

# CONTRIBUTION OF TECHNO-PEDAGOGICAL TRAINING THROUGH VIDEO ON DEVELOPING REMOTE LESSON DESIGN SKILLS: A CASE STUDY OF THE UNIVERSITY OF SÉTIF 2"

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## Abstract

The aim of the study was to assess the perception of teachers at Mohamed Lamine Debaghine University regarding the contribution of pedagogical videos in the design, development, and utilization of remote lessons. To achieve the study's objective, a sample of 102, who benefited from training in this program, was selected. The study included the three systems of the program: the entry system, the learning system, and the exit system. The study's results showed that teachers highly appreciate the contribution of pedagogical videos in designing, developing, and utilizing remote lessons. The results also indicated that there were no statistically significant differences in the average assessment scores of teachers at Mohamed Lamine Debaghine University regarding the contribution of pedagogical videos in distance education, attributed to variables such as college affiliation, academic degree, and training.

**Keywords:** Contribution score, new teachers, distance training, pedagogical videos, remote lesson design, development and utilization program.

## 1.Introduction

Today, universities are dedicated to enhancing and modernizing their educational systems by embracing cutting-edge

technological advancements. The goal is to attain higher standards of effectiveness, efficiency, and equity in education. All stakeholders involved in the educational process are actively pursuing this transformation and working together to enhance its efficiency, particularly with the advent of innovative learning methods like e-learning, distance education, and open education. Consequently, the integration of education and information technology has become a crucial global concern, demanding a fresh approach from university educators. This can be achieved through ongoing professional development efforts.

The training policy in Algeria has witnessed a notable emphasis on dynamism following a recent reform led by the Ministry of Higher Education and Scientific Research. This reform places significant importance on the professional development of teachers. In line with this objective, the ministry has specifically advocated for the implementation of a pedagogical training program. This program is designed to foster a dual transformation in the professional life of university teachers, bringing about positive changes in their teaching practices and overall career growth.

In the initial stage, the training program primarily targets novice teachers, aiming to enhance their professionalism by identifying and developing twenty-two specific competencies. In the subsequent stage, existing university teachers undergo a development phase to refine their pedagogical practices. Furthermore, the professional growth of all teachers is reinforced through additional training in English language proficiency and computer literacy.

It's important to note that training is distinct from simply imparting knowledge or implementing a fixed set of information. It goes beyond maintaining established positions and applying pre-defined methods. Instead, as highlighted by Dreyfus (1996), training involves facilitating changes in behaviors, methodologies, perceptions, and attitudes at the trainee's level (Dreyfus, 1996: 78).

To enhance the development of higher education and improve its overall image, it is imperative to implement stricter and more professional pedagogical practices. However, before introducing changes to program structures and content, it is essential to initiate a shift in mindset. According to Deketele and Parmentier, transforming higher education and its perception requires a greater emphasis on rigorous and professional pedagogical practices. This can be accomplished by aligning training objectives with the simultaneous development of pedagogical and specialized competencies. Moreover, effective teaching and learning strategies must be defined to facilitate the transfer and mastery of personal and intellectual skills through knowledge acquisition. Undoubtedly, this undertaking will present various challenges (Deketele & Parmentier, 1995: 9).

The enhancement of university teachers emerged as a crucial and significant concern for the advancement of higher education. Within this evolving education system, the role of the modern teacher has undergone a significant transformation. University teachers are not only thoughtful researchers, planners, and guiding leaders but also designing engineers of effective and motivating learning environments. Furthermore, with the integration of digitalization in higher education, new responsibilities have been added, shaping the teacher into a digital educator. As digital educator. Their role is to guide and support students in constructing their own learning, fostering engagement, and cultivating new competencies relevant to distance learning.

The evolution of the new professional identity of teachers hinges on providing training in the competencies of distance education or hybrid learning. As a result, universities have been actively incorporating digitalization into their processes to bolster the professional development of their faculty. The University of Setif 2 is among the institutions that have embraced the hybrid training approach to assist teachers in acquiring the professional competence

needed to utilize the Moodle platform effectively for designing, building, and delivering distance lessons.

In order to achieve significant pedagogical advancement, universities have the opportunity to prioritize the development and implementation of new training models in the near future. These models can serve as transformative starting points, fostering optimism and driving positive change. One such model is video-based pedagogical training. By integrating video-based training, teachers can elevate their teaching skills, foster interactive learning experiences, and effectively deliver educational content. Embracing these innovative training models has the potential to contribute to the overall progress of pedagogy and educational practices within universities.

Recent reviews of international scientific literature, such as those conducted by Gaudin (2014) and Gaudin & Chaliès (2012), highlight the evolving nature of video usage in teacher education and its growing contribution to the development of teachers' professional competencies. These studies indicate that the use of video in teacher education has demonstrated positive effects, particularly in terms of attracting teachers who gain real-life learning experiences that enhance their interest in the profession (Sherin, 2004). This suggests that video-based approaches can be a valuable tool for supporting teachers' professional growth and fostering their engagement in the field of education.

Reflective practices play a crucial role in guiding teachers' attention towards specific and contextually relevant practices. By engaging in reflective practices, teachers can shift their focus from administrative tasks and self-centeredness to a more experience-based approach centered on teaching and student needs (Leblanc, 2014).

The objective of this study is to examine the effectiveness of a hybrid training approach that incorporates pedagogical videos in the professional development of teachers at Mohammed Lamine

Debaghine University. The aim is to assess the impact and efficacy of this approach on enhancing teachers' instructional skills and practices. Through the use of pedagogical videos, teachers can engage in active reflection, gain insights into their own teaching methods, and make informed adjustments to improve their pedagogical techniques

## **2. Research Problem**

Information and communication technology (ICT) plays a fundamental and pivotal role in attaining quality in higher education institutions. These technologies drive universities towards progress, excellence, and differentiation from other educational establishments.

