

The E-Learning System and University Students' Academic Achievement

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Abstract

This study aims to explore the level of Academic achievement among university students during the e-learning system implemented in Algerian universities during the COVID-19 pandemic. The study focused on the subject of Opinion Poll, taught to first-year master's students in Sociology and Communication at the Faculty of Social and Human Sciences at Chadli Bendjedid University in El Tarf, Algeria. A written test was administered to a sample of 60 students (male and female) to assess their Academic achievement in this subject. After calculating the means and conducting a t-test, the following results were obtained:

- The level of Academic achievement among first-year master's students in Sociology and Communication in the subject of Opinion Poll was below average.
- There were no statistically significant differences in the level of academic achievement in Opinion Poll among students attributed to the gender variable.

Keywords: Academic achievement; e-learning; students.

1. Introduction and Problem Statement:

Our world is experiencing tremendous technological advancements that have brought about changes in various aspects of life, including education. New modes of education, such as e-learning, have emerged and gained popularity, especially during the recent global pandemic. E-learning has transformed the roles of both teachers and learners. Teachers, who were once the sole source of information, have now become supervisors and guides, while learners have become the central focus of the educational process rather than passive recipients of information. E-learning is an interactive educational system that relies on modern communication technologies and a comprehensive digital environment. Consequently, most universities have established e-learning centers to achieve educational goals. Algeria, like other countries, has strived to develop its educational systems by adopting this modern form of education, which was generalized across all universities during the second half of the 2020/2021 academic year due to the COVID-19 pandemic and the implementation of lockdown measures, leading to the closure of universities. To complete the academic year, e-learning systems were adopted.

However, in reality, e-learning faces numerous challenges and obstacles that hinder the achievement of its intended goals due to the specific educational environment and requirements it demands, which may affect students' Academic achievement levels.

In this context, this study addresses the issue of Academic achievement among university students during the implementation of e-learning by posing the following questions:

- What is the level of Academic achievement among university students during the period of reliance on e-learning?

- Are there statistically significant differences in Academic achievement levels among students based on gender?

2. Importance of the Study:

E-learning represents one of the greatest challenges facing third-world countries in the field of education. It allows for the accomplishment of tasks in a smooth and flexible manner, relying on the internet as a strategic choice to create scientific spaces that enable various educational activities and functions from

multiple locations simultaneously. This approach has been reinforced by numerous experiments and studies, as well as the emergence of obstacles such as the COVID-19 pandemic, increased classroom attendance, and institutional capacity constraints. The importance of this study lies in:

- Understanding the level of Academic achievement among university students during the COVID-19 pandemic.
- Shedding light on e-learning in Algerian educational institutions.
- Reducing the effort exerted by professors and bridging the spatial and temporal gap between them and students.
- Encouraging the use of scientific research tools and engines for self-development.
- Promoting the adoption of modern technology in the education sector and fostering a culture of self-reliance in seeking and utilizing information.

3. Objectives of the Study:

This study aims to:

- Determining the level of university students' cognitive achievement after the adoption of e-learning.
- Identifying the differences in students' level of cognitive achievement according to the gender variable.

To achieve these objectives, the following hypotheses were formulated:

- The adoption of e-learning improves students' Academic achievement levels.
- There are statistically significant differences in Academic achievement levels among students based on gender.

4-Study Scope:

This study was conducted at **Chadli Bendjedid University in El Tarf**, specifically in the **Faculty of Humanities and Social Sciences, Department of Sociology**. The survey method was chosen and directed at **Master 2**

Communication students, as this program is taught remotely via the **Moodle** platform.

Regarding the **time frame**, the study was carried out during the **lockdown period imposed by the COVID-19 pandemic in 2021**. As for the **knowledge scope**, the study focuses on e-learning and its ability to adapt to the Algerian learning environment by highlighting its components and challenges.

