e-ISSN: 0976-822X, p-ISSN:2961-6042

Available online on http://www.ijcpr.com/

International Journal of Current Pharmaceutical Review and Research 2025; 17(9); 368-377

Original Research Article

Use of Educational Video on Autopsy in Implementation of CBME Competencies of Forensic Medicine and Toxicology

Anurupa Choudhury[1], Md. Tausif Arafat Hazarika[2], Hiranya Ranjan Upadhyaya[3], Gunajit Das[4], Babaji Ghewade[5]

[1]Associate Professor and Head, Department of Forensic Medicine, Dhubri Medical College, Dhubri, Assam, India

[2]Assistant Professor, Department of Forensic Medicine, Dhubri Medical College, Dhubri, Assam, India

[3]Demonstrator, Department of Forensic Medicine, Dhubri Medical College, Dhubri, Assam, India

[4]Professor, Department of Forensic Medicine & Superintendent(i/c), Dhubri Medical College, Dhubri, Assam, India

[5]Professor, Department of Respiratory Medicine, Jawaharlal Nehru Medical College, Datta Meghe Institute of Higher Education & Research, (Deemed to be University), Wardha, Maharashtra, India

Received: 13-09-2025 / Revised: 18-09-2025 / Accepted: 22-09-2025

Corresponding Author: Dr. Anurupa Choudhury

Conflict of interest: Nil

Abstract:

Introduction: Gaining knowledge about and an understanding of autopsy procedure is of utmost importance during undergraduate medical education. However, it is seen that there is either a paucity of cadavers or physical dissection is unfeasible due to time constraints to both perform a complete autopsy and to show the students details of autopsy procedure during the allotted time. Small group teaching becomes a challenge for us; especially considering the limited number of available faculty members.

Aims:

1. To introduce educational videos as new teaching tools for Forensic Medicine practical classes.
2. To study the effectiveness of educational video as a teaching tool.

Objectives:

1. To design and implement an educational video clips-based learning module on autopsy for undergraduate students.
2. To compare the knowledge retention and understanding of autopsy concepts between students exposed to video clips-based learning and those using traditional teaching- learning methods.
3. To study the student's perceptions on their experiences on conventional autopsy learning and learning through the educational video clips.

Methods: The students of the class were categorized into two groups – A and B. Pre-test was conducted to gauge the existing knowledge of the students using a questionnaire (on Google Forms). Following this, Group A was first shown autopsy procedures by pre-recorded video in the class room and Group B was taken to the autopsy hall to observe an autopsy being carried out. After that; Post-test was conducted to assess the intermediate knowledge status using the same questionnaire. Thereafter, the Group A was shown live autopsy on another dead body in the autopsy hall and Group B was shown autopsy procedures by pre-recorded video in the class room. Then feedback was taken from both the groups; on Google Forms.

Results: Out of 98 students of the batch, total 80 students attended the class but only 74 students submitted all three forms (pre-test, post-test and feedback) and their responses were considered for the study. In the pre-test, average score of group A was 5.46/10, median 5/10 points and range of score was 3-9 points; average score of group B was 4.6/10, median 5/10 points and range of score was 0-7 points. In post-test, average score of group A was 8.85/10, median 9/10 points and range of score was 6-10 points; average score of group B was 8.03/10, median 9/10 points and range of score was 5-10 points. It indicates that knowledge acquisition is significant in both the teaching-learning methods, but there are no significant differences between the two groups. As response to feedback questionnaires, most of the students were in favour of video-clips based learning. Many students said that learning through exposure to both video-clip based teaching and conventional live dissection teaching is much more effective than a single method.

Conclusion: Both video-based learning and conventional teaching on autopsy possess their own individual merits and both have near-equal importance in knowledge acquisition. Video-based learning cannot be a sole technique of teaching methodology of autopsy procedure but it can be taken as substitute as and when there is scarcity of cadavers for practical demonstration of the students.

Keywords: Video Clips-Based Learning, Autopsy Procedure, Forensic Medicine, Medical Education, Practical Demonstration.

Introduction

To gain experience and knowledge about conducting an autopsy is of utmost importance for undergraduate medical students. As per the Graduate Medical Education Regulations, 2019 (GMER 2019) curriculum, each medical student is expected to observe at least 15 medicolegal autopsies as part of their training. In India, in the present scenario, most medicolegal autopsies are still being conducted by doctors not specialized in Forensic Medicine in the various Civil Hospitals. Competency-Based Medical Education (CBME) focuses on the outcomes of education, aiming to ensure that learners acquire specific competencies essential for professional practice. In the context of Forensic Medicine and Toxicology, these competencies include the ability to perform autopsies, interpret findings, handle legal documentation, and understand toxicological investigations. Again, the autopsy itself is an opportunity where the Indian Medical Graduate can learn from the dead for the betterment of the living. But it has been noticed that either bodies are not available or it is not practically possible due to limited time of completion of autopsy to show the students detail procedures of performing autopsy during the time allotted as per the competencies. There is usually not enough time for us to show and explain the procedure during the autopsy itself in addition to teaching about all the necessary steps immediately before and after it. Small group teaching is a challenge for us with limited number of available faculties. Non- availability of fully functioning and well- equipped skill lab is an additional challenge. Given the complexity and practical nature of these subjects, CBME emphasizes direct observation, skill acquisition, and real-world application, making innovative teaching methods like educational videos increasingly relevant.

Need/Rationale of study: In an effort to overcome the aforementioned problems, we decided to create and show short duration videos for various parts of autopsy procedure to the students, which can be shown to a large number of students at the same time, even in a large class room. Though many autopsy videos are available on social media; showing the students a video of an autopsy performed by the faculty members from the respective institution itself with timely mentoring during the class would increase their interest in the topic and the students can familiarize themselves with the steps and techniques involved in autopsies, building their confidence and understanding before participating in real world cases even in case of limited number of bodies and time constraints. But at the same time, we need to be sure of the effectiveness of the videos over the conventional class so that it can be included as an option as a new teaching-learning tool for the new CBME curriculum. Depending on positive feedback received at the end of this study, we can extend this method to other aspects of medical education to facilitate a better understanding on the part of the students.

Literature review: As we live in a digital era, the task for educators is to review and design innovative educational approaches supporting students in their educational use of digital media and technology. One of the advantages of digital learning is that students usually learn in a shorter time span when receiving computer-based instruction and they like classes more. [1]

It is in the 2nd phase of MBBS curriculum, where a student is exposed to autopsy, where the bodies they interact with, are without prior formaldehyde treatment, unlike in Anatomy. While it is intended to be enlightening and interesting for the students, it may also be traumatizing and jarring for many of them, as treated cadavers are much less “life-like” compared to bodies of the recently-deceased. Schwarz et al. found in their study that after watching autopsy video, 96.4% students would recommend an autopsy to their relatives, 89.4% stated that they experienced autopsy as a professional examination method and that an autopsy turned out to be rougher or more brutal for 5.9 % of students in comparison to their previous expectations. [2]

As per the requirements of CBME, each Indian Medical Graduate should achieve an adequate knowledge of medicolegal autopsy and should be able to prepare a report thereafter. To meet this requirement, training has to be under supervision of specialist in a real-life environment and cannot be acquired in simulated condition. According to Suleiman et al. in tertiary education, digital learning is not suitable for Practical Courses. [3]

The study of Malkawi E and Khayrullina M intended to investigate elements of digital learning process using student feedback and to suggest ways to improve the quality of digital higher education based

on learning theories applied to digital environment. The study revealed that students pinpoint three groups of problems in online learning: the process of getting feedback from tutor and peers; the process of concentration and self-management; and the technical difficulties of staying connected. [4]

As a part of the revised curriculum, teaching and learning methods (TLMs) have also been altered. Other methods, such as Bedside teaching, Learner Doctor, Small Group Discussions (SGDs), Demonstrate Observe Assist Perform (DOAP), and Self-Directed Learning (SDL), have replaced didactic lectures. [5] To teach clinical examination and much of the requisite skills, now-a-days video-based learning, training in skill labs and training in simulated environment are used as teaching-learning methods.

As is Surgery for a surgeon, so is Autopsy for a Forensic Medicine specialist. In order to achieve the skills for performing an autopsy and preparation of medicolegal case report thereafter, training has to be under supervision of experienced specialist in a real-life environment, which cannot be acquired in simulated conditions. In the present-day scenario in India, non-specialist (MBBS) doctors perform the majority of the nation's medicolegal autopsies; leading to subpar autopsy reports and, consequently, poor, or delayed delivery of justice. [5] Under the new CBME-based curriculