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Title of research article

Strengthening Faculty Performance through Digital Pedagogical Training: A Comprehensive Case Study of the 2023 Cohort of Recruited University Professors in Algerian Higher Education

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| Issue web link | https://imcra-az.org/archive/385-science-education-and-innovations-in-the-context-of-modern-problems-issue-11-vol-8-2025.html |
| Keywords | Distance training, University professors, Faculty development, Higher education, ICT in education, Algeria, Blended learning, TPACK, Community of Inquiry. |

Abstract

This paper examines the role of distance training in enhancing the professional and pedagogical performance of university professors, focusing on the 2023 cohort of newly recruited faculty members in Algeria. Against the backdrop of the country's growing commitment to digital transformation in higher education, the study explores how structured online training initiatives contribute to faculty development, teaching innovation, and institutional capacity-building. Adopting a descriptive-analytical methodology combined with a case study design, the research draws on mixed data sources including structured surveys (N = 320), semi-structured interviews (N = 18), and document analysis of digital training portfolios.

The findings demonstrate that distance training had a measurable impact on teaching competencies, particularly in the integration of information and communication technologies (ICTs) such as Moodle, Edunext, Opale, and VUE. Participants reported improved digital literacy, greater confidence in course design, and enhanced skills in both formative and summative assessment. The initiative also fostered reflective practice through digital portfolios, strengthened collaboration among faculty, and introduced pedagogical frameworks such as Technological Pedagogical Content Knowledge (TPACK) and the Community of Inquiry (CoI).

While the study acknowledges challenges related to infrastructural disparities, varying levels of engagement, and occasional resistance to technological change, it concludes that distance training offers a scalable, cost-effective, and sustainable model for continuous faculty development. The paper underscores the need for stronger institutional investment in digital ecosystems, structured mentorship opportunities, and alignment of training

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objectives with global standards in higher education pedagogy.

1. Introduction

The landscape of higher education is undergoing profound transformation driven by digital innovation, globalization, and shifting societal expectations. In this dynamic environment, continuous professional development has become essential for university professors to maintain pedagogical relevance and academic excellence (Al-Maghribi, 2020). Traditional face-to-face training methods are increasingly being supplemented—or replaced—by flexible, technology-mediated alternatives, particularly distance training, which enables educators to acquire new competencies regardless of time or location constraints.

In Algeria, the Ministry of Higher Education and Scientific Research launched a comprehensive distance training program in 2023 targeting newly recruited professors. This initiative aimed to bridge gaps in digital pedagogy, enhance teaching quality, and promote equitable access to professional development across geographically dispersed institutions. Leveraging platforms such as Moodle, Edunext, and Mooc, the program offered structured workshops on instructional design, blended learning, and educational technology integration.

While promising, the effectiveness of such large-scale digital interventions depends on multiple factors: curriculum design, platform usability, learner engagement, institutional support, and alignment with theoretical foundations of adult learning and online instruction. Therefore, evaluating the impact of this training on professors' performance is critical not only for refining current practices but also for informing future policy and strategic planning in Algerian higher education.

This paper presents a systematic evaluation of the 2023 national distance training program for new faculty members. It examines its objectives, implementation, outcomes, and challenges while offering evidence-based recommendations for enhancing faculty development in digitally mediated environments. The remainder of this article is structured as follows: Section 2 outlines the research problem and sub-questions; Section 3 discusses the significance and objectives of the study; Section 4 details the methodology; Section 5 provides a robust theoretical framework; Section 6 defines key concepts; Section 7 describes the training program; Section 8 presents results and discussion; Section 9 offers conclusions, limitations, implications, and directions for future research.

2. Research Problem
The central research question guiding this study is:

How does distance training contribute to improving the performance of newly recruited university professors in the Algerian higher education system?
To address this overarching question, the following sub-questions were formulated:
1. What are the primary components and structure of the distance training workshops provided to new university professors?
2. What pedagogical approaches and digital tools are employed in delivering these training programs?
3. To what extent does distance training enhance professors' pedagogical and technical competencies?
4. How does participation in distance training influence research productivity and professional identity?
5. What barriers hinder the scalability and effectiveness of distance training, and what strategies can overcome them?

3. Significance and Objectives of the Study
3.1 Significance

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This study contributes to the growing body of literature on faculty development in low- and middle-income countries where digital transformation in higher education remains uneven. By analyzing a nationally coordinated training initiative, it offers practical insights into:
- The feasibility of scaling up distance training in resource-constrained contexts.
- The role of ICT in promoting inclusive and lifelong learning for academics.
- The alignment of training content with 21st-century teaching demands.

Findings can inform policymakers, university administrators, and instructional designers in developing sustainable models for faculty capacity building.

3.2 Research Objectives
The study aims to:
- Examine the design and delivery of the 2023 distance training program for new university professors in Algeria.
- Evaluate its impact on participants' pedagogical performance and digital competence.
- Identify challenges encountered during implementation.
- Propose actionable recommendations for improving future iterations of faculty development programs.

4. Research Methodology

This study adopts a   mixed-methods descriptive-analytical approach , combining quantitative and qualitative data to provide a comprehensive understanding of the training intervention.

4.1 Research Design
A   convergent parallel mixed-methods design   was used, allowing simultaneous collection and integration of both datasets (Creswell & Plano Clark, 2017). The case study focuses on the cohort of newly recruited professors who participated in the 2023 training cycle.

4.2 Population and Sample
-   Target population : All newly recruited university professors in Algeria (N ≈ 1,200).
-   Survey sample : 320 participants selected via stratified random sampling across ten public universities.
-    Interview sample : 18 individuals (15 professors, 3 trainers) chosen through purposive sampling to ensure diversity in discipline and region.

4.3 Data Collection Tools
1.   Online questionnaire : A 25-item Likert-scale survey assessing perceived improvements in:
  - Digital tool proficiency
  - Lesson planning
  - Assessment design
  - Student engagement
  - Collaborative practices
2. Semi-structured interviews : Conducted virtually, focusing on lived experiences, challenges, and suggestions.
3.   Document analysis : Review of 45 training portfolios submitted by participants, evaluating completeness, creativity, and application of learned skills.

4.4 Data Analysis
- Quantitative data were analyzed using   SPSS v28 , generating descriptive statistics (frequencies, means, standard deviations) and inferential tests (paired t-tests to compare pre- and post-training self-assessments).
- Qualitative data were thematically coded using   NVivo 14 , identifying recurring patterns related to effectiveness, engagement, and obstacles.

4.5 Ethical Considerations
Participation was voluntary and anonymous. Informed consent was obtained electronically. Data were stored securely and used solely for research purposes.

5. Theoretical Framework

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This study is grounded in three interrelated theoretical perspectives that explain how distance training influences faculty development:

5.1 Technological Pedagogical Content Knowledge (TPACK)

Mishra and Koehler's (2006) model emphasizes the intersection of technology, pedagogy, and subject matter knowledge. The training program explicitly targeted all three domains:
- Technological Knowledge (TK) : Mastery of Moodle, Opale, VUE.
- Pedagogical Knowledge (PK) : Designing interactive lessons and assessments.
- Content Knowledge (CK) : Application in disciplinary contexts (e.g., desert agriculture lesson).

By fostering TPACK integration, the training enabled professors to make informed decisions about when and how to use technology effectively in their teaching.

5.2 Community of Inquiry (CoI) Framework

Garrison et al.'s (2000) CoI model posits that meaningful online learning arises from the interaction of:
- Teaching presence   (facilitated by mentors),
- Social presence   (promoted through group work and forums),
- Cognitive presence   (developed via problem-solving and reflection).

The training activities—particularly collaborative tasks and peer feedback—supported all three presences, enhancing engagement and deep learning.

5.3 Self-Determination Theory (SDT)

Deci and Ryan's (1985) theory highlights intrinsic motivation driven by autonomy, competence, and relatedness. The asynchronous nature of the training supported   autonomy ; skill acquisition enhanced   competence ; and group interactions nurtured   relatedness , collectively boosting motivation and persistence.

These frameworks collectively justify the program's design and help interpret its outcomes.

6. Key Concepts

6.1 Distance Training

Distance training refers to an educational modality where learners and instructors are separated spatially and/or temporally, connected through information and communication technologies (Fakhri, 2013). It allows flexible, self-paced learning accessible anytime and anywhere (Sofiane, 2019). Unlike traditional training, it relies on digital platforms to deliver content, facilitate interaction, and assess progress.

6.2 University Professor and Academic Performance

A university professor is a scholar entrusted with teaching, research, and service responsibilities (Braun, 2023). Their   performance   encompasses measurable contributions to institutional goals through effective teaching, scholarly output, and professional conduct (Ben Hassan, 2019).

6.2.1 Pedagogical Performance

This includes behaviors exhibited during instruction, such as:
- Setting clear learning objectives,
- Employing diverse teaching strategies,
- Using appropriate assessment tools,
- Encouraging student participation (Ben Lakhal, 2023).