While the use of ICT is not new in Algerian universities, the introduction of distance education, facilitated through teachers designing, building, and utilizing lessons on the Moodle platform following a three-system approach (entry, learning, and exit), represents a new and transformative experience. This experience necessitates teachers to possess professional competencies that significantly impact current teaching practices. It involves redefining the roles of stakeholders and their active involvement in the pedagogical and didactic training process for university students. This redefinition of training objectives is essential for achieving the effectiveness of Algerian higher education, considering the ongoing global developments in the field of education.

The utilization of video as a training tool can greatly contribute to professional development, provided that ethical and methodological conditions, educational scenarios, and adequate support are taken into consideration. According to Gaudin (2014) and Gaudin & Chaliès (2012) A recent review of the international scientific literature explores the use of video in teacher training and its impact on the development of specific disciplinary skills. For instance, in the field of mathematics education, Santagata (2009) found that video usage enhances teachers' competence. Similarly, Prusak, Graham, and Graser (2010) highlighted the benefits of video in physical education

instruction. Moreover, video has been shown to improve cross-cutting professional skills, as indicated by studies conducted by Brunvand and Fishman (2006), Ria and Leblanc (2012), and Seidel, Blomberg, and Renkl (2013).. Additionally, research conducted by Ria and Leblanc (2012) have demonstrated its effectiveness in enhancing teachers' professional skills. This is applicable to both initial teacher training and ongoing professional development programs.

In this study, our contribution extends recent research on the use of video in teacher training programs, with a specific focus on university teachers. We have centered our attention on the techno-pedagogical training model, which aims to empower teachers at Mohamed Lamine Debaghine University in designing, developing, and utilizing distance learning lessons within the framework of its three systems: the entry system, the learning system, and the exit system. The members of the distance training and audiovisual education unit play an active role in stimulating, initiating, and supporting teachers in their professional learning journeys, recognizing that the digital environment necessitates training in reflective processes.

## **2.1.Study Questions**

The assessment of teachers regarding the contribution of techno-pedagogical training using educational videos in developing remote lesson design skills, specifically in relation to the three systems (entry, learning, and exit), is a key aspect to be explored.

Thus the main research question is: What is the teachers' assessment of the contribution of techno pedagogical training using educational videos in developing remote lesson design skills according to its three-system model: entry, learning, and exit?

The following sub-questions can further delve into this assessment:

**2.1.1.**How do teachers evaluate the impact of techno-pedagogical training using educational videos in terms of technical **video characteristics**, such as audiovisual quality, instructional design, engagement, and multimedia integration, in remote lesson design?

**2.1.2.** To what extent do teachers appreciate the contribution of techno-pedagogical training using educational videos in enhancing their skills in designing remote lessons within the **entry system**?

**2.1.3.** To what extent do teachers acknowledge the contribution of techno-pedagogical training using educational videos in developing their remote lesson design skills within the **learning system**?

**2.1.4.** To what extent do teachers perceive the contribution of techno-pedagogical training using educational videos in enhancing their remote lesson design skills within the **exit system**?

**2.1.5.** Are there significant differences in teachers' assessment of the contribution of techno-pedagogical training using videos in designing remote lessons attributed to variables such as **college affiliation, academic degree, and prior training in computer science**

By addressing these sub-questions, we can gain insights into teachers' perceptions and evaluations of the effectiveness and value of techno-pedagogical training using educational videos in the development of remote lesson design skills, particularly in relation to technical video characteristics.

**3. The importance of the study** lies in its potential contribution to the overall improvement of higher education and its potential impact on university practices towards a more professional approach to teaching tasks. It is evident that teaching professionals will be the first to take responsibility for implementing such an experiment. As a result, they will need to feel the need to work differently to meet their own standards and student expectations.

Developing such pedagogy at the university level will undoubtedly be a challenging task. The burden of work on novice teachers will be greater, making it difficult for them to invest in professional practice. The main challenge remains in making them realize the benefits of considering pedagogical practices and engaging them in continuous training processes. Training should address the immediate demands of "how to do it" to gradually propose, through these training courses, a

more essential thinking about the "reason" behind educational work. The answer lies in the field of pedagogy, technology, and the research findings in these areas.

#### **4. the study aims to:**

- 4.1.** Identify the teachers' assessment of the contribution of technological training using educational videos in designing remote lessons according to the three systems: entry, learning, and exit.
- 4.2.** Identify and analyze any differences, if present, among the study's sample groups, which may be related to their college affiliation, academic degree, and prior training in computer science.
- 4.3.** Define the study's concepts and terms used in the research and analysis related to techno-pedagogical training and the use of educational videos in designing remote lessons.

#### **5. Definition of Study Terms:**

**5.1. Remote Learning:** refers to a method of education where students and teachers are not physically present in the same location. Instead, learning takes place through online platforms or virtual classrooms.

**5.2. Moodle Platform:** Moodle is an open-source learning management system designed to provide an electronic learning environment. It can be used on an individual level and is built on educational principles. The platform hosts 75,000 registered users who speak 70 different languages from 138 countries.

**5.3. Pedagogical Videos:** These are animated electronic educational images that are characterized by instant presentation. The content of these videos is used to illustrate the three components of systems: the entry system, the learning system, and the exit system. The visual images are supported by verbal explanations, which help the teacher easily apply the technological-pedagogical approach to the presented material.

**5.4 Systems of Remote Learning:** The degree of assessment of the pedagogical video's contribution: This refers to the degree through which the teacher assesses the contribution of the pedagogical video in controlling the skills of "designing, building, and using a lesson on the Moodle platform according to the three systems of remote learning: the entry system, the learning system, and the exit system." It is measured by the score obtained by individuals in the sample for each item of the questionnaire, using a Likert scale.

