shows the Pearson correlation coefficients between the dimensions of the achievement motivation scale and their total scores.

Perseverance		Ambition		The competition		Take responsibility	
M	Correlation coefficient	M	Correlation coefficient	M	Correlation coefficient	M	Correlation coefficient
1	0.669**	4	0.642**	12	0.540**	8	0.787**
2	0.519**	9	0.615**	28	0.583**	13	0.589**
3	0.521**	10	0.655**	29	0.684**	16	0.673**
5	0.745**	11	0.629**	31	0.566**	21	0.591**
6	0.660**	19	0.666**	34	0.713**	30	0.677**
7	0.595**	22	0.547**	35	0.652**	32	0.611**
14	0.605**	23	0.705**	-	-	-	-
15	0.556**	24	0.696**	-	-	-	-
17	0.651**	25	0.708**	-	-	-	-
18	0.699**	26	0.755**	-	-	-	-
20	0.581**	36	0.715**	-	-	-	-
27	0.687**	37	0.551**	-	-	-	-
33	0.632**	-	-	-	-	-	-
0.873**		0.868**		0.649**		0.802**	

Note: ** p at 0.01.

It is clear from Table 4 that all the correlation coefficients of the statements with the total score of the axis and the axes with the total score of the scale were significant at the level of (0.01), where the values of the correlation coefficients for the dimensions of the achievement motivation scale ranged between (0.649, 0.873), which are correlation coefficients. Acceptable and reliable in applying the current study tool.

Table 5.
Cronbach's alpha coefficient to measure the reliability of the achievement motivation scale.

M	Dimensions	Number of phrases	Stability coefficient
1	perseverance	13	0.843
2	Ambition	12	0.826
3	The competition	6	0.753
4	Take responsibility	6	0.726
Total stability		37	0.880

3.4.5. Reliability of the Achievement Motivation Scale

Table 5 shows that the achievement motivation scale has acceptable statistical stability. The overall reliability coefficient (alpha) reached (0.880). The reliability coefficients of the study tool ranged between (0.726 and 0.843), which are acceptable reliability coefficients that can be trusted in the application—achievement motivation scale.

3.4.6. Data Analysis

1. Frequencies and percentages to identify the demographic characteristics of the study individuals.

2. Pearson correlation coefficient: This is used to calculate the validity of the study tool's internal consistency and identify the relationship between digital awareness and achievement motivation.
3. Cronbach's Alpha coefficient: To calculate the stability coefficient of the different axes of the study tool.
4. One Sample T-Test was used to identify digital awareness and achievement motivation levels.
5. One Way Anova was used: To identify the differences in digital awareness and achievement motivation depending on the variable (Academic specialization).

4. Discussion

The first question: What is the level of digital awareness among student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate?

Table 6.
Shows the level of digital awareness among student teachers; a one-sample t-test was conducted.

Dimensions	The Number	Hypothetical Mean	Arithmetic Mean	Standard Deviation	T Value	Significance Level
The importance of digital awareness and digital education	266	14	18.31	1.14	36.062	0.001
Digital awareness and modern technology	266	14	18.84	1.18	49.7	0.001
Digital awareness and social media	266	16	21.44	1.21	50.636	0.001
Digital awareness and curriculum	266	12	15.54	2	28.044	0.001
Total marks	266	56	74.12	4.2	56.872	0.001

It is clear from Table 6 that the level of digital awareness among student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate came in at a high degree (arithmetic mean (74.12) standard deviation (4.20) compared to (56.0) as a hypothetical average, as it comes after digital awareness and social media. Arithmetic mean (21.44) Standard deviation (1.21) comes first, followed by Digital awareness and modern technology. Arithmetic mean (18.84) Standard deviation (1.18), and comes after the importance of Digital awareness and digital education in third place. Arithmetic mean (18.31) Standard deviation (1.14). Finally, digital awareness and curricula are the lowest dimension among student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate; Arithmetic mean (15.54) Standard deviation (2.0).

The current study's result agreed with the study of Khanal, et al. [18] which found that the level of digital awareness among mathematics teachers in Nepal was high. The current study also agreed with the result of Nagy [19] which found that The level of digital awareness among students of the Department of Libraries, Documents, and Information - Assiut University came within the range of (very good). The current study's result agreed with the Hussein [20] which concluded that the level of digital competence among students at Hail University was high.

Researchers attribute college students' high digital awareness to rapid technological development and the widespread use of smart devices and social media.

The second question: What is the level of achievement motivation among student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate?

Table 7.
Presents the level of achievement motivation among student teachers, determined using a one-sample t-test.

