SAS Journal of Surgery
Abbreviated Key Title: SAS J Surg
ISSN 2454-5104
Journal homepage: https://www.saspublishers.com

OPEN ACCESS

Surgery

The Contribution of Educational Videos in the Training of Residents in Plastic and Aesthetic Surgery in Morocco: A Cross-Sectional Study and Perspectives

Doctor L. Idelkheir[1*], Doctor M. Marzak[1], Doctor Z. Alami[1], Doctor Y. Lamaalla[1], Assisatnt Professor S. Boukind[1], Professor Ok. Elatiqi[1], Professor Md. Elamrani[1], Professor Y. Benchamkha[1]

[1]Department of Reconstructive and Aesthetic Surgery of Marrakech, Morocco

DOI: https://doi.org/10.36347/sasjs.2025.v11i05.002 | **Received:** 09.03.2025 | **Accepted:** 15.04.2025 | **Published:** 02.05.2025

***Corresponding author:** Dr. L. Idelkheir
Department of Reconstructive and Aesthetic Surgery of Marrakech, Morocco

Abstract **Original Research Article**

The training of medical residents in plastic and aesthetic surgery requires both a solid theoretical foundation and mastered practical skills. Although traditional methods are fundamental, they show their limits in a context where the complexity of surgical procedures demands more visual and interactive tools. This article presents the results of a cross-sectional study conducted in Morocco to assess the use, impact, and satisfaction with educational videos in surgery among residents and qualified surgeons. The results show a growing adoption of these tools, although they are still insufficiently integrated into official training curricula.

Keywords: Educational videos, Plastic Surgery, Technology, surgical training.

Copyright © 2025 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution **4.0 International License (CC BY-NC 4.0)** which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

Surgical training has historically been based on progressive learning through observation, reading, and supervised practice. However, with the rapid evolution of technology and the increasing complexity of procedures, teaching tools need to evolve as well. In plastic and aesthetic surgery, where the procedure is precise, reproducible, and often aesthetic, educational videos represent a significant pedagogical asset.

Several studies have shown that these videos can enhance the understanding of surgical steps, strengthen memory retention, and optimize preparation for interventions. This article explores the perceptions, practices, and perspectives on the use of educational videos among Moroccan residents and young surgeons.

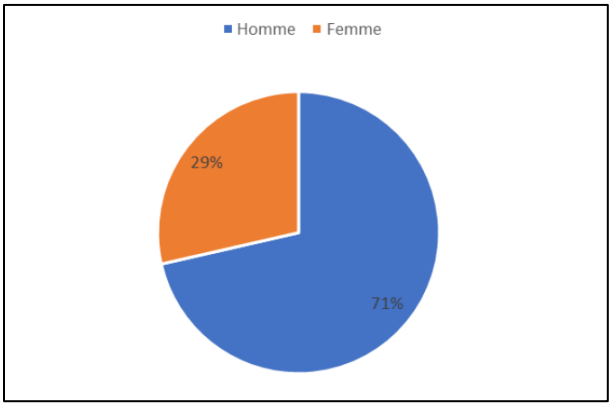
METHODOLOGY

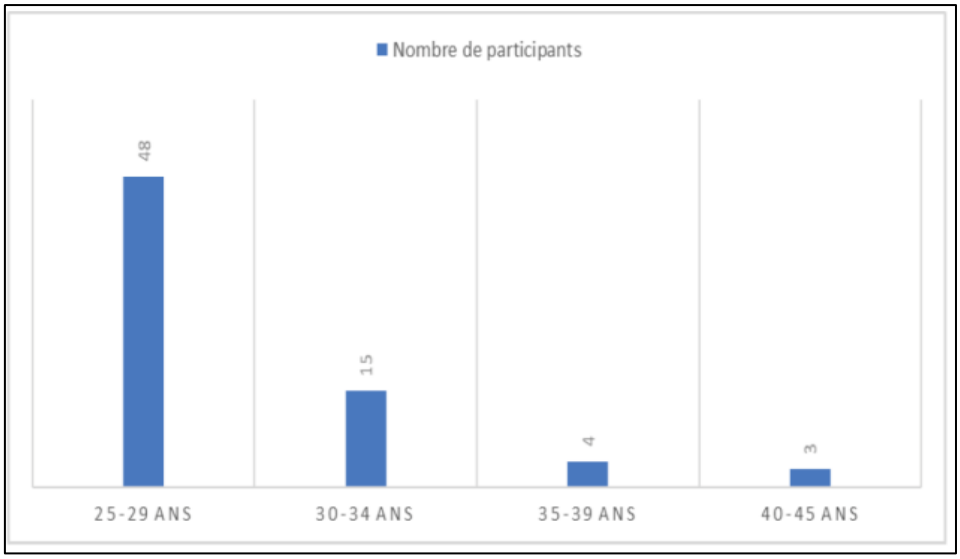
A cross-sectional study was conducted between September 2023 and May 2024 across Morocco. A structured questionnaire, comprising 33 questions (29 closed and 4 open-ended), was distributed to both graduated surgeons and those in training.

The Five Areas Explored:

1. General data
2. General medicine and surgery training path
3. Use of educational videos
4. Impact on overall training
5. General impressions

Study Population:70 participants (average age: 28 years; male: 71%).





RESULTS

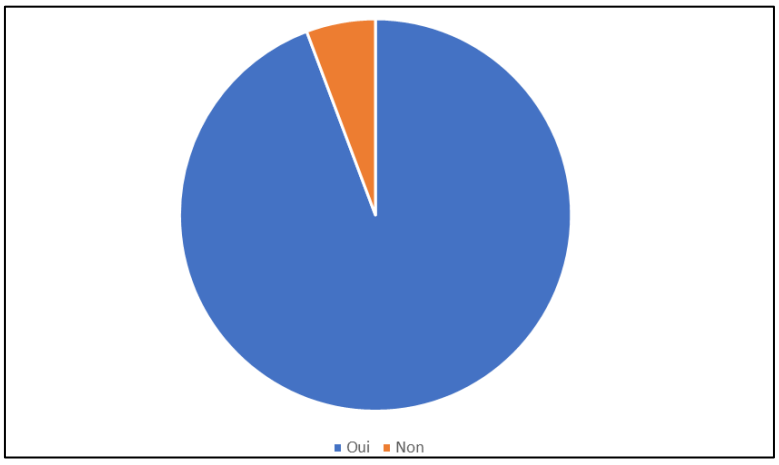
Training Materials Used:

- Written materials: 66%
- Pictorial materials: 58%
- Simulation: 28%
- Educational videos: only 13 cases mentioned spontaneously

Supports utilisés	Nombre de participants	Pourcentage
Support écrit	66	94.3%
Support image	58	82.9%
Simulation	28	40%
Vidéo pédagogique	13	18.5%

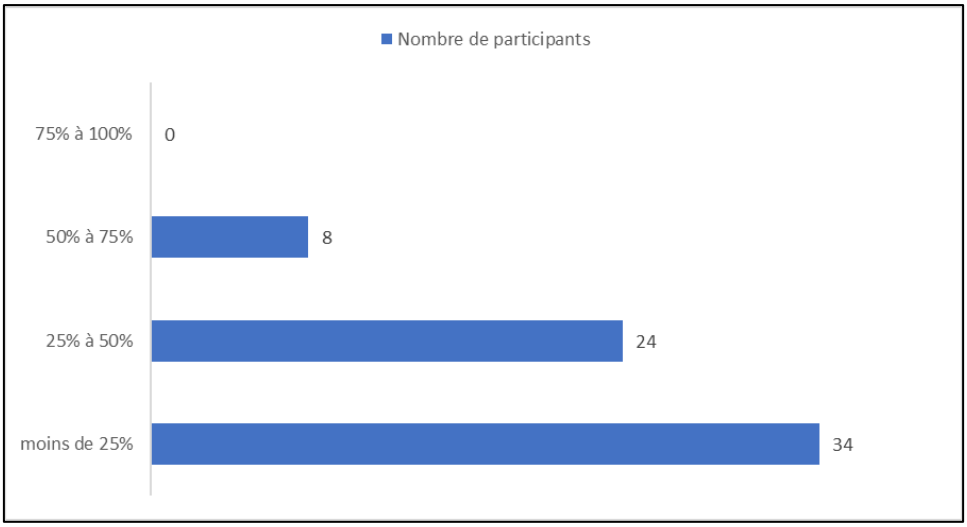
Effective Use of Educational Videos:

- 94.3% of participants reported using educational videos
- Main source: YouTube (100%), free access



Time Spent on Videos in Preparation:

- 12%: 50–75% of preparation time
- 36%: 25–50%
- 52%: less than 25%



Perception of Video Impact on Training:

- 57% believe integrating videos would certainly improve preparation
- 34% think it could possibly improve it
- 9% remain uncertain

DISCUSSION

The results confirm that, despite the widespread use of videos, their official integration into the curriculum remains limited. Videos are seen as complementary, not substitutive to practical training, but their added value lies in the precise visualization of procedures, reinforcement of surgical sequences, and the flexibility of asynchronous learning.

The reliance on YouTube highlights the lack of dedicated institutional platforms, raising concerns about the quality and reliability of the content viewed. Additionally, the absence of standardization in video production (audio/visual quality, camera angles, educational commentary) limits the effectiveness of these resources.

This evolution aligns with the overall transformation of medical teaching methods, marked by the shift from a lecture-centered model to a more flexible, visual, and interactive approach.

The fact that over 94% of participants use videos for training illustrates the spontaneous adoption of these resources. However, this widespread use remains disconnected from the official curriculum, posing a challenge. Indeed, the absence of institutional validation leads learners to seek content on platforms like YouTube, where the quality, scientific rigor, and local contextualization (techniques, equipment, reality of Moroccan hospital resources) are not guaranteed.