## **6. Literature review:**

**6.1. Florian Meyer (2010):** This study aims to evaluate the impact of the "Zoom-based training system on pedagogical expertise" or, more precisely, to assess the impact of the training course created through this device and integrating examples of practices on video regarding learning and intentions to change the practice of a group of elementary school teachers related to "managing instructional-learning situations." The evaluation was conducted by following a training course with six teachers who participated in two semi-directed interviews, and observations were made during the training. The results confirmed the positive influence of video clips on professional development. Teachers also affirmed their ability to identify the components of competence targeted by the training and expressed their sense of learning. They all expressed their intention to bring about changes in their practices. Everyone truly appreciated the course and its video clips.

**6.2. Carmichael et al. (2018)** conducted a study on the role of videos in education, particularly teacher-made videos, and their impact on student engagement and learning outcomes. They found that videos have several benefits for both teachers and learners. According to the authors, students perceive videos with the instructor's image as more engaging, leading to increased engagement with course content. The study involved analyzing 270 journal articles and conducting an online experiment with 100 undergraduate students aged 18-22 years

old from Purdue University. The findings indicated that videos positively influence critical thinking, knowledge development, and overall student engagement. The use of videos in teaching supports various pedagogical strategies, enhances teaching methods, and improves learning outcomes. The video-based approach fosters a sense of connection with the class, enables practical demonstrations, and facilitates ubiquitous learning. Furthermore, videos are believed to stimulate critical thinking, enhance knowledge acquisition, and evoke emotional engagement among students.

**6.3. Tahsina Yasmin et al. (2022).** The study discusses the positive impact of using teacher-made video lectures during the worldwide crisis to increase student engagement in the classroom. It also examines the effectiveness of these video lectures in enhancing students' understanding of the topics covered. The study utilizes qualitative and quantitative research methods to collect data through questionnaires administered to selected students. The researchers hypothesize that teacher-made video lectures are more effective due to shared stress, intonation, pronunciation, and cultural experiences between students and instructors. The paper highlights students' expectations and satisfaction, particularly regarding teacher-made video lectures versus those obtained from popular online resources.

**6.4. Mosah S. Ajloni<sup>1</sup> and John Mitchell O'Toole 2023** This study investigates the impact of educational and technological factors on the level of engagement of video-based pedagogical responses among secondary school teachers in Amman, Jordan. The educational factors considered include the type of school, teaching experience, teaching grade, and subject being taught. The technological factors examined are internet access and IT support for teachers. A mixed method approach was used in this study. The findings were analyzed using the Technology Acceptance Model framework to gain further insights. The results indicate that not all educational and technological factors have a statistically significant influence on teachers' level of

engagement with video-based pedagogical responses. The only factor that consistently shows a statistically significant influence on all components of video-based pedagogical responses is the subject being taught, particularly science-related subjects. In other words, teachers who teach science-related subjects tend to be more engaged in using video-based pedagogical responses. According to the interpretation of the Technology Acceptance Model framework in this study, teachers who teach science-related subjects are more likely to accept and use video technology in their teaching, as they perceive it as useful and easy to use. The acceptance and use of video technology are expected to result in improved pedagogical outcomes.

### **7.Theoretical Aspect**

Definition of Pedagogical Training: Dupont & Ossadon (1994) define pedagogical training as

lessons aimed at enriching the theoretical knowledge of future teachers and guiding their education. It also includes pedagogy, which is training in teaching methods for specific disciplines or fields of teaching. This training should primarily be practical, through internships, observation, or teaching practice, as they provide the foundations of teaching competence by appropriately answering questions raised from various real and concrete educational situations. During this period, the future teacher develops their competencies, knowledge, attitudes, and performance (Dupont & Ossadon, 1994: 127).

The passage mentioned above describes lessons designed to enhance the theoretical knowledge of aspiring teachers and provide guidance for their education. It emphasizes the importance of practical training through internships, observation, and teaching practice to develop teaching competence. The aim is to address questions arising from real educational situations and foster the growth of competencies, knowledge, attitudes, and performance in future teachers.

**8. Methods of Pedagogical Training:** According to Berthiaume & Rege (2013), there are several methods of pedagogical training to acquire knowledge, skills, and develop attitudes. These methods can be categorized based on two main axes:

**8.1. The first axis refers to "theoretical" learning situations, which may include:**

- **Documentation-based training:** This involves training based on studying educational documents, research papers, and pedagogical resources.
- **Pedagogical training days:** These are training sessions or workshops focused on specific pedagogical topics.
- **Training through observation:** At this level, the future teacher is assisted by a mentor to learn through observing teaching practices.

**8.2. The second axis refers to practical learning situations, such as:**

- **Training through internships:** This involves practical training in real-life settings, where future teachers engage in hands-on teaching experiences under the guidance of experienced educators.
- **Training through reflective practice:** Future teachers engage in reflective thinking and analysis of their own teaching practices, aiming to deepen their understanding, identify areas for improvement, and make informed decisions about their instructional approaches.
- **Training through practice analysis:** This method involves analyzing teaching practices, either through self-reflection or collaborative discussions with peers and mentors. It helps future teachers examine their teaching strategies, student interactions, and classroom dynamics to enhance their pedagogical skills.
- **Training through video or autoscopic:** Future teachers utilize video recordings of their teaching sessions to observe

and analyze their instructional practices. This allows for self-reflection, identification of strengths and weaknesses, and opportunities for growth and development.

These practical methods of pedagogical training, including internships, reflective practice, practice analysis, and the use of video or autoscopic, aim to bridge the gap between theory and practice, develop effective teaching skills, and promote continuous professional growth. (Berthiaume & Rege Colet, 2013: 192).

Blended learning using video clips is a popular approach in higher education. It combines two modes of instruction: face-to-face learning, where the instructor and learners interact in person, and remote learning, where instructors are trained remotely through pedagogical videos.

