

Why is Digital Transformation Hard at Azzaytuna University? Views from Faculty Members

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ABSTRACT: This study examines how faculty members at the Faculty of Education at Azzaytuna University in Libya use e-learning and how they feel about digital tools. A descriptive-analytical approach was used. Data were collected from 89 faculty members to identify the main barriers to using technology in teaching. The results show a clear gap. Although most teachers have positive attitudes toward digital transformation, their actual use of technology is only moderate. This gap is mainly due to technical problems such as weak internet service, limited equipment, and insufficient administrative support. The findings also show that academic rank affects the level of technology use, which means that professional experience plays a role in adoption. In addition, there is a strong positive relationship between using digital tools and improving teaching quality. The study recommends improving the university's digital infrastructure and providing continuous professional training. Stronger institutional policies are also needed to make digital learning a stable and long-term strategy in higher education in Libya.

Keywords: Digital transformation, E-learning, Higher education, Faculty members, Azzaytuna University, Libya.

ملخص: تتناول هذه الدراسة كيفية استخدام أعضاء هيئة التدريس في كلية التربية بجامعة الزيتونة في ليبيا للتعليم الإلكتروني، وآرائهم حول الأدوات الرقمية. وقد استخدم المنهج الوصفي التحليلي، حيث جمعت البيانات من 89 عضواً من أعضاء هيئة التدريس لتحديد أهم العوائق التي تحول دون استخدام التكنولوجيا في التدريس. تُظهر النتائج وجود فجوة واضحة. فعلى الرغم من أن معظم أعضاء هيئة التدريس لديهم مواقف إيجابية تجاه التحول الرقمي، إلا أن استخدامهم الفعلي للتكنولوجيا محدود. ويعود هذا التفاوت بشكل رئيسي إلى مشكلات تقنية، مثل ضعف خدمة الإنترنت، ومحدودية المعدات، وعدم كفاية الدعم الإداري. كما تُشير النتائج إلى أن الرتبة الأكاديمية تؤثر على مستوى استخدام التكنولوجيا، مما يعني أن الخبرة المهنية تلعب دوراً في تبنيها. بالإضافة إلى ذلك، توجد علاقة إيجابية قوية بين استخدام الأدوات الرقمية وتحسين جودة التدريس. وتوصي الدراسة بتحسين البنية التحتية الرقمية للجامعة، وتوفير التدريب المهني المستمر. كما تدعو إلى وضع سياسات مؤسسية أكثر فعالية لجعل التعلم الرقمي استراتيجية مستقرة وطويلة الأمد في التعليم العالي في ليبيا.

الكلمات المفتاحية: التحول الرقمي، التعليم الإلكتروني، التعليم العالي، أعضاء هيئة التدريس، جامعة الزيتونة، ليبيا.

I. INTRODUCTION

In recent years, higher education has changed significantly due to technological developments. E-learning has become an important tool for improving university education (Abdelraheem, 2006; Abushafa, 2025). It allows students to access learning materials anytime and from anywhere. It also encourages independent learning and increases motivation (Rodgers, 2008; Elsayed et al., 2020).

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Today, using technology in universities is no longer optional. It is necessary because student numbers are increasing, and flexible teaching methods are required (Abdelraheem, 2006). However, having computers and software is not enough. The most important factor is the human element. Teachers' attitudes and the support they receive from their institutions strongly influence success (Alkhalaf, 2012). Recent studies (Parrish, 2024; Abdelraheem, 2006) confirm that continuous training and technical support are essential for long-term success.

Although digital learning is expanding globally, many Arab universities still face challenges such as weak infrastructure and unclear policies (Abdelraheem, 2006). This is especially true in Libya, where research on the practical use of digital tools remains limited. This study focuses on the Faculty of Education at Azzaytuna University. It explores teachers' usage, attitudes, and challenges in order to provide practical recommendations for digital transformation.

The structure of the paper is organized so that related studies are first reviewed in Section 2, followed by the presentation of research hypotheses in Section 3. The methodology used in the study is detailed in Section 4, while the findings and their discussion are provided in Section 5. Finally, Section 6 summarizes the conclusions, outlines recommendations, highlights future research opportunities, and discusses the study's limitations.

II. PREVIOUS STUDIES (RELATED WORK)

Many studies have examined e-learning in higher education. Abdelraheem, (2006) explained how technology changes university systems. Rodgers, (2008) showed that while technology increases flexibility, teachers' skills remain a major challenge. Alkhalaf, (2012) found that positive attitudes alone are not enough if teachers do not receive proper training.

In Arab universities, Abdelraheem (2006) and Elsayed (2020) reported moderate levels of technology use due to workload and limited technical support. In Libya, Abuhlfaia (2020, 2022) studied platforms such as Moodle and found that success requires ongoing technical improvement. Mohamed and Abuhlfaia (2024) emphasized the importance of trust and confidence in digital systems, especially in unstable environments. More recent studies (Lazarenko 2024; Abushafa (2025) highlight the growing interest in Artificial Intelligence and the need for digital resilience in developing countries. However, there is still limited research focusing specifically on Faculties of Education in Libya. This study addresses this gap by examining how attitudes, experience, and institutional challenges interact at Azzaytuna University.