Dimensions	the number	Hypothetical mean	Arithmetic mean	Standard deviation	T value	Significance level
perseverance	266	39	54.73	3.92	37.045	0.001
Ambition	266	36	56.24	4.16	73.961	0.001
The competition	266	18	25.26	3.24	27.849	0.001
Take responsibility	266	18	20.03	4.43	7.457	0.001
Total marks	266	111	156.26	7.46	51.04	0.001

It is clear from Table 7 that the level of achievement motivation among student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate came in at a high degree (arithmetic mean (156.26) standard deviation (7.46) compared to (111.0) as a hypothetical mean, where after ambition comes in first place Arithmetic mean (56.24) Standard deviation (4.16), followed by perseverance Arithmetic mean (54.73) Standard deviation (3.92), and comes in third place after competition Arithmetic mean (25.26) Standard deviation (3.24), and finally comes after assuming responsibility as the lowest achievement motivation dimension for people. Student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate Arithmetic mean (20.03) Standard deviation (4.43).

The current study's result agreed with the Al-Desouki [21] which found that the level of achievement motivation among first-year students majoring in learning technology was high. The current study also agreed with the Al-Shamrani [22] which found high achievement motivation among students in the College of Education in Bisha Governorate. The current study also agreed with the Braj [25] results, which found that the level of academic achievement motivation among students of the Department of Psychology at the University of M'sila was high. The result of the current study also agreed

with the result of the Al-Kaabi [26] which found that The level of academic achievement motivation among university students was good, while the result of the current study differed from the result of the Alismail [24] which concluded that the level of achievement motivation among students of the College of Sharia and Islamic Studies in Al-Ahsa Governorate was above average.

Researchers attribute this result to family, school, and societal support, which fuels students' academic excellence. Additionally, the college educational environment, students' sense of belonging, and future ambitions significantly motivate their success.

Question Three: Are there statistically significant differences between students' average scores on the Digital Awareness and Achievement Motivation scales depending on the variable (academic specialization)?

Table 8.
Shows the results of a one-way analysis of variance for the differences in digital awareness according to the academic specialization variable.

Dimensions	Groups	Sum of squares	Degrees of freedom	Mean squares	F value	Significance level
The importance of digital awareness and digital education	Between Groups	28.554	4	7.138	1.909	0.109
	Within Groups	975.781	261	3.739		
	The Total	1004.335	265			
Digital awareness and modern technology	Between Groups	30.856	4	7.714	3.160	0.015
	Within Groups	637.192	261	2.441		
	The Total	668.049	265			
Digital awareness and social media	Between Groups	130.98	4	32.745	12.521	0.000
	Within Groups	682.557	261	2.615		
	The Total	813.538	265			
Digital awareness and curriculum	Between Groups	8.525	4	2.131	0.499	0.737
	Within Groups	1115.521	261	4.274		
	The Total	1124.045	265			
Total marks for digital awareness	Between Groups	240.997	4	60.249	2.273	0.062
	Within Groups	6917.909	261	26.505		
	The Total	7158.906	265			
perseverance	Between Groups	1186.476	4	296.619	6.719	0
	Within Groups	11522.04	261	44.146		
	The Total	12708.51	265			
Ambition	Between Groups	314.375	4	78.594	4.13	0.003
	Within Groups	4966.741	261	19.03		
	The Total	5281.117	265			
The competition	Between Groups	511.841	4	127.96	7.816	0
	Within Groups	4272.775	261	16.371		
	The Total	4784.617	265			
Take responsibility	Between Groups	187.32	4	46.83	2.427	0.048
	Within Groups	5036.44	261	19.297		
	The Total	5223.759	265			
Total marks for achievement motivation	Between Groups	3354.003	4	838.501	4.203	0.003
	Within Groups	52073.1	261	199.514		
	The Total	55427.1	265			

Table 8 demonstrates the meticulousness of our research process, as it reveals that there are no statistically significant differences between the averages of the study individuals' responses regarding the Total Marks for Digital Awareness and the Dimensions subscale represented by (the importance of Digital Awareness and digital education, Digital Awareness and curricula) depending on the academic specialization variable. The value of the Significance level for Dimensions, respectively (0.109, 0.737), and for the total score for Digital Awareness (0.62), all of which are values greater than (0.05), that is, not statistically significant. This comprehensive research indicates similar levels of digital awareness among students at the College of Sharia and Islamic Studies, regardless of their academic specialization.

While the results in Table 8 showed that there are statistically significant differences at the level (0.05) between the averages of the responses of the study individuals regarding Dimensions of Digital awareness represented by (Digital awareness and modern technology, Digital awareness, and social media) depending on the academic specialization variable, and to know the trend Differences and in favour of any category of the academic specialization variable, the Scheffé test was used, as shown in the following table:

It is evident from Table 9, which shows the results of posthoc comparisons of the differences in the level of Digital awareness about each (Digital awareness and modern technology, Digital awareness and social media) depending on the academic specialization variable, as it is clear that these differences came between students in the Geography Department And students in other majors, in favor of the students of the Geography Department, Arithmetic mean (19.56) Standard deviation (0.91) for the dimension of Digital awareness and modern technology, and Arithmetic mean (22.58) Standard deviation (1.18) for the dimension of Digital awareness and social media. The previous result reflects that the students in the Geography Department have A higher level of digital awareness about both (Digital awareness and modern technology, Digital awareness, and social media).