## **9. Classification of Pedagogical Uses for Video Based on Learner Activity:**

Both Laduron and Rappe (2019) indicate a range of pedagogical uses for video, which are as follows:

### **9.1.Video as an object of understanding**

Learners are directed to watch a video that explains concepts, facts, and procedures. Consequently, it is possible to take advantage of the characteristics of video to provide learners with a clearer presentation of concepts compared to traditional media (such as texts) thanks to the dynamic features of video.

### **9.2.Video as a target for memorization**

In this context, the targeted activity is for learners to memorize the content of the video. This memorization process is achieved through repeated viewing of the video, and it can be facilitated, particularly through planned moments of consolidation (such as interactive points), and highlighting key information.

### **9.3.Video as a subject for action**

The primary aim of this category is to engage the learner in an activity that allows them to apply the targeted learning.

Consequently, the application of knowledge by the learner is directly linked to this use, for example, making procedures clearer and facilitating the use of new tools by illustrating how to carry out the required actions or by demonstrating a procedure for the learner to reproduce or imitate.

#### **9.4. Video as a target for analysis**

In this context, learners are directed to conduct their own analysis of the video content (phenomena, situations, etc.). The analysis activity may involve a single video or a collection of video clips (following an inductive or deductive approach, for example). The analysis will be carried out based on predetermined criteria or a framework, either defined by the teacher or understood by the learners after prior instructions.

#### **9.5. Video as a target for creativity**

Video can be considered as a product created by the learner. This category of use refers to the level of creativity in the Krathwohl taxonomy and the Leclercq & Denis model (1995). It is placed in a productive context for content creation.

### **10. The Experience of Mohammed Lamine Debaghine University in Training Teachers on Designing Distance Learning Lessons Using Pedagogical Videos.**

Since 2016, the Distance and Audiovisual Education Cell has taken the initiative to implement a training plan following the consensus reached among its members regarding the working methodology. As part of this plan, eight in-person training sessions have been conducted. The advent of digitization has enabled teachers to move beyond technological innovation and embrace pedagogical innovation, serving as a powerful catalyst for change. This shift eliminates the distinction between face-to-face and remote learning spaces, opening up possibilities for the utilization of diverse teaching methods and pedagogies (Bernard & Fluckiger, 2019). With this integration, teachers can explore new

approaches to instruction and create engaging learning experiences that transcend traditional boundaries.

The training for the ninth group was delivered in a hybrid format, combining theoretical training in the morning with practical training in the evening. Participants were able to complete applications and submit them remotely using the Moodle platform. In contrast, the training for the tenth and eleventh groups was conducted fully remotely. This remote training approach employed a training scenario that incorporated pedagogical videos to support teachers in the preparation of their lessons. By utilizing pedagogical videos, teachers were able to access valuable resources and guidance to enhance their instructional practices and develop effective lesson plans. This shift towards remote training, supported by pedagogical videos, reflects the evolving nature of training methodologies and highlights the importance of leveraging technology to facilitate professional development for teachers.

The pedagogical approach adopted in the training plan follows a socio-constructivist framework, which is known to facilitate active knowledge construction by learners through complex and authentic learning situations. In this approach, the learner takes on the role of a facilitator, engaging in exchanges with peers and reflecting on their own practice within the real context of learning. This approach builds upon the learners' previous acquisitions, utilizing their existing concepts, knowledge, and experiences as a foundation for generating new knowledge. By fostering collaborative learning, reflection, and application in authentic contexts, the training plan aims to support teachers in developing targeted learning outcomes and enhancing their professional competencies (Bocquillon, 2020; Langevin, 2007).

The training plan recognizes the importance of individuality and learner responsibility as a second cornerstone. It goes beyond

adapting the pedagogical process to accommodate the differences and variations among learners and focuses on assisting each mature learner in their self-formation. To achieve this, activities are assigned to ensure the attainment of specific and procedural goals at the end of each learning session. The training sessions typically consist of a theoretical presentation, followed by active learning opportunities where trained teachers apply the concepts and strategies presented in their own lesson plans. This approach encourages hands-on application and allows teachers to actively engage with the material, fostering a deeper understanding and integration of the learned content into their professional practice. By emphasizing individual responsibility and active participation, the training plan supports teachers in their continuous growth and development.

Integrating training into professional situations through activity-based training on-site and during work is an instructional approach that aims to bridge the gap between theory and practice while considering the specific techno-pedagogical requirements of the lesson. This approach utilizes various resources, such as videos and files, to support the learners in their training journey. The objective is to facilitate the transformation of the trained teacher's developed competencies, contextualized within their own teaching environment, into a tangible product - a well-designed lesson. This process takes into account the three components of the pedagogical scenario system: the entry system, the learning system, and the exit system. Each teacher is provided with their own space on the Moodle platform, where they can activate and implement the pedagogical scenario, applying their newly acquired knowledge and skills to create effective and engaging lessons. By aligning training with real-world teaching contexts and utilizing technology as a platform, this approach enhances the

practical application of pedagogical competencies and promotes meaningful learning experiences for teachers.

### **Method and Procedures**

#### **The Approach:**

**The Population:** it consists of all teachers at the University of Mohamed Lamine Debaghine Setif 2 who benefited from remote training to acquire proficiency in designing, building, and using remote lessons within its three systems: "entry system, learning system, and exit system." This was accomplished by relying on the content of a set of techno-pedagogical videos. The participants belong to the tenth and eleventh cohorts for the academic years 2020-2021 and 2021-2022, totaling 149 individuals, including 62 novice teachers (both male and female).

**The Sample:** The study sample was selected using a survey method, where 149 questionnaires were distributed online through the available email accounts on the Moodle platform. However, only 112 questionnaires were retrieved, and 10 questionnaires were excluded due to incomplete responses from the teachers. Thus, the final sample size for the study is 102 teachers, representing 68% of the initial sample.

Table 01 illustrates the distribution of the study sample according to the study variables.

faculty affiliation	Humanities and Social Sciences	49
	Letters and Languages	26
	Law and Political Science	27
total		102
Academic degree	Assistant teacher B	62
	Assistant teacher A	0
	Lecturer B.	11
	Lecturer A	29
total		102

Pre-training in computer science	trained in online teaching	41
	untrained in online teaching	61
<b>total</b>		102

### **The Tool:**

The study tool consists of a questionnaire developed and written by the researcher based on her experience as a member of the distance learning and televised education unit. She utilized the calendar network constructed by the unit members to encompass the three systems of distance education: the entry system, the learning system, and the exit system. Additionally, the researcher added a question regarding the preference of the instructor for video-based remote training or otherwise. There are also eleven paragraphs addressing the characteristics of the videos used in training, such as language and audio clarity, adequacy of time, image clarity, alignment of content with stated objectives, logical organization of lesson units, as well as the adequacy and clarity of explanations regarding the completion of assigned activities.

Thus, the study tool consists of two parts: Part One General data related to the study sample, including their affiliation with the faculties of Setif 2 University, academic degree, and previous training in computer skills.

Part Two: consists of 46 items formulated on a Likert scale with three levels: high, moderate, and low. These items are distributed across four domains:

1. The first domain: Technical characteristics of video content, which includes 11 items, in addition to the initial question regarding the preference for video-based remote training. This makes the total number of items in the first domain 12.
2. The second domain: Entry system skills, consisting of 11 items.

3. The third domain: Learning system skills, consisting of 16 items.
4. The fourth domain: Exit system skills, consisting of 7 items.

**Calculating the psychometric properties of a study tool:**

**Construct validity:** To assess the internal consistency reliability of the study tool, the Pearson correlation coefficient was calculated between the scores of each item in the questionnaire and the four domains of the study: pedagogical video features, access system, learning system, and output system. This is illustrated in the following table.

N° item	axis	N° item	axis	N° item	axis	N° item	axis
01	**0.54	13	**0.45	25	**0.52	37	**0.81
02	**0.54	14	**0.65	26	**0.73	38	**0.81
03	**0.38	15	**0.78	27	**0.68	39	**0.77
04	**0.54	16	**0.72	28	**0.78	40	**0.65
05	**0.58	17	**0.62	29	**0.79	41	**0.80
06	**0.51	18	**0.68	30	**0.79	42	**0.85
07	**0.62	19	**0.56	31	**0.80	43	**0.84
08	**0.64	20	**0.55	32	**0.77	44	**0.78
09	**0.48	21	**0.70	33	**0.77	45	**0.80
10	**0.65	22	**0.66	34	**0.78	46	**0.80
11	**0.51	23	**0.67	35	**0.83	"All of them have significance at a significance level of (0.01)."	
12	**0.51	24	**0.51	36	**0.81		

**Table 02: Pearson correlation coefficients between questionnaire items and the total score of the corresponding domain.**

Table (3): demonstrates Correlation coefficient of the variables with the tool.

Correlation with the Tool	Correlation coefficient	Significant at 0.01
Technical characteristics of video content	**0.51	Significant at 0.01
Entry system skills	**0.69	Significant at 0.01
Learning System skills	**0.95	Significant at 0.01
Exit System skills	**0.65	Significant at 0.01

From the previous table, it is evident that all dimensions of the study domains are statistically significant at the 0.01 level, indicating high levels of internal consistency coefficients. Moreover, it provided indicators that demonstrate the validity of internal consistency, both in terms of the correlation between paragraphs within each domain and the domain it belongs to, and the correlation of each domain with the tool, allowing for the tool's application.

**Tool Reliability:** To calculate the values of the tool reliability coefficient, the researcher applied the questionnaire to the sample, and then computed the coefficient using the method of internal consistency, specifically the Cronbach's Alpha coefficient. The results are shown in the following table:

Table (4) Illustrates the Cronbach's Alpha coefficient for measuring the reliability of the study tool:

N°	Axes	Number of items	Reliability
01	Technical characteristics of video content	12	0.78
02	Entry system skills	11	0.85
03	Learning System skills	16	0.94
04	Exit System skills	07	0.90

Tool of study	46	0.91
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Table (4) above shows that it is evident that the reliability of the tool reached 0.91, indicating that it has high reliability values, allowing for its application.

### The Findings

The researcher presents, in what follows, the analysis of the results and their implications regarding the contribution of the techno-pedagogical training using pedagogical videos in developing the skills of designing, building, and using distance learning lessons according to its three systems: the entry system, the learning system, and the exit system.

According to the estimations of teachers at Mohamed Lamine Debaghine University, the length of the cells in the Likert scale (lower and upper limits) was calculated using a range of (3-1/3). Afterwards, this value was added to the lowest value in the scale or the starting point, which is one. This determined the upper limit of this cell, and thus the length of the cells became as follows:

Scale Value	Average (Cell Length)
Low Contribution	1 to 1.66
Medium Contribution	1.67 to 2.33
High Contribution	2.34 to 3

To answer the study's questions, the arithmetic means and standard deviations of the participants' responses to the questionnaire items were calculated. The results for the first question, which is as follows:

What is the level of appreciation of the teachers for the contribution of techno-pedagogical training using pedagogical videos in designing distance learning lessons in the **field of technical characteristics** of pedagogical videos?

Table number (6) shows teachers' level of appreciation for the contribution of techno-pedagogical training using pedagogical videos in designing distance learning lessons in the field of technical characteristics of pedagogical videos, arranged in descending order.