5. Previous Studies

The effective use of e-learning management systems and their role in enhancing the quality of knowledge for electronic educational content: An applied study at the University of Kufa. (zwain & haboobi , 2021)

the study aimed to define the role of effective use of Learning management system to achieve knowledge quality of e-learning content. In order to achieve this goal, an electronic questionnaire was used to collect data from the study community represented by the faculty staff at the University of Kufa, and by using random sample method. (398) valid responses were obtained for statistical analysis, which were analyzed according to the partial least squares structural modeling method. Through analyzing the data, the study found a significant positive indirect effect of effective use, on knowledge quality. The research recommended the importance of shifting from e-learning as an emergency alternative to a permanent supportive, taking into account the importance of shifting from mere use to the effective use of e-learning in order to create educational content of high quality and thus reap the benefits of e-learning Technology.

The impact of e-learning on the quality of university teaching; A field study at the University of M'Sila (herizi & boudjellal , 2022)

His research paper aims to study the impact of e-learning on quality of teaching at university through moodle platform. Therefore our field study was conducted on university of Mohamed Boudiaf -M'sila- and we relied on statistics data from networks centre. Then, we analyzed a content of interview tool with 05 professors in management department. finally, the results of this research found that degree of use e-learning showed an impact on quality of teaching at university through moodle platform with acceptable degree.

The role of e-learning in improving university teaching performance from the perspectives of faculty and students: A field study at Kasdi Merbah University of Ouargla (Sweikat, 2023)

This study aims to identify the role of E-learning in improving teaching performance from the standpoint of professors and students, through a field study on the University of Kasdi Merbah in Ouargla (UKMO). The study sample included 294 professors and 497 students. In our study, we have drawn on scientific observation, enterprises documents, interviews, and a questionnaire to find out the realistic relationship between E-learning and teaching Performance. In order to analyse the questionnaire, it has been relied on descriptive statistical analysis, simple and multiple regression analysis and one- way variance analysis, One of the most significant findings reached were the presence of a high level of teaching performance for both professors and students from their perspective in view of the implementation of the E-learning system. In addition, UKMO relied on specific indicators to enhancing and assessing the teaching performance, which vary in its importance and dependence on those reached in previous studies. The findings also showed a positive correlation between the dimensions of e-learning and the teaching performance at the University of Kasdi Merbah in Ouargla (UKMO). From both the students' and the professors' perspectives

6. E-Learning

6.1. Concept of E-learning:

E-learning is a method of education that utilizes modern communication mechanisms and tools such as computers, networks, and multimedia, in addition to research mechanisms and electronic libraries, websites, and internet portals, whether remotely or in classrooms. It is a way of teaching that uses modern technologies of all kinds to deliver information to learners in the shortest time and with the least effort while maximizing benefits. (Youssef, 2020)

It is also defined as a type of education that relies on the use of electronic media for communication, receiving information, acquiring skills, and interaction between students and teachers, students and universities, and universities and teachers. This type of education is linked to electronic means, information networks, and communications, most notably the internet, which has become an effective medium for e-learning. Education is conducted through communication

and interaction between teachers and learners and between learners and other e-learning tools. (Al-Saqqa and Al-Hamdani, 2021)

It is also defined as the modern revolution in educational methods and techniques that harness the latest advancements in technology, including devices and software, in educational processes. This ranges from using electronic presentation tools to deliver lessons in traditional classrooms and using multimedia in classroom teaching and self-learning, to building smart schools and virtual classrooms that allow students to attend and interact with lectures and seminars held in other countries through internet technologies and interactive television. (Al-Hila, 2014, p. 418)

Thus, we can say that e-learning is a modern mode of education that relies on various modern technologies.

6.2. Objectives of E-learning:

- Creating an interactive educational environment.
- Supporting interaction between students, teachers, and assistants.
- Equipping teachers with the technical skills to use modern educational technologies.
- Providing students with the necessary skills or competencies to use information and communication technologies.
- Standardizing education and presenting it in a standardized format.
- Developing the role of teachers in the educational process to keep pace with continuous and rapid scientific and technological advancements.
- Establishing educational networks to organize and manage educational institutions.
- Providing education that suits different age groups while considering individual differences. (Fakher, 2017)

Thus, it can be said that e-learning aims to create an interactive environment between professors and students, where the roles of both professors and students change according to this educational system, which requires acquiring skills in using technological tools.