III. RESEARCH HYPOTHESES

Based on the literature review and the objectives of this study, the following hypotheses were formulated:

H1: There are statistically significant differences in the level of e-learning use among faculty members based on their academic rank.

H2: There are statistically significant differences in the level of e-learning use based on years of teaching experience.

H3: There is a positive relationship between the use of e-learning tools and perceived improvement in educational quality.

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H4: Technical and administrative obstacles have a significant negative effect on the level of e-learning use.

H5: Faculty members who have received training in digital technologies show more positive attitudes toward digital transformation than those who have not received such training.

IV. STUDY METHODOLOGY AND PROCEDURES

IV.1. Research Approach

This study uses a descriptive-analytical approach. This method helps describe the current situation and analyze relationships between variables.

IV.2. Participants

The sample includes 89 faculty members from the Faculty of Education at Azzaytuna University. Participants represent different academic ranks and levels of experience to ensure balanced representation.

IV.3. Research Tool

Data were collected using a structured questionnaire, divided into three main sections:

Section 1: Actual Use of Digital Tools

This section measured how frequently faculty members use digital tools in teaching. Sample statements included in Table(1):

TABLE (1): ACTUAL USE OF DIGITAL TOOLS STATEMENTS

	Statement	Source
1	I provide at Azzaytuna University to my students with digital resources that support their studies.	Rodgers, (2008)
2	I use the electronic presentation tools available in the Azzaytuna University classrooms to give my lectures.	Elsayed, (2020)
3	I use digital communication apps at Azzaytuna University to follow up on the practical and educational parts of my courses.	Abuhlfaia, (2020)
4	I use the Azzaytuna University online platform to upload study plans for my students.	Abuhlfaia et al., (2022)

Section 2: Attitudes Toward Technology

This section measured faculty perceptions and feelings toward digital transformation. Sample statements included in Table(2):

TABLE (2): ATTITUDES TOWARD TECHNOLOGY STATEMENTS

	Statement	Source
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1	I believe that e-learning will make our graduates in the Faculty of Education at Azzaytuna University more successful.	Abdelraheem, (2006)
2	I am convinced that at Azzaytuna University the e-learning is the best way to solve local logistical problems.	Aleryani et al., (2024)
3	I enjoy sharing my technology skills at Azzaytuna University with my students to help them learn 21st-century skills.	Alkhalaf et al., (2012)
4	I believe that Generative AI at Azzaytuna University will help me improve my academic content.	Lazarenko et al., (2024)

Section 3: Challenges to Digital Transformation

This section examined the technical and administrative obstacles that hinder the use of technology. Sample statements included in Table(3):

TABLE (3): CHALLENGES TO DIGITAL TRANSFORMATION STATEMENTS

	Statement	Source
1	Unstable internet at the college in Tarhuna makes it difficult to teach online.	Abuhlfaia et al., (2022)
2	There are not enough specialized training courses in Tarhuna to help me improve my digital skills.	Abushafa, (2025)
3	A lack of technical support makes it hard to maintain or use modern educational tools.	Abdelraheem, (2006)
4	The lack of rewards or incentives from the university reduces motivation to go digital.	Abushafa, (2025)

IV.4. Response Scale:

Participants responded using a five-point Likert scale:

- Strongly Agree.
- Agree.
- Neutral.
- Disagree.
- Strongly Disagree.

To ensure the study's accuracy, the questionnaire underwent validation and reliability testing. Initially, education and technology experts reviewed the questions for clarity, and adjustments were made based on their feedback. Additionally, the instrument's consistency was measured using Cronbach's alpha; its reliability was confirmed when it achieved a score above 0.70. These steps ensured the scientific integrity of the collected data.

IV.5. Data Analysis

SPSS software was used to analyze the data. The following tests were applied:

- Regression analysis

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- One-way ANOVA and t-test
- Standard deviations and Means
- Pearson correlation

V. RESULTS

1. Participant Description

A total of 89 faculty members participated see Table (4). Most participants were female (67%). Many participants (41.6%) had between 5 and 10 years of experience, indicating a relatively young academic workforce.

TABLE (4): PARTICIPANT INFORMATION (N = 89)

Variable	Category	Number	Percentage
Gender	Female	60	67%
	Male	29	33%
	Total	89	100%
Academic Rank	Lecturer	32	36.0%
	Assistant Lecturer	29	32.6%
	Assistant Professor	28	31.4%
	Total	89	100%
Experience	Less than 5 years	21	23.6%
	5–10 years	37	41.6%
	More than 10 years	31	34.8%
	Total	89	100%

2. Usage, Attitudes, and Obstacles

The results show a gap between attitudes and actual practice see Table(5). Teachers have positive attitudes toward digital tools, but their usage level is only moderate. This indicates that technical and administrative barriers still limit effective implementation.