The items are graded as follows: "Assisting the teacher in structuring the lesson by starting with presenting the objectives, resources, and activities, and ending with assessment." This is followed by understanding the language of the video to carry out the required tasks, then the item of performing activities according to the provided explanation, and the item of logically arranging the lesson content based on the video explanation

Paragraph Rank	Order in the Questionnaire	Paragraph: The technical characteristics of pedagogical video content contribute to	Mean	Standard Deviation	Appreciation Level
01	12	Assisting the teacher in structuring the lesson by starting with presenting the objectives; resources and activities, and ending with assessment.	2,80	,423	High
02	08	Understanding the language of the pedagogical video to perform the required tasks	2,78	,459	High
03	11	Engaging in activities according to the provided explanation.	2,77	,465	High
04	10	Organizing the lesson content in a logical order based on the video explanation.	2,76	,511	High
05	03	Achieving time efficiency in the learning process.	2,76	,470	High
06	09	Easy comprehension of the video content for instructional design purposes.	2,75	,455	High
07	04	Facilitating learning compared to traditional learning methods.	2,70	,483	High

08	07	Utilizing visual content to design lesson materials.	2,6 6	,53 6	High
09	05	Achieving alignment between objectives and video content.	2,5 8	,55 3	High
10	02	Creating a desire for learning.	2,4 9	,60 9	High
11	06	Capturing attention through motion and colors included in the content.	2,4 1	,65 0	High
12	01	Your preference for online learning over in-person learning.	2,1 7	,66 1	Medium
Axis 1		Contribution of the technical characteristics of pedagogical videos.	2,6 3	,52 8	High

As shown in table 6, the technical features are associated with the technical aspects of the educational video, such as language, explanation related to activity completion, image clarity, and the arrangement of video clips in coherence. By reading the results of Table 6, we find that 11 items receive a high rating with average scores ranging between 2.41 and 2.80. Additionally, the table results indicate the presence of one item that receives a moderate rating, which is the item related to "your preference for distance learning over face-to-face learning."

**Discussion :** The high rating for this aspect can be attributed to the effective consideration of technical features such as language, explanation, progression, and timing in the video designs. These considerations have greatly assisted teachers in designing, constructing, and presenting their lessons on the Moodle platform. This finding aligns with the observation made by Laduron and Rappe (2019) that well-designed videos promote better retention and comprehension through repeated viewing, facilitating moments of consolidation. Furthermore, these videos aid in the explanation of concepts, facts, and procedures, allowing learners to derive maximum benefit from the video content and focus on key information. The

learners' ability to apply the acquired knowledge is directly influenced by this usage, as it provides clarity on how to execute required actions or demonstrates the workflow for reproduction or emulation.

**The answer to the second question**, which is: What is the degree of appreciation of teachers for the contribution of techno-pedagogical training using educational videos in designing a remote lesson in the field of Entry system skills?

Table number (7): Degree of appreciation of teachers for the contribution of techno-pedagogical training in designing a lesson in the field of Entry system skills, ranked in descending order.

Paragraph Rank	Order in the Questionnaire	Paragraph: The provided explanation in the techno-pedagogical video content helped me to	Mean	Standard Deviation	Appreciation Level
01	03	How to present a lesson summary in the required format (identifying the target audience and key words).	2,82	,454	High
02	04	Structuring the lesson into units (dividing it into units and providing a heading for each unit).	2,78	,500	High
03	09	Formulating the overall objective of the lesson according to the template.	2,78	,519	High
04	06	Lesson Plan Definition	2,77	,465	High
05	05	Selecting the appropriate resource for each content (poster, webpage)	2,77	,443	High
06	02	Adjusting the lesson space settings (full title and summary)	2,76	,470	High
07	10	Formulating specific lesson objectives according to the model	2,71	,537	High
08	07	Preparing general resources on the	2,7	,53	High

		Moodle platform (video, link, PDF, Docs...)	1	7	
09	08	Creating a reference list	2,6 6	,57 2	High
10	11	Ensuring consistency between specific objectives and the overall goal	2,6 3	,56 1	High
11	01	Changing the hint to introduce oneself.	2,6 0	,61 8	High
Second Axis		Contribution of Educational Videos to Entry System Skills	2.46,	585	High

Table (07) indicates that all paragraphs were at a high degree level, which suggests that the teachers who benefited from the training highly value the contribution of educational videos to their development. The average rating for all paragraphs in this area was 2.46, and it is noteworthy that the highest-rated paragraphs were: "How to present a lesson summary in the required format (identifying the target audience and key words)." with an average of 2.82, and the paragraph "Structuring the Lesson into Units (dividing it into units, including a title for each unit)" with an average of 2.78. Additionally "Formulating the overall objective of the lesson according to the template." received an average rating of 2.78, and Lesson Plan Definition with "Selecting the appropriate resource for each content (poster, page)" had an average rating of 2.77. The lesson space is divided into content activated by the teacher for students who are registered on the platform in groups, and the lesson can be organized thematically or weekly.

**Discussion:** The organization of lesson resources and assignments, as well as their efficient management, is a crucial point for the comfortable use of the lesson on the platform. Swift correction allows for adapting the lesson with the aim of improving it and modifying the teaching and its objectives through a critical review of its elements. This enables a dynamic view of the differences between observations

and desired goals, and through this, the teacher can make choices to temporarily modify the lesson structure or organize sections of the included concepts. One notable feature of the platform is the ability to interact synchronously and asynchronously with each student, taking into account their individual characteristics without compromising the principle of collaborative learning.

**The answer to the third question**, which is What is the level of appreciation by teachers for the contribution of techno-pedagogical training using educational videos in designing a distance learning lesson in the field of learning systems?

Table number (08): The degree of contribution of techno-pedagogical training in designing a distance learning lesson according to its three systems, based on the assessments of teachers at Mohamed Lamine Debaghine University in the field of **learning system skills**, ranked in descending order

Paragraph Rank	Order in the Questionnaire	Paragraph: The provided explanation in the techno-pedagogical video content helped me to	Mean	Standard Deviation	Appreciation Level
01	05	Insertion of secondary resources	2,60	,633	High
02	03	Insertion of core resources for each instructional unit	2,59	,650	High
03	06	Inclusion of hands-on activity for each instructional unit	2,52	,671	High
04	04	Utilization of visual aids (videos, images, tables).	2,50	,671	High
05	01	Formulation of behavioral objectives according to the model	2,49	,656	High
06	09	Diversification of objective tests	2,48	,671	High

		(true/false, multiple-choice, fill in the blanks, matching).			
07	07	Selecting the assessment activity as a hands-on activity	2,46	,670	High
08	02	Choosing the assessment activity as a hands-on activity.	2,46	,685	High
09	15	Respecting the coherence between specific objectives and the overall objective.	2,39	,760	High
10	08	Considering the alignment between the overall activities and the specific objectives.	2,39	,692	High
11	13	Description of the hands-on activity.	2,37	,716	High
12	12	Including a comprehensive activity for each instructional unit.	2,34	,738	High
13	11	Constructing the assessment task as a comprehensive activity in each instructional unit.	2,32	,733	Med ium
14	10	Ensuring coherence between the hands-on activities and the behavioral objectives.	2,31	,689	Med ium
15	16	Providing feedback specific to the hands-on activities.	2,22	,740	Med ium
16	14	Description of the assessment task.	2,19	,754	Med ium
The third axis		Contribution of video in developing learning system skills	2.41	0.69 6	High

It is noted that the arithmetic means for the learning system axis range between (2.19 - 2.60), and the standard deviations range between (0.74 - 0.63).

Table (08) indicates that the paragraphs related to the learning system received (12) items with a high level of score and (04) items with a moderate level of score. It is observed that the highest score was obtained by the item "Insertion of secondary resources" with an average of (2.60), followed by "Insertion of core resources for each instructional unit" with an average of (2.59), and " Utilization of visual aids (videos, images, tables)." with an average of (2.50).

As for the items that received a moderate score, " Constructing the assessment task as a comprehensive activity in each instructional unit." had an average score of (2,32). The paragraphs " Ensuring coherence between the hands-on activities and the behavioral objectives," Providing feedback specific to the hands-on activities. "Description of the assessment task. also obtained moderate scores

**Discuss:** The items that were assessed with a moderate score are related to the domain of formative assessment. Since the teachers have different specializations and varying knowledge in assessment, some of them may not have received training in the field of assessment. The items "Providing feedback specific to the comprehensive activities" can be interpreted as resulting from pedagogical difficulties. Feedback is an integral part of assessment, and the learning system requires teachers to have a solid pedagogical foundation in assessment and monitoring. Overall, it appears that teachers have a significant lack of knowledge and resources in this area, and a five-session video may not be sufficient to address these challenges comprehensively.

The learning system requires teachers to be experts in selecting resources and activities for remote teaching, as the goal of distance learning is to facilitate and enhance the learning process, whether individually, collectively, or institutionally. Instead, it is the interactions that occur between platform users that ultimately determine the outcome of learning.. Pedagogy takes precedence over technology. Through distance training and online learning, adult learners are empowered to take responsibility for certain aspects of

their learning, such as organizing study time, setting their work pace, and participating in activities, which are forms of demonstrating their independence.

**The answer to the forth question:** What is the level of appreciation by teachers for the contribution of techno-pedagogical training using instructional videos in designing remote lessons in the field of **the exit system skills**?

Table (09) demonstrates Level of contribution of techno-pedagogical training using instructional videos in designing remote lessons according to the assessments of professors at Mohammed Lamine Debaghine University in the field of the exit system skills, ranked in descending order.

Paragraph Rank	Order in the Questionnaire	Paragraph: The provided explanation in the techno-pedagogical video content helped me to	Mean	Standard Deviation	Appreciation Level
01	07	Providing appropriate feedback for student performance	1,99	,790	Medium
02	06	Building a challenging and puzzling integrative situation	1,81	,805	Medium
03	04	Constructing a complex integrative situation	1,77	,819	Medium
04	01	Designing an integrative situation for measuring the overall objective	1,75	,801	Medium
05	03	Designing a new integrative situation	1,75	,829	Medium
06	05	Designing a student-centric integrative situation	1,74	,820	Medium
07	02	Including the components of an integrative situation: support,	1,74	,820	Medium

		context, instruction, task.			
Forth axis		Contributing to the skills of the output system through video.	1.79	,811	Medium

The results, as table 09 shows, varied regarding the output system, where the highest mean score was found to be (1.99) for the first item, "Providing appropriate feedback for student performance." All items in the axis received a moderate score, with the mean ranging from (1.74 to 1.99). The seven items of the exit system were associated with how to prepare an integrative situation for assessing the overall objective.

**Discussion** : The teachers' estimation of the contribution of instructional videos to the construction of the output situation is moderate. This can be attributed to the fact that constructing the situation is associated with the teacher providing its basic conditions: complexity, meaning, contextualization, and incorporating its components, all of which are linked to the overall objective that defines the student's performance after studying the curriculum. Building the situation, while considering its conditions, requires the teacher to be in control of a didactic toolkit that is connected to both goal-oriented teaching and competency-based teaching approaches. The explanations provided in the instructional videos about the integrative situation were not sufficient because changing the traditional assessment practices that teachers are accustomed to cannot be achieved by simply watching the video content. It requires a prior transformation in mindset, and this transformation takes sufficient time to gain control over assessment practices with a renewed perspective that aligns with the requirements of remote education. This is achieved by practicing assessment in its new form, which becomes a procedural process rooted in institutional and contextualized training.

**The answer to the fifth question**, which states: "Are there any significant differences among teachers in their estimation of the

contribution of techno-pedagogical training using videos in designing remote lessons attributed to the **college affiliation** variable?"

The researcher applied One Way ANOVA analysis using the statistical package SPSS, and the results are presented in the table as follows

Source of variation	total sum of squares	dfG	mean squares	F-value	The significance
the sum of squares between groups SSG	429,133	2	214,566	1,563	,215
the sum of squares within groups W	13594,514	99	137,318		
total	14023,647	101			

The table reveals that there are no statistically significant differences, at a significance level of 0.05, in the estimations provided by the sampled individuals regarding the impact of educational videos on distance learning based on their college affiliation. Regardless of their affiliation with different colleges, the responses of the participants did not vary significantly when assessing the role of educational videos in distance learning. The calculated F-value was 1.563, with a degree of freedom of 2, at a significance level of 0.215. This indicates that the teachers unanimously recognized the importance of distance learning through the use of educational videos and acknowledged their pedagogical value in education.

**Discussion** The absence of statistically significant differences can be attributed to the consistent experience of using educational videos among the teachers at Mohammed Amin Debaghine University and their overall acceptance of this teaching method. The successful delivery of lessons remotely and the demonstrated efficiency in video design, construction, and utilization served as crucial criteria for the promotion of novice teachers and the advancement of others to higher

ranks. It is worth noting that the clarity of the video content was evident to all participants, regardless of their respective college affiliations.

**The answer to the sixth question**, which states: Are there any significant differences among teachers in their assessment of the contribution of techno-pedagogical training using video in designing remote lessons attributed to the variable of **academic degree**?

The researcher applied One-Way ANOVA analysis using the statistical package SPSS, and the results are shown in the table.

Source of variation	total sum of squares	df G	mean squares	F-value	The significance
the sum of squares between groups SSG	178,820	2	89,410	,639	0.53
the sum of squares within groups SSW	13844,827	9	139,847		
Total	14023,647	10			

The table indicates that there are no statistically significant differences at the significance level ( $\alpha = 0.05$ ) among the sample participants' estimations of the contribution of pedagogical videos in remote education attributed to their academic degrees in their five categories (Professor, Lecturer A or B, Assistant A or B).

It is observed that despite the variations in their academic degrees, the sample participants' estimations of the role of pedagogical videos in remote education did not differ. This is evident as the computed F-value (0.639) at the significance level (0.53) with 2 degrees of freedom.

**Discussion:** the results suggest that the teachers agreed on the importance of remote education through the use of pedagogical videos, as the pedagogical applications of these videos in education are significant.

Despite the difference in academic degree among the study sample, no differences were observed between them. This can be attributed to the good training that the professors received

- By utilizing the resources and activities provided on the platform,
- by effectively incorporating video content in distance education, and
- recognizing the importance of transitioning to digital education instead of face-to-face instruction.

This is due to the current requirements of practical life in the university, which are based on optimal utilization of technology since it saves a lot of time and falls under the umbrella of digital transformation. Presenting lessons in a different scientific manner using videos, images, or websites helps solidify the concept.

In conclusion, the ability of a teacher to use video and convey information is more associated with their diverse material, intellectual, and technological capabilities rather than the difference in their academic degree.

Finally, the importance of professional training for university teachers through educational videos is now establishing a consensus at the institutional, scientific, and pedagogical levels. This is because video constitutes a type of observation that contributes to the professional development of teachers. Future research should aim to provide information on how and to what extent educational videos could contribute to the professionalization of teachers, in order to establish a true "culture of observation" necessary for teachers to improve their professional practices through observation and evaluation throughout their careers.

**The answer to the seventh question,** which states:

"Are there any significant differences among teachers in their estimation of the contribution of techno-pedagogical training using

video in designing remote lessons attributed to prior training in computer science?"

A t-test was used to identify teachers' estimations of the contribution of educational videos in distance learning.

Table 14 illustrates the results of the t-test for the effect of prior pedagogical training on the contribution of educational videos in remote education.

Training in computer science	N	Mean	SD	t-value	Significance Level
Pre-employment training in computer science	41	88.66	88.66	1.70	0.099
Not trained before employment in computer science	61	79.56	79.56		

From Table (14), it is evident that there is no statistically significant difference, at a significance level of 0.05 ( $\alpha$ ), in the estimations of the study's sample teachers regarding the contribution of educational videos in remote education attributed to prior pedagogical training before employment.

Analyzing the variation in the estimations of the sample individuals regarding the role of educational videos in remote education, it can be observed that their responses did not differ significantly, regardless of their training in computer science or employment status. The t-value was calculated as 1.70 at a significance level of 0.09. The sample included 41 teachers with prior training before employment, while 61 teachers did not receive training in computer science before employment.

The interpretation of this result is that both categories of teachers, those who had prior experience in computer science and those who did not, were exposed to the same new experience. This new experience involved designing, building, and utilizing remote

lessons. This program has its own unique characteristics, and both trained and untrained teachers had not previously engaged in this type of performance. Therefore, this experiment is novel for all of them.

The use of videos has become an essential aspect, particularly in the practical implementation of lessons. Videos aid in maintaining focus, providing detailed explanations, and controlling the pace of presentation. They also contribute to enhanced learning. Consequently, there are no discernible differences between the two groups because this specific lesson format is new for all of them. It's important to note that the pedagogical training they had received prior to this experiment was primarily conducted in person.

Pedagogical training allows teachers to develop and refine their teaching skills in a structured and reflective manner, enabling them to effectively achieve their intended goals. The lack of differences in evaluations between teachers who have undergone pedagogical training and those who haven't can be attributed to the specific nature of the training, which focuses on distance learning. This type of training encompasses new techno-pedagogical elements that require teachers to possess expertise in designing lessons, including the selection of appropriate resources and activities that align with the objectives. Additionally, they need to demonstrate proficiency in implementing and utilizing online platforms with their students.

These performance aspects were unfamiliar to the teachers prior to the training, making the training they receive, along with the video content, their only opportunity to acquire these skills. This explains why there are no noticeable differences between the two groups.

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