6.3. Types of E-learning:

There are three main types of e-learning:

➤ **Synchronous E-learning:** This requires the presence of both the professor and the student at the same time through specialized e-learning programs. The professor schedules the lecture or lesson and informs the students before it begins. Synchronous e-learning is conducted through various tools, including:

- **Chat:** Conducting conversations via the internet between teachers and students in real-time, allowing for simultaneous text and voice communication.
- **Audio Conferences:** An electronic technology that can be implemented using simple equipment such as mobile phones or telephone lines, allowing teachers and students to communicate from different locations.
- **Video Conferences:** Lectures that connect teachers with students in different locations using a high-quality television network, enabling direct interaction and discussion of courses and proposed teaching programs.
- **Whiteboard:** A method used by teachers to deliver information to students by preparing a set of lessons similar to traditional methods and explaining them in detail, then transmitting them to others to serve educational goals and programs.

➤ **Asynchronous E-learning:** Unlike synchronous e-learning, this does not require the simultaneous presence of the professor and the student. The professor uploads lessons and lectures to e-learning platforms, and students can access them at their convenience. Key tools include:

- **Email:** A widely used tool for exchanging information, messages, and documents via the internet, often used to access other social media platforms due to its ease of use.
- **Mailing Lists:** Lists of email addresses to which messages and lessons are sent from a single email address.
- **Discussion Groups:** Groups of individuals with a common specialization who discuss proposed topics and answer questions for mutual benefit, such as

scientific forums held in universities and institutes using search engines like Google Meet or Classroom.

- File Transfer: A technology that transfers files from one computer to another connected via the internet to achieve the desired goal.

- Interactive Video: A technical method used by teachers to enhance the educational process through the use of images and sound, often in the form of recorded tapes and videos.

- Blended Learning: This combines various tools and software to deliver educational content to students.

6.4. Components of an E-learning Management System:

- Educational Content or Material
- Faculty Member or Trainer
- Student
- Educational Environment (Communication Medium)
- Assessment

6.5. Communication Tools (Direct and Indirect):

Direct communication involves face-to-face interaction between teacher and student in the same time and place, while indirect communication occurs through a medium such as books, television, computer networks, the internet, or satellites. (Fakher, 2017) .Requirements for E-learning:

Several requirements must be met for successful e-learning, including:

- Infrastructure: The physical resources necessary for e-learning, such as internet networks, computers, and specialized e-learning software and systems.

- Human Resources: Qualified personnel to oversee the e-learning system, including the development of specialized programs and the training of professors to effectively use various technical and technological tools.

- Awareness Development: Promoting awareness of the importance of adopting modern educational systems like e-learning. Changing mindsets is essential for progress, requiring the concerted efforts of all stakeholders in the

educational process, including institutions, faculty, and students, to develop the e-learning system.

6.6. Types of Programs Used in E-learning:

The tremendous technological advancements and increased reliance on artificial intelligence have led to the emergence of various electronic media and websites connected to the internet, revolutionizing education and information dissemination. Some of the most commonly used platforms in e-learning include:

–**Google Classroom:** Allows for the creation of interactive online environments between teachers and students in multiple languages, facilitating discussions, assignments, and communication.

–**Google Meet:** Used for communication between teachers and students, organizing seminars, and scientific forums via video and audio.

–**Zoom:** A program designed for video calls and conferences, suitable for group meetings and live event broadcasting.

–**Webex Meet:** Enables quick and easy communication between participants from different locations.

–**Moodle:** A widely used platform in universities, known for its ease of use and integration with social media platforms like Facebook and Twitter.

–**MOOC** (Massive Open Online Course): An academic platform available online, offering open courses to a large number of participants.

–**Webex Meetings:** Facilitates quick and efficient communication between participants worldwide.