TABLE (5): AVERAGE SCORES FOR STUDY AREAS

	Main Topic	Average Score	Standard Deviation	Level
1	Teacher Attitudes	3.78	0.55	High
2	E-learning Usage	3.42	0.61	Moderate
3	Technical & Management Obstacles	3.15	0.73	Moderate

3. Differences Based on Academic Rank

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ANOVA results see Table (6) ($\text{Sig} = 0.002 < 0.05$) show a significant difference based on academic rank. This means professional level influences digital tool usage.

TABLE (6): RESULTS OF ANOVA TEST

Source of Variation	Sum of Squares	The Freedom Degrees	F Value	Sig
Within Groups	27.62	86	—	—
Between Groups	4.28	2	6.66	0.002
Total	31.90	88	—	—

4. Relationship Between Use and Effectiveness

The Pearson correlation ($r = 0.63$) shows a strong positive relationship between using digital tools and improving teaching effectiveness see Table(7).

TABLE (7): CORRELATION BETWEEN E-LEARNING USE AND EFFECTIVENESS

Variable	Correlation	Sig	Results
E-learning Use vs. Effectiveness	0.63	0.000	Strong Positive Relationship

5. Factors Influencing Usage

Regression analysis see Table(8) shows that three factors explain 58% of the variation in digital tool usage:

TABLE (8): MOST INFLUENTIAL FACTORS

Factor	B	T	Sig	R-Squared
Technical Training	0.40	3.33	0.001	0.58
Academic Rank	0.35	3.50	0.001	
Years of Experience	0.25	3.12	0.002	

This confirms that training is essential for digital transformation.

6. Summary of the Findings

Teachers support digital transformation, but institutional readiness remains limited. The university appears to be in a transitional phase. Technology use still depends largely on individual effort rather than a structured institutional system.

VI. DISCUSSION

The findings from Azzaytuna University are consistent with those of previous studies. Teachers express positive attitudes toward technology, yet their actual use of it remains limited.

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Rakhyoot, W. A. A. (2015). and Alenezi, A. (2012) both pointed to this same problem, noting that despite strong support for technology, its actual use is limited due to weak infrastructure and a lack of institutional support. This indicates the persistence of some long-standing challenges.

The study also showed that training is the most important factor in increasing technology use. This supports the findings of Abushafa, M. (2025). and Magd, H., Nzomkunda, A., Negi, S., & Ansari, M. (2022)., who explained that teachers need appropriate training to succeed in digital teaching. As Al-Khalaf (2012) pointed out, simply providing teachers with technology without training is insufficient.

Finally, the strong correlation between the use of e-learning and teaching effectiveness ($r = 0.63$) confirms the findings of Mark Aung, T. N., & Khaing, S. S. (2015) and Abushafa, M. (2025): when technology is used correctly, teaching improves. In general, teachers are ready for digital transformation, but stronger support from the university is still needed, as Yahya, N., Abdullah, M., & Masuwd, M. (2025). pointed out.

VII. ONGOING CHALLENGES

Many of the challenges identified today are similar to those reported in earlier studies, including weak internet service and limited technical support. The main barrier remains insufficient training.

Technology use is not related to gender. Instead, it depends on skills and professional confidence. Experienced faculty members may serve as leaders in future digital initiatives if proper support is provided.

VIII. CONCLUSION

This study examined digital transformation at the Faculty of Education at Azzaytuna University. The results show a gap between positive attitudes and actual usage. This gap is mainly caused by technical limitations and insufficient institutional support.

Digital transformation in Libya is no longer optional. It is necessary for improving higher education. The university must develop a clear institutional strategy that provides proper infrastructure, training, and technical support.

IX. RECOMMENDATIONS

To improve digital transformation, Azzaytuna University should:

- Invest in stable internet and modern equipment
- Provide regular professional training
- Establish on-site technical support
- Allow faculty time to develop digital content
- Create incentives linked to promotion and performance

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Digital transformation should become an institutional responsibility rather than an individual effort.

X. FUTURE RESEARCH

In future studies, the following areas should be addressed:

- **Comparison of Universities:** Multiple universities across Libya should be compared to determine if the findings remain consistent across different geographical locations.
- **Analysis of Student Perspectives:** More attention should be given to the viewpoints of students. Their personal experiences and attitudes need to be explored in greater detail.
- **Examination of Generative AI:** The impact of Generative AI on the educational environment should be examined, specifically regarding how it alters traditional learning methods.
- **Application of Theoretical Models:** Established frameworks, such as TAM or UTAUT, should be applied in future work to better explain the factors influencing technology adoption.

XI. STUDY LIMITATIONS

This study focused only on one faculty at Azzaytuna University. Results may not apply to other faculties. Data were collected through self-report surveys, which may not fully reflect actual behaviour. Technology conditions may also change over time.

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