The results in Table 9 also revealed differences in the dimension of digital awareness and social media for the Arabic language major and other majors, in favor of the Arabic language central Arithmetic mean (22.22) Standard deviation (1.28). The previous result indicates that the students of the Arabic language department have a higher level of digital awareness and social media than the majors (fundamentals of religion, Sharia, and English).

Researchers attribute this result to differing digital awareness levels based on academic majors. For example, geography students need advanced technology for spatial data analysis, while Arabic language students use social media for educational and cultural purposes, fostering skill development.

4.1. Achievement Motivation

In addition to the above, the results in Table 8 showed that there are statistically significant differences at the level of (0.05) between the averages of the responses of the study members about the total degree of achievement motivation and its sub-dimensions represented in (perseverance, ambition, competition, responsibility) according to the academic specialization variable, and to know the direction of the differences. In favour of any category of the academic specialization variable, the Schiffe test was used as follows:

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Table 9.
Shows the results of the Scheffé test for differences in Dimensions of Digital awareness according to the academic specialization variable.

Dimensions	Academic specialization	n	Arithmetic mean	Standard deviation	The fundamentals of religion	geography	Islamic Law	English Language	Arabic Language
Digital awareness and modern technology	Fundamentals of Religion Department	52	18.44	1.79	-	-1.1**			
	Department of Geography	36	19.56	0.91	1.1**	-	0.89**		
	Sharia Department	94	18.67	1.64		-0.89**	-		
	English department	30	18.9	1.56				-	
	the department of Arabic language	54	19	1.54					-
Digital awareness and social media	Fundamentals of Religion Department	52	20.58	2.07	-	-2.0**	-0.57*		-1.6**
	Department of Geography	36	22.58	1.18	2.0**	-	1.4**	1.5**	
	Sharia Department	94	21.15	1.68	0.57*	-1.4**	-		-1.1**
	English department	30	21.07	1.48		-1.5**		-	-1.2**
	the department of Arabic language	54	22.22	1.28	1.6**		1.1**	1.2**	-

Note: ** p at 0.01* p at 0.05.

Table 10.
Shows the results of the Scheffe test for the differences in the dimensions of achievement motivation according to the variable of academic specialization.

Dimensions	Academic specialization	n	Arithmetic mean	Standard deviation	The fundamentals of religion	geography	Islamic Law	English Language	Arabic Language
Perseverance	Fundamentals of Religion Department	52	54.92	5.08	-	-3.4*			
	Department of Geography	36	58.31	5.58	3.4*	-	5.3**	6.3**	
	Sharia Department	94	52.97	4.3		-5.3**	-		-3.8**
	English department	30	52.03	3.07		-6.3**		-	-4.7**
	the department of Arabic language	54	56.72	3.86			3.8**	4.7**	-
Ambition	Fundamentals of Religion Department	52	56.63	4.42	-			2.6*	
	Department of Geography	36	58.03	2.73		-	2.3**	4.0**	
	Sharia Department	94	55.71	2.26		-2.3**	-		
	English department	30	54.03	3.95	-2.6*	-4.0**		-	-2.8**
	the department of Arabic language	54	56.83	2.84					-
The competition	Fundamentals of Religion Department	52	26.27	2.61	-			4.5**	
	Department of Geography	36	26.86	4.16		-	1.6*	5.1**	
	Sharia Department	94	25.24	4.16		-1.6*	-	3.5**	
	English department	30	21.77	4.08	-4.5**	-5.1**	-3.5**	-	-3.4**
	the department of Arabic language	54	25.17	4.82				3.4**	-
Take responsibility	Fundamentals of Religion Department	52	19.42	4.33	-				
	Department of Geography	36	19.36	3.68	-	-			
	Sharia Department	94	20.78	4.41			-		1.7*

	English department	30	21.3	3.54				-	2.2*
	the department of Arabic language	54	19.06	5.2			-1.7*	-2.2*	-
Total marks for achievement motivation	Fundamentals of Religion Department	52	157.25	10.91	-			8.1*	
	Department of Geography	36	162.56	6.46		-	7.9**	13.4**	
	Sharia Department	94	154.7	8.49		-7.9**	-		
	English department	30	149.13	7.35	-8.1**	-13.4**		-	-8.6**
	the department of Arabic language	54	157.78	9.97				8.6**	-

Note: ** p at 0.01* p at 0.05.

It is evident from Table 10 which shows the results of the post-hoc comparisons of the differences in the level of achievement motivation and its sub-dimensions of (perseverance, ambition, competition, taking responsibility) depending on the academic specialization variable, as it is clear that these differences occurred between students in the Geography Department and students in the Geography Department. In other majors, for the benefit of students in the Geography Department, the Arithmetic mean (58.31) Standard deviation (5.58) for the perseverance dimension, Arithmetic mean (58.03) Standard deviation (2.73) for the ambition dimension, Arithmetic mean (26.86) Standard deviation (4.16) for the Competition section, and Arithmetic mean (162.56) standard deviation (6.46) for the total score for achievement motivation. The previous result reflects that students in the Geography Department have higher achievement motivation (perseverance, ambition, competition). The result of the current study agreed with the result of the Alismail [24] which It was found that there were statistically significant differences in achievement motivation among students of the College of Sharia and Islamic Studies in Al-Ahsa Governorate depending on the academic specialization variable, while the result of the current study differed with the result of Al-Shamrani [22] which found that there were no differences in the level of achievement motivation among students of the College of Education. In Bisha Governorate, depending on the specialization variable, the result of the current study also differed from the result of the Al-Majami [23] which found that there were no statistically significant differences in the level of academic achievement motivation among university students in the Kingdom of Saudi Arabia depending on the specialization variable.

While the differences were in the dimension of taking responsibility between students in the English Department and students in other majors, in favour of students in the English Department, the Arithmetic mean (21.30) standard deviation (3.54), and the previous result indicates that students in the English Department have a higher level of taking responsibility compared to students in other departments.

Researchers attribute this result to the focus on field projects in geography courses, which enhance motivation and entrepreneurship, while English majors develop responsibility and communication skills.

Question Four: Is there a correlation between digital awareness and motivation for achievement among student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate?

Table 11.
Shows the Pearson correlation coefficient for the relationship between digital awareness and achievement motivation Among the student teachers.

M	Level of Digital Awareness	Achievement Motivation				
		Perseverance	Ambition	The Competition	Take Responsibility	Total marks
1	The importance of digital awareness and digital education	0.372**	0.303**	0.332**	0.374**	0.417**
2	Digital awareness and modern technology	0.301**	0.324**	0.310**	0.351**	0.482**
3	Digital awareness and social media	0.376**	0.309**	0.391**	0.358**	0.445**
4	Digital awareness and curriculum	0.447**	0.446**	0.374**	0.357**	0.449**
Total marks		0.410**	0.451**	0.457**	0.419**	0.537**

Note: ** p at 0.01.

It is clear from Table 11 that there is a statistically significant relationship at the level of (0.01) between the Total Marks for the level of Digital Awareness and its sub-dimensions represented in (the importance of Digital Awareness and Digital Education, Digital Awareness and Digital Technology, Digital Awareness and Social Media, Digital Awareness and curricula) and the Total Marks for achievement motivation and its sub-dimensions of (perseverance, ambition, competition, taking responsibility), where the value of the correlation coefficient for the total score of Digital awareness with Dimensions of achievement motivation was (0.410, 0.451, 0.457, 0.419), and for the total score (0.537). The previous result indicates that increasing the level of digital awareness contributes to increasing motivation among student teachers at the College of Sharia and Islamic Studies in Al-Ahsa Governorate.

Researchers attribute high digital awareness to expanded educational horizons and increased options, which enhance achievement motivation. Digital skills enrich learning, improve performance, and provide opportunities for communication, leading to higher motivation and ambition for success. Students with high digital awareness have higher levels of motivation.

5. Summary of the Study Results

1. Student teachers at the College of Sharia and Islamic Studies in Al-Ahsa exhibited high digital awareness, with social media leading, followed by modern technology and digital education.
2. Achievement motivation was also high, with ambition topping the list, followed by perseverance, competition, and responsibility.
3. No significant differences in digital awareness based on academic specialization were found.
4. Significant differences found at the 0.05 level in digital awareness dimensions were observed, with geography and

Arabic language students benefiting the most.
5. Statistically significant differences at the 0.05 level were found in achievement motivation scores by academic specialization, with geography students scoring higher overall motivation for achievement. In contrast, English students excelled in taking responsibility.
6. A significant relationship was discovered at the 0.01 level between digital awareness and achievement motivation, underscoring the pivotal role of digital tools in boosting motivation among student teachers.

6. Study Recommendations and Proposals

1. Enhance digital awareness at the College of Sharia with specialist-led seminars and workshops.
2. Develop and boost student motivation at the College of Sharia and Islamic Studies.
3. Examine the impact of digital transformation on academic life quality among student teachers.
4. Conducting a study to Investigate the relationship between achievement motivation and self-esteem among student teachers.
5. Conduct a study on the link between digital transformation and self-efficacy among student teachers.

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