6.7. The Reality of E-learning in Algerian Universities:

Algeria has adopted distance learning as a supplement to in-person education, offering it as an option to accommodate the large number of students and the lack of specialized pedagogical support. However, e-learning was not officially recognized in Algerian universities until the COVID-19 pandemic forced the closure of universities and schools. To salvage the academic year, the government implemented a distance learning policy starting in August 2020, making e-learning an officially recognized system. Student attendance in

educational activities became non-mandatory, and universities were allowed to assess students remotely, especially in exploratory subjects. The most commonly used platform by the Algerian Ministry of Higher Education is Moodle, a global platform requiring registration for both professors and students. Some faculties also relied on social media platforms like Facebook for easier communication with students who have limited internet access.

Challenges of E-learning in Algeria:

- Lack of a clear societal vision regarding e-learning.
- Weak internet coverage and communication methods between teachers and students.
- Social resistance to the shift from traditional to e-learning.
- Technical difficulties in implementing and utilizing modern technologies due to a lack of expertise.
- Lack of trust and security concerns regarding electronic media.
- Limited interaction between participants in the educational process and a lack of seriousness in the process itself.

7. The Nature of Academic Achievement

7.1. Definition of Academic Achievement:

Academic achievement refers to the knowledge acquired by a student through a school program aimed at adapting them to their environment and academic work. (Saadallah, 1991, p. 46)

It is also defined as the extent to which students comprehend the experiences they have learned in a specific subject, measured by the grades they achieve in achievement tests. (Damanhour, 2006, p. 65)

Thus, Academic achievement can be understood as the degree of understanding and comprehension of the material studied by students, which can be assessed through tests or evaluations conducted by the course instructor.

7.2. Methods of Measuring Academic Achievement:

Academic achievement is measured through tests designed to assess the skills and knowledge acquired by individuals through the educational process. These methods include:

- Written Tests: Including essay and objective tests.
- Oral Tests
- Performance Tests

Here's the professional translation of your academic study into English.

7.3. Theories of Academic Achievement

Piaget's Theory of cognitive Development

Key Ideas:

- Developed by Swiss psychologist Jean Piaget, this theory focuses on how children construct knowledge through interactions with their environment.
- Piaget proposed that cognitive development occurs in four distinct stages, each characterized by different ways of thinking.

The Four Stages:

Sensorimotor Stage (Birth to 2 years):

- Infants learn through sensory experiences and motor actions.
- They develop object permanence (understanding that objects continue to exist even when out of sight).
- Example: A baby realizes that a toy hidden under a blanket is still there.

Preoperational Stage (2 to 7 years):

- Children begin to use language and think symbolically but are still egocentric (struggle to see things from others' perspectives).
- They engage in pretend play but lack logical reasoning.
- Example: A child might believe that a tall, narrow glass holds more liquid than a short, wide one, even if the amount is the same.

Concrete Operational Stage (7 to 11 years):

- Children start to think logically about concrete events.
- They understand concepts like conservation (e.g., mass, volume) and can perform simple mental operations.
- Example: A child understands that flattening a ball of clay doesn't change its mass.

Formal Operational Stage (12 years and older)

- Adolescents develop the ability to think abstractly and hypothetically.
- They can reason about moral, philosophical, and scientific issues.
- Example: A teenager can solve algebraic equations or debate ethical dilemmas.

Significance:

- Piaget's theory emphasizes active learning, where children construct knowledge through exploration and experimentation. (Achoui, 2016, p106-110)

Vygotsky's Sociocultural Theory :

Key Ideas:

- Proposed by Russian psychologist Lev Vygotsky, this theory highlights the role of social interaction and culture in cognitive development.
- Vygotsky believed that learning is a collaborative process, and cognitive skills are developed through interaction with more knowledgeable others.

Key Concepts:

Zone of Proximal Development (ZPD):

- The difference between what a learner can do independently and what they can achieve with guidance.
- Example: A child can solve a puzzle with help from a teacher but not alone.

