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Middle School Teachers' Attitudes towards the Role of Distance Learning Using Modern Technologies in Enhancing Students' Academic Achievement: A Field Study on a Sample of Middle School Teachers in El Oued Province, Algeria

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Middle School Teachers' Attitudes towards the Role of Distance Learning Using Modern Technologies in Enhancing Students' Academic Achievement: A Field Study on a Sample of Middle School Teachers in El Oued Province, Algeria

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ABSTRACT

The study aimed to investigate the attitudes of middle school teachers towards the role of distance learning using modern technologies in enhancing students' academic achievement in El Oued Province, Algeria. It was conducted on a sample of 130 middle school teachers selected through simple random sampling. The study adopted a descriptive-analytical approach and utilized mean, standard deviation, and correlation coefficient as statistical methods to test the study hypotheses. The study findings revealed that the attitudes of middle school teachers towards the role of distance learning using modern technologies in enhancing academic achievement in El Oued Province, Algeria were low.

Keywords: Distance learning, Academic achievement.

INTRODUCTION

Amidst the overwhelming influx of scientific advancements and technological innovations, coupled with the exponential growth of knowledge and rapid developments across all sectors and fields, including higher education and education sectors, it is imperative to keep pace with technological progress. Modern technologies for distance learning have become commonplace in global education, varying significantly from one country to another. These modern distance learning technologies aim to offer a diverse range of programs and courses to meet educational needs, enhance interaction between students and teachers, and consequently contribute to improving academic achievement. Various factors influence the success of distance learning, including students' satisfaction with distance education, flexibility, motivation, necessary skills for online tool usage, positive attitudes towards distance learning, students' independence, self-organization, and time management, which impact students' behavioral participation and consequently serve as a crucial indicator of their academic achievement. Academic achievement is a critical indicator of students' future academic prospects and one of the primary objectives of the educational process. It represents the softer side of individual differences among students and contributes to the development of the educational process through understanding students' levels, discovering their potentials, and enhancing their cognitive and knowledge-based abilities.

Through reviewing previous studies and research, there exists a debate among researchers regarding the effectiveness of distance learning in improving students' academic achievement. Thus, this study aims to pose the following question: What are the attitudes of middle school teachers towards the role of distance learning using modern technologies in enhancing students' academic achievement in El Oued Province?

Definition of Distance Learning

Distance learning is a type of education that relies on electronic means to distribute educational material and facilitate communication between students and teachers. It provides equal opportunities among individuals and offers extensive options regarding where, when, how, and who learns. It is a form of education that utilizes separate and interactive communication systems to provide learners with academic resources online. Distance learning can meet the educational needs of various groups.

Features and Characteristics of Distance Learning

Distance learning is characterized by five main points:

1. Presence of the teacher and the student with an agreement on learning between them.
2. Spatial separation between the teacher and the learner.
3. Spatial separation between the learner and the educational institution.
4. Two-way interaction between the student and the teacher.

5. Selection of specially designed materials for distance learning.

Challenges of Distance Learning

Challenges of distance learning include:

1. Integrating technological innovations with educational foundations.
2. Organizing and delivering distance education.
3. Developing cognitive-behavioral educational models for practicing distance education.
4. Activating communications through various technological means in the educational sector.

Definition of Academic Achievement

Academic achievement can be defined as excellence across all academic disciplines and classrooms. It is a measurable indicator through cognitive, emotional, and motor domains of a student in the educational environment. Academic achievement is realized through tests, measurements, and evaluations to ascertain students' abilities and mastery of the skills and content taught in the educational setting.

Academic achievement refers to academic accomplishments evidenced by students' performance results, indicating the extent to which they achieve progress in specific goals of activities and subjects in the educational environment. Several factors influence it, including learning skills, school bullying, relationships with schoolmates, and various cultural and social factors.

Factors Influencing Academic Achievement

Individual Factors, including

- Cognitive factors such as learning strategies, knowledge accumulation, and individual intelligence.
- Non-cognitive factors such as learning efficiency, self-concept, motivation, and individual traits.

Social Factors, including

- Family factors such as parental expectations, parental involvement in their education, parenting styles, parental literacy, economic status, and family structure.
- School factors such as their relationships with peers, classrooms, the educational environment climate, and teaching style.

Study Methodology

The study adopted a descriptive-analytical methodology, with the study population consisting of middle school teachers in El Oued Province, Algeria. It was applied to a simple random sample comprising 130 middle school teachers.

Study Instrument

The study utilized the scale developed by Nawaf Khalaf Najji Al-Rashidi regarding the role of distance learning using modern technologies in enhancing academic achievement, adapted and applied in the Algerian context.

Validity of the Instrument

Table 1 : Represents the correlation coefficient for the internal consistency of the study instrument.