Educational videos are not intended to replace hands-on practice or surgical mentorship, but they meet a specific need: visualizing the surgical gesture, in its logical sequence and technical precision. They also allow for revisiting complex points, accelerating certain stages to focus on the essentials, and learning at one's own pace.

Moreover, several international studies have shown that visual learning significantly improves the retention of complex gestures and performance in simulated or real situations. A well-constructed video also helps standardize learning methods and reduce disparities in supervision across different hospitals.

However, despite their recognized usefulness, educational videos currently suffer from several limitations:

- **Variable quality:** Some videos are poorly framed, lack explanatory audio, or are poorly edited, which hampers their pedagogical clarity.
- **Lack of clinical contextualization:** Often, the video does not provide sufficient information on surgical indications, technical choices, or alternatives.
- **Non-interactivity:** Unlike a workshop or supervision in the operating room, videos do not allow interaction with an instructor to ask questions or receive personalized feedback.
- **Unequal access:** Not all residents necessarily have stable access to high-quality content due to linguistic, technical, or financial barriers.

To maximize the impact of educational videos, it is essential to integrate them officially into training programs, linking them with validated modules and clear educational objectives. A collaboration between educators, experienced surgeons, and digital pedagogy experts could lead to the creation of national or regional video libraries accessible to residents, with structured, validated, and regularly updated content.

Platforms such as Touch Surgery, WebSurg, or eSurg already offer interesting models to follow. However, these platforms are not always suitable for the Moroccan context (available equipment, common

pathologies, working conditions), making local and contextualized production necessary.

In the future, the use of artificial intelligence, virtual reality (VR), or augmented reality (AR) could further enhance the learning experience by simulating 3D gestures, allowing immersion in virtual operating rooms, or guiding residents step by step.

Technical Aspects of Educational Video Production:

- **Equipment:** Smartphone, professional camera, camcorder
- **Audio recording:** simultaneous (subject to audio artifacts) or delayed
- **Consent:** essential for any recording with a patient
- **Framing techniques:** operator placed behind the surgeon, stable perspectives
- **Editing:**
    - Introduction of the clinical case
    - Patient positioning
    - Detailed steps of the procedure
    - Post-operative management and final discussion

CONCLUSION

Educational videos are a valuable supplement to the training of residents in plastic and aesthetic surgery. Although they cannot replace the experience in the operating room, they capture up to 30–40% of the essential information. Better structuring of their production and official integration into the academic curriculum could enhance their effectiveness and standardize training.

REFERENCES

1. Haluck RS, Krummel TM. Computers and Virtual Reality for Surgical Education in the 21st Century. Archives of Surgery [En ligne]. American Medical Association; 1 juill 2000 [cité le 27 mars 2024];135(7):786-92. Disponible: https://jamanetwork.com/journals/jamasurgery/fullarticle/390653 5
2. Panchendrabose K, Grubert Van Iderstine M, Hryniuk A. The use of an online anatomy laboratory for allied health education. Translational Research in Anatomy. Elsevier; 1 juin 2024; 35:100292.
3. Criley JM, Keiner J, Boker JR, Criley SR, Warde CM. Innovative web-based multimedia curriculum improves cardiac examination competency of residents. J Hosp Med [En ligne]. J Hosp Med; mars 2008 [cité le 3 avr 2024];3(2):124-33. Disponible: https://pubmed.ncbi.nlm.nih.gov/18438809/
4. Jones RM. Online teaching of forensic medicine and pathology during the COVID-19 pandemic: A course evaluation. J Forensic Leg Med. Elsevier; 1 oct 2021; 83:102229.
5. Chenkin J, Lee S, Huynh T, Bandiera G. Procedures can be learned on the Web: a randomized study of ultrasound-guided vascular access training. Acad Emerg Med [En ligne]. Acad Emerg Med; oct 2008 [cité le 3 avr 2024];15(10):949-54. Disponible: https://pubmed.ncbi.nlm.nih.gov/18778380/
6. Tahim A, Miah M, Payne KFB, Goodson AMC, Fan K. Developing an online resource with RSS feed technology to provide Oral and Maxillofacial Surgery trainees with up-to-date course and conference information: MaxFaxLink.org. British Journal of Oral and Maxillofacial Surgery. Churchill Livingstone; 1 sept 2013; 51(6):e121-2.
7. Dinscore A, Andres A. Surgical Videos Online: A Survey of Prominent Sources and Future Trends. Med Ref Serv Q [En ligne]. Taylor & Francis Group; janv 2010 [cité le 16 févr 2024];29(1):10-27. Disponible: https://www.tandfonline.com/doi/abs/10.1080/02763860903484996
8. Richard E. Mayer. Multimedia Learning 3rd edition. Multimedia Learning. Cambridge University Press; 2020.