Scaffolding:

- Temporary support provided by a teacher or peer to help a learner master a task.
- Example: A parent helps a child tie their shoelaces by guiding their hands.

Cultural Tools:

- Tools like language, writing, and technology that mediate learning and thinking.
- Example: Using a calculator to solve math problems.

Significance:

- Vygotsky's theory emphasizes the importance of social interaction and cultural context in cognitive development.

Information Processing Theory

Key Ideas:

- This theory compares the human mind to a computer, focusing on how information is processed, stored, and retrieved.

- It breaks down cognitive processes into stages: input, processing, storage, and output.

Key Components:

Sensory Memory:

- Brief storage of sensory information (e.g., sights, sounds).
- Example: Remembering the sound of a bell for a few seconds after it rings.

Short-Term Memory (Working Memory):

- Temporary storage of information being actively processed.
- Example: Holding a phone number in your head while dialing.

Long-Term Memory:

- Permanent storage of information.
- Example: Remembering your childhood home.

Executive Functions:

- Higher-order processes like attention, planning, and problem-solving.
- Example: Deciding how to approach a complex task.

Significance:

- This theory provides a detailed framework for understanding how information is encoded, stored, and retrieved. (Miller, 2011 ,p196-212)

Constructivist Theory

Key Ideas:

- Rooted in the work of Piaget and Vygotsky, constructivism posits that learners actively construct knowledge by integrating new information with prior experiences.

- Learning is seen as a personal and subjective process.

Key Principles:

Active Learning:

- Learners are not passive recipients of information but active participants in their learning.
- Example: A student conducting a science experiment to understand a concept.

Prior Knowledge:

- New knowledge is built on existing knowledge.
- Example: Using knowledge of addition to learn multiplication.

Social Interaction:

- Learning is enhanced through collaboration and discussion.

- Example: Group projects or peer tutoring.

Significance:

- Constructivism emphasizes learner-centered education, where students take ownership of their learning.

Bruner's Theory of Cognitive Growth

Key Ideas:

- Proposed by Jerome Bruner, this theory focuses on how learners represent knowledge through action, imagery, and symbols.
- Bruner introduced the concept of scaffolding (similar to Vygotsky) and emphasized the importance of discovery learning.

Key Concepts:

Modes of Representation:

- Enactive Mode: Learning through actions (e.g., riding a bike).
- Iconic Mode: Learning through images and visuals (e.g., diagrams).
- Symbolic Mode: Learning through language and symbols (e.g., mathematical equations).

Spiral Curriculum:

- Revisiting topics at increasing levels of complexity over time.
- Example: Teaching basic math concepts in early grades and advanced concepts in later grades.

Significance:

- Bruner's theory highlights the importance of active engagement and progressive complexity in learning.

Bandura's Social Learning Theory

Key Ideas:

- Proposed by Albert Bandura, this theory emphasizes learning through observation, imitation, and modeling.
- Bandura introduced the concept of self-efficacy, or the belief in one's ability to succeed.

Key Concepts:

Observational Learning:

- Learning by watching others and imitating their behavior.
- Example: A child learns to tie their shoes by watching a parent.

Vicarious Reinforcement:

- Learning from the consequences of others' actions.

- Example: A student studies hard after seeing a classmate rewarded for good grades.

Self-Efficacy:

- Belief in one's ability to achieve goals.

- Example: A student feels confident about solving a math problem after practicing similar problems.

Significance:

- Bandura's theory highlights the role of social context and self-belief in learning. (Miller, 2011 , p 255-268)

Connectionism (Thorndike's Theory)

Key Ideas:

- Proposed by Edward Thorndike, this theory focuses on learning through trial and error and the formation of stimulus-response associations.

- Thorndike introduced the Law of Effect, which states that behaviors followed by positive outcomes are more likely to be repeated.

Key Concepts:

Stimulus-Response Bonds:

- Learning occurs when a connection is formed between a stimulus and a response.

- Example: A dog learns to associate the sound of a bell with food.

Law of Exercise:

- Repetition strengthens learning.

- Example: Practicing multiplication tables improves recall.

Law of Readiness:

- Learning is more effective when the learner is prepared and motivated.

- Example: A student is more likely to learn if they are interested in the topic.

Significance:

Connectionism emphasizes the importance of practice and reinforcement in learning

These theories provide diverse perspectives on how cognitive acquisition occurs, from Piaget's stages of development to Vygotsky's emphasis on social interaction and Bandura's focus on observational learning. Each theory offers unique insights into the processes of learning and knowledge acquisition, helping educators and psychologists design effective teaching strategies and interventions. (Ouitj, 1994,p148)

8. Field Study Aspect:

8.1. Study Methodology:

This study relied on the descriptive approach.

8.2. Study Sample:

The sample consisted of 60 first-year master's students in Communication Sociology (16 males and 44 females).

Sample Characteristics:

Table (01): Sample Distribution by Gender

Table 1: Characteristics of the Sample by Gender

Gender	Frequency	Percentage
Males	16	26.67%
Females	44	73.33%
Total	60	100%

8.3 Study Tools:

- A written test was used to measure students' academic achievement in the Opinion Polling course during the second semester of the 2020/2021 academic year.

- Interviews were conducted with 23 randomly selected students from the sample to assess their opinions on remote learning. Questions included:

- Do you have internet access at home?
- Are you proficient in using email and platforms like Moodle?
- Are you satisfied with e-learning?
- Do you prefer traditional or e-learning?
- Do you comprehend remotely taught material?

8.4 Statistical Methods:

- Mean scores and T-test were used to analyze gender-based differences in Academic achievement.

9. Study Results:

- **First Question: What is the Academic achievement level of students in Opinion Polling after adopting e-learning?**

Table (02): Mean and Standard Deviation of Academic Achievement

Variable	Arithmetic	Standard
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	Mean	Deviation
Academic Achievement	8.33	3.52

The mean score (8.33) was below the hypothetical average of 10, indicating below-average Academic achievement. This is attributed to:

- First-time implementation of e-learning in the Faculty of Social Sciences and Humanities at Chadli Bendjedid University.
- Poor internet infrastructure in rural areas of El Tarf Province.
- **Second Question: Are there statistically significant gender-based differences in Academic achievement?**

Table (03): T-test Results for Gender Differences

Gender	Mean (M)	T-Value	Significance Level
Males	8.14	.	Non-Significant
Females	8.36	0.34	

No significant gender differences were found. Both genders faced similar challenges (e.g., poor internet access).

Through our presentation and discussion of the two hypotheses, it has become clear to us that they are consistent with the findings of a number of previous studies related to the topic and variables of this study, as follows:

A study of **(zwain & haboobi , 2021)** confirmed that the use of e-learning positively impacts the quality of knowledge.

Another study of **(herizi & boudjellal , 2022)** affirmed that e-learning helped enhance the quality of teaching through the Moodle platform. Moreover, a further study of **(Sweikat, 2023)** also concluded that e-learning contributed to the quality of teaching performance at the university from the perspectives of both professors and students alike, which aligns with the findings of our current study. This confirms that e-learning, in one way or another, does indeed contribute to achieving acceptable outcomes in its initial implementation in Algerian universities, in terms of bridging the distance between professors and students, as well as facilitating access to information and communication.

Interview Results (23 Participants):

Table (04): Interview Responses

Question	Options	Frequency	Percentage (%)	total
Is internet available in your home?	Yes	14	60.86%	100%
	No	9	39.13%	
Are you proficient in communicating via email and social media platforms, especially the Model application?	Yes	8	34.78%	100%
	No	15	66.21%	
Are you satisfied with the e-learning approach?	Yes	7	30.43%	100%
	No	16	69.56%	
Do you prefer traditional education or e-learning?	Yes (Prefers e-learning)	5	21.73%	100%
	No (Prefers traditional education)	18	78.26%	
Do you comprehend the academic material for courses taught remotely?	Yes	10	43.47%	100%
	No	13	56.52%	

Key Findings from Interviews:

- Students in urban areas had better internet access (via ADSL), while rural students relied on unreliable mobile networks (e.g., Mobilis, Djazzy, Ooredoo).
- Many struggled with Moodle due to lack of training.
- Dissatisfaction stemmed from poor infrastructure and preference for in-person interaction.

Interview results analysis:

Following the interviews and the compilation of respondents' answers, their responses were quantified in the table below: Quantitative evidence from the interview table confirms the following:

- **14 out of 23 respondents** (60.86%) confirmed they have **wired internet access at home**, which facilitated their ability to access educational platforms, conduct research smoothly, and stay updated on university announcements. Notably, most of these respondents resided in **urban areas** served by Algeria Telecom's stable internet infrastructure.

- **9 respondents** (39.13%) lacked home internet and relied on mobile data from providers like **Mobilis, Djazzy, and Ooredoo**, which suffer from weak coverage, particularly in rural areas of El Tarf Province. This created significant difficulties in accessing educational platforms. Many respondents expressed frustration with the **slow speed and poor quality** of internet services, with one participant likening the network speed to "a turtle's pace."

Regarding Proficiency in Using Moodle:

- **15 respondents** reported difficulty accessing Moodle, citing perceptions that the platform is **not openly accessible** and requires administrative or instructor authorization to enroll.

- **8 respondents** stated they faced no challenges using Moodle or other platforms and could regularly access course materials.

Satisfaction with E-Learning:

- **16 respondents** (69.56%) expressed dissatisfaction with e-learning, primarily due to poor internet infrastructure and lack of experience with digital tools. They argued that these issues hinder not only education but also broader social activities reliant on the internet.

- **7 respondents** (30.43%) were satisfied with e-learning, appreciating its time-saving benefits and flexibility, particularly those balancing studies with work or other commitments.

Preference for Traditional vs. E-Learning:

- **18 respondents (78.26%)** preferred **traditional learning** for its direct interaction with professors, which they felt enhanced comprehension and engagement.

- **5 respondents (21.73%)** favored e-learning, likely due to the flexibility it offers working students.

Comprehension of Remotely Taught Material:

- **13 respondents (56.52%)** admitted they **struggled to comprehend** material delivered via e-learning platforms, linking this to their preference for traditional methods that foster direct dialogue with instructors. This aligns with the study's earlier finding of **below-average Academic achievement** in the *Opinion Polling* course.

- **10 respondents (43.48%)** reported they could grasp the material effectively, attributing this to their comfort with digital resources and the time-management advantages of e-learning.

The table shows that the majority of the sample faces challenges in e-learning, whether in terms of satisfaction, preference, or comprehension.

From the above, we can conclude that:

- ✓ **The digital divide between urban and rural areas** plays a significant role in determining the effectiveness of e-learning, as students in rural areas face greater difficulties due to inadequate internet infrastructure.

- ✓ **Technical challenges**, such as difficulty accessing educational platforms (e.g., Moodle) or slow internet, are major obstacles hindering the e-learning experience.

- ✓ **Student dissatisfaction with e-learning** is not necessarily due to shortcomings in the educational model itself, but rather external issues such as poor internet connectivity or lack of technical support.

- ✓ **Traditional education remains the preferred choice** for the vast majority of students due to its direct interactivity, although a minority appreciates the flexibility offered by e-learning.

✓ **Improving internet infrastructure** and providing technical support to students can enhance the effectiveness of e-learning and reduce the gap between it and traditional education.

10. **Conclusion:**

The study revealed below-average Academic achievement in e-learning and no gender-based differences. Recommendations include:

- Promoting e-learning through training programs for students and faculty.
- Improving internet infrastructure and technological tools (e.g., high-speed AI-supported platforms).
- Learning from global e-learning best practices.
- Raising awareness of e-learning benefits via workshops and media campaigns.

This translation maintains the academic tone, structure, and key details of the original Arabic text.

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