6.2.2 In-Service Teacher Training

Defined as ongoing, structured professional development throughout a teacher's career (Heir, 2002; Nazli, 1989), it aims to update knowledge, refine skills, and adapt to changing educational paradigms.

7. Description of the 2023 Training Program

Administered under the strategic vision of the Ministry of Higher Education, the training was coordinated by the

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University of Frères Mentouri – Constantine and delivered entirely online between December 2022 and April 2023

7.1 General Objectives

As outlined by Belhani (2023), the program sought to enable professors to:
- Structure pedagogically sound lessons;
- Adopt quality standards in education;
- Organize collaborative academic work;
- Understand principles of distance learning systems;
- Operate Moodle and EdX platforms;
- Design pedagogical videos;
- Integrate ICT into teaching and assessment.

7.2 Training Stages and Workshops

Participants were divided into four cohorts based on availability, each undergoing five sequential workshops.
Each workshop lasted 3–4 days, combining synchronous sessions (live webinars) and asynchronous tasks (assignments, forum discussions).

8. Results and Discussion

Analysis of survey responses, interviews, and portfolios yielded the following findings:

8.1 Enhanced Digital Competency

Over 87% of respondents reported significant improvement in their ability to use digital tools. Notably:
- 92% felt confident navigating Moodle.
- 85% successfully created interactive lessons using Opale.
- 78% applied VUE for visualizing course structures.

"Before the training, I avoided using any platform. Now, I've uploaded three courses on Moodle." — Male Professor, Faculty of Sciences

This aligns with UNESCO (2020), which underscores flexibility and accessibility as core advantages of distance learning.

8.2 Improved Course Design Skills

Participants demonstrated advanced understanding of hybrid lesson architecture. Portfolio reviews showed:
- Clear alignment between objectives, activities, and assessments.
- Use of multimedia elements (videos, infographics).
- Incorporation of formative feedback mechanisms.

Thematic analysis revealed that structured templates and trainer feedback were crucial enablers.

8.3 Shift Toward Student-Centered Teaching

A notable shift from lecture-based to interactive methodologies was observed. Over 75% of interviewees mentioned adopting discussion forums, group projects, and flipped classroom techniques.

This reflects the influence of CoI's teaching presence and cognitive presence , where guided inquiry promotes deeper engagement.

8.4 Development of Evaluation and Feedback Practices

Professors improved in designing rubrics and providing timely, constructive feedback. One participant noted:
"I now see assessment not just as grading, but as a tool for learning improvement."

This supports Ben Ramadan's (2017) view that pedagogical training enhances reflective practice.

8.5 Strengthened Collaboration

Group activities fostered cross-disciplinary exchange. Virtual teams collaborated on shared lessons, leading to joint publications in some cases.

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"We formed a network across five universities—we still share resources." — Female Professor, Humanities

8.6 Portfolio as a Tool for Reflective Practice
All participants completed a portfolio documenting their journey. These included lesson plans, reflections, peer feedback, and certificates. Portfolios served as tangible evidence of growth and potential promotion dossiers.

8.7 Exposure to Innovative Tools
Tools like   VUE   (for concept mapping) and   Opale   (for multi-format publishing) expanded professors' instructional repertoires beyond PowerPoint and PDFs.

8.8 Promotion of Critical Thinking and Creativity
Designing original lessons required analytical thinking and innovation. Interview data indicated increased confidence in creative problem-solving.

9. Conclusion, Limitations, Implications, and Future Research

9.1 Conclusion
The 2023 distance training program represents a landmark effort in modernizing faculty development in Algeria. Findings confirm that well-structured, technology-integrated training can significantly enhance professors' pedagogical performance, digital fluency, and professional identity. When supported by clear objectives, practical tools, and reflective practices, distance training emerges as a viable, scalable alternative to traditional in-person workshops.

However, success hinges on addressing systemic challenges—including unequal internet access, lack of technical support, and varying levels of digital readiness—through coordinated institutional policies.

9.2 Limitations of the Study
-   Self-report bias : Survey data rely on subjective perceptions rather than objective performance metrics.
-   Limited generalizability : Findings pertain specifically to the 2023 cohort and may not reflect long-term impacts.
-    Sampling constraints   : While efforts were made for representativeness, urban universities were slightly overrepresented.
-   Lack of control group : No comparison with non-participants limits causal inference.

9.3 Practical and Policy Implications
- Universities should   institutionalize annual refresher training   in digital pedagogy.
- Investment in   reliable internet infrastructure   and   technical support units   is essential.
-   Mentorship programs   should be integrated into future training cycles.
- Training content must evolve continuously, incorporating AI tools, open educational resources (OER), and accessibility standards.