Significance	Correlation Coefficient	Items	Number
0.01	0.730	Promoting students' self-directed learning.	1
0.01	0.834	Transforming abstract concepts into tangible ones.	2
0.01	0.586	Gradually presenting information from the easiest to the most challenging.	3
0.01	0.529	Engaging students' multiple senses during class sessions.	4
0.01	0.850	Providing diverse activities tailored to students' learning styles.	5
0.01	0.543	Addressing complex ideas.	6
0.01	0.60	Linking educational outputs to real-world scenarios.	7
0.01	0.522	Ease of reading graphs, figures, and tables.	8
0.01	0.770	Enhancing the use of various thinking methods during distance learning	9
0.01	0.694	Providing multiple ways for interaction and knowledge exchange through distance learning.	10
0.01	0.553	Achieving a large number of educational outcomes during the	11

		class session.	
0.01	0.551	Facilitating students' acquisition of skills, knowledge, and attitudes.	12
0.01	0.478	Improving students' retrieval of learned information.	13
0.01	0.554	Offering multiple assessment strategies.	14
0.01	0.509	Encouraging students to answer a maximum number of questions.	15
0.01	0.663	Promoting the use of diverse thinking methods during study.	16
0.01	0.662	Making learning enjoyable.	17

The preceding table (Table 1) illustrates that the correlation coefficients for the items' scores with the total score of the questionnaire range between 0.478 and 0.850, all of which are statistically significant at the 0.01 level. This indicates a high degree of internal consistency reliability for the questionnaire items, suggesting that the instrument measures what it was designed to measure.

Reliability of the Instrument

Table 2: Represents the stability coefficient for the study instrument.

Cronbach's Alpha reliability coefficient	Number of statements	The scale
0.747	17	Concerning the role of distance education using modern technologies in enhancing academic achievement.

From the table, it is observed that the Cronbach's Alpha reliability coefficient is 0.747, indicating a high degree of stability for the questionnaire.

Study Results: What are the attitudes of middle school teachers towards the role of distance learning using modern technologies in enhancing academic achievement among students in the province of El Oued, Algeria?

To interpret the results, the following hypothetical averages were adopted:

- 1- Less than 2.5 Low score.
- 2- 2.5-3.5 Moderate score.
- 3- Greater than 3.5 Moderate score

Table 3: Represents the mean and standard deviation of the study sample's responses on the study instrument

Level	Standard Deviation	Mean	Items	Number
Low	0.29	1.97	Promoting students' self-directed learning	1
Low	0.31	1.99	Transforming abstract concepts into tangible ones.	2
Low	0.32	1.89	Gradually presenting information from the easiest to the most challenging	3
Low	0.37	1.95	Engaging students' multiple senses during class sessions	4
Low	0.41	1.84	Providing diverse activities tailored to students' learning styles.	5
Low	0.40	1.86	Addressing complex ideas.	6
Low	0.42	1.90	Linking educational outputs to real-world scenarios.	7
Low	0.35	1.96	Ease of reading graphs, figures, and tables.	8
Low	0.33	1.94	Enhancing the use of various thinking methods during distance learning	9
Low	0.39	1.86	Providing multiple ways for interaction and knowledge exchange through distance learning.	10
Low	0.38	1.90	Achieving a large number of educational outcomes during the class session.	11
Low	0.36	1.83	Facilitating students' acquisition of skills,	12

			knowledge, and attitudes.	
Low	0.34	1.87	Improving students' retrieval of learned information.	13
Low	0.23	1.93	Offering multiple assessment strategies.	14
Low	0.25	1.88	Encouraging students to answer a maximum number of questions.	15
Low	0.27	1.91	Promoting the use of diverse thinking methods during study.	16
Low	0.29	1.907	Making learning enjoyable.	17

Analysis and Interpretation

The average attitudes of middle school teachers in El Oued, Algeria, regarding the role of distance learning using modern technologies in enhancing academic achievement were low. This could be attributed to the fact that distance learning technologies are relatively new in the Algerian educational landscape. The COVID-19 pandemic had a significant impact on its integration into the educational sector, particularly in the middle school level, where it relies heavily on modern technology-based approaches. The Algerian educational environment faces challenges in accommodating technology and ICT (Information and Communication Technology) resources, along with a lack of training workshops for both teachers and students on remote learning technologies. These programs require substantial expenses, a hefty budget, and intensive efforts.

On the other hand, the presence of an interactive remote learning environment would contribute to increasing academic achievement. The role of distance learning lies in enhancing academic achievement by promoting students' self-directed learning, providing various activities tailored to students' learning styles, encouraging diverse thinking methods during study, facilitating the acquisition of skills, knowledge, and attitudes, and offering multiple ways of interaction and knowledge exchange through remote learning.

General Conclusion

Distance learning using modern technologies plays a role in increasing academic achievement, provided that a conducive educational environment is established to facilitate effective communication and interaction between teachers and learners. This environment should enable learners to comprehend and understand information efficiently, thereby enhancing their competencies and achieving excellent academic results.

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