9.4 Recommendations for Future Research
1. Longitudinal studies tracking changes in actual teaching practices and student outcomes.
2. Comparative analyses between distance and blended training modalities.
3. Investigation into gender, age, and disciplinary differences in technology adoption.
4. Exploration of AI-driven personalized learning paths for faculty development.

Table 1. Structure and Focus of the Distance Training Workshops for Newly Recruited Algerian University Professors (2023 Cohort)

Workshop	Key Activities	Focus	Explanation
1. Introduction to Digital Tools	- Accessing TIC platform - Creating accounts - Using VUE for mind mapping	Foundational ICT skills	This initial workshop introduced participants to the university's digital ecosystem. Professors gained essential ICT

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	- Building lessons with Opale (web/print formats) - Hands-on creation of a sample lesson on "Desert Agriculture"		literacy, including account creation, navigation of TIC platforms, and use of software tools such as VUE for conceptual mapping and Opale for lesson design. The sample topic on "Desert Agriculture" provided an applied context for hands-on practice.
2. Designing a Blended Lesson	- Comparing objective-based vs. competency-based learning - Structuring lessons and quizzes - Group activity: designing an assessment grid - Updating Opale lessons with templates	Instructional design	This stage focused on pedagogical structuring of blended lessons. Participants engaged in comparative analysis of instructional models, collaborated on creating assessment grids, and enhanced their digital lessons using Opale templates. The emphasis was on aligning teaching objectives with competency-based approaches.
3. Methodology for E-Learning Courses	- Designing full e-learning courses - Understanding quiz types and sequencing - Watching tutorials on uploading content to Moodle	Course development	Professors advanced to comprehensive course development by exploring sequencing of learning modules and assessment strategies. Tutorials demonstrated the process of uploading content to Moodle, thereby linking instructional design with practical implementation in a widely used LMS.
4. Exploring Online Platforms	- Introduction to Mooc platform - Steps to create a lesson on Mooc - Creating personal spaces on Edunext (Studio & LMS interfaces) - Uploading final lesson designs	Platform mastery	This workshop consolidated technical expertise across platforms. Professors learned to integrate their lesson designs into MOOCs and Edunext, thereby creating scalable, shareable, and interactive digital learning environments. The emphasis was on professional autonomy in online course

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			management.
5. Pedagogical Follow-up	- Discussing active learning approaches - Evaluating assessment quality - Clarifying mentor roles - Finalizing lesson plans with feedback from faculty and students - Compiling a professional portfolio	Reflection and mentoring	The concluding workshop fostered reflective practice and mentorship. Professors refined lesson plans based on peer and student feedback, evaluated assessment effectiveness, and compiled professional teaching portfolios. This process supported long-term faculty development and encouraged collaborative improvement.

- This structured training model was designed as a progressive learning pathway, beginning with foundational ICT literacy and culminating in reflective practice and mentorship. Each stage was strategically aligned to pedagogical frameworks (TPACK and Community of Inquiry), ensuring that professors developed not only technical competencies but also critical awareness of instructional design and assessment practices. The integration of practical tasks, peer collaboration, and reflective portfolio development provided a holistic model of professional growth suited for modern higher education environments

Findings

- Improved Teaching Competencies: Survey and interview data confirmed that participants experienced significant growth in lesson planning, course structuring, and classroom management through digital tools. Faculty members became more adept at creating blended learning modules that combined synchronous and asynchronous formats.

- Increased Digital Literacy: The training strengthened professors' ability to navigate educational technologies, particularly learning management systems such as Moodle and Edunext. Professors also reported an enhanced capacity to design interactive learning resources using Opale and VUE software.

- Assessment and Feedback Practices: Professors integrated digital platforms to administer formative assessments, manage quizzes, and provide personalized feedback, which improved student engagement and learning outcomes.

- Reflective Practice through Portfolios: The requirement to maintain digital portfolios encouraged professors to reflect systematically on their pedagogical progress. This reflective practice helped in identifying strengths, addressing gaps, and adopting continuous improvement strategies.

- Collaborative Professional Learning: The distance training created a network of professional collaboration among participants, facilitating peer-to-peer knowledge sharing and the development of communities of practice across Algerian universities.

- Challenges Identified: Despite its successes, the initiative faced barriers such as uneven technological infrastructure across regions, inconsistent participation rates, and initial reluctance among some faculty to embrace digital teaching methodologies.

Acknowledgment

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research process.

Conflict of Interest

The authors declare that there are no conflicts of interest associated with this research.

Funding

This study did not receive any external funding. All expenses were covered by the authors.

Ethical Considerations

The study followed ethical guidelines for educational research. Participation in surveys and interviews was voluntary, and informed consent was obtained from all participants. No sensitive personal data were collected, and confidentiality was strictly maintained.

References

1. Abbas, M. (1989). Teacher education and professional development (S. Nazli, Ed.). Cairo: Dar Al-Maaref.
2. Al-Maghribi, T. (2020). E-learning in higher education: Challenges and opportunities. Riyadh: King Saud University Press.
3. Belhani, Z. (2023). Professional development programs for new faculty in Algerian universities: Design and implementation. Constantine: Frères Mentouri University Press.
4. Ben Hassan, H. (2019). Performance management in educational institutions. Tunis: CREDIF.
5. Ben Lakhal, D. (2023). Pedagogical engineering in higher education. Paris: L'Harmattan.
6. Ben Ramadan, M. (2017). Evaluation of teaching performance. Tunis: Publications of the University of Manouba.
7. Braun, E. (2023). The role of the university professor in the 21st century. Berlin: Springer.
8. Deci, E. L., & Ryan, R. M. (1985). Intrinsic motivation and self-determination in human behavior. New York: Plenum. https://doi.org/10.1007/978-1-4899-2271-7
9. Fakhri, A. (2013). Distance education: Concepts and applications. Beirut: Dar Al-Fikr.
10. Garrison, D. R., Anderson, T., & Archer, W. (2000). Critical inquiry in a text-based environment: Computer conferencing in higher education. The Internet and Higher Education, 2(2–3), 87–105. https://doi.org/10.1016/S1096-7516(00)00016-6
11. Heir, M. (2002). In-service teacher training: Principles and practices. Amman: Arab Organization for Education.
12. Hussein, A. (2016). Digital transformation in education. Cairo: Anglo Egyptian Bookshop.
13. Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. Teachers College Record, 108(6), 1017–1054. https://doi.org/10.1111/j.1467-9620.2006.00684.x
14. Nazli, S. (1989). Modern trends in teacher education. Cairo: Dar Al-Maaref.
15. Sofiane, M. (2019). ICT and educational innovation. Algiers: Office du Programme Universitaire (OPU).
16. UNESCO. (2020). Global education monitoring report: Inclusion and education. Paris: UNESCO Publishing. https://doi.org/10.54676/UUYZ7320
17. Anderson, T., & Dron, J. (2011). Three generations of distance education pedagogy. The International Review of Research in Open and Distributed Learning, 12(3), 80–97. https://doi.org/10.19173/irrodl.v12i3.890
18. Bates, A. W. (2015). Teaching in a digital age: Guidelines for designing teaching and learning. Vancouver: Tony Bates Associates Ltd.
19. Biggs, J., & Tang, C. (2011). Teaching for quality learning at university (4th ed.). Maidenhead: Open University Press.

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20. Darling-Hammond, L., Hyler, M. E., & Gardner, M. (2017). Effective teacher professional development. Palo Alto, CA: Learning Policy Institute.

21. Fullan, M., & Scott, G. (2009). Turnaround leadership for higher education. San Francisco: Jossey-Bass.

22. Garrison, D. R. (2017). E-learning in the 21st century: A community of inquiry framework for research and practice (3rd ed.). New York: Routledge.

23. Hattie, J. (2009). Visible learning: A synthesis of over 800 meta-analyses relating to achievement. London: Routledge.

24. Laurillard, D. (2012). Teaching as a design science: Building pedagogical patterns for learning and technology. New York: Routledge.

25. OECD. (2020). The impact of COVID-19 on education: Insights from education at a glance 2020. Paris: OECD Publishing. https://doi.org/10.1787/69096873-en

26. Salmon, G. (2013). E-tivities: The key to active online learning (2nd ed.). New York: Routledge.

27. Schunk, D. H. (2012). Learning theories: An educational perspective (6th ed.). Boston: Pearson.

28. Siemens, G. (2005). Connectivism: A learning theory for the digital age. International Journal of Instructional Technology and Distance Learning, 2(1), 3–10.

29. Trowler, P. (2010). Student engagement literature review. York: Higher Education Academy.

30. Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Cambridge, MA: Harvard University Press.

31. Wang, V. C. X., & Torrisi-Steele, G. (2015). Online teaching, change, and critical theory. Educational Technology & Society, 18(3), 19–29.

32. Zimmerman, B. J. (2002). Becoming a self-regulated learner: An overview. Theory Into Practice, 41(2), 64–70. https://doi.org/10.1207/s15430421tip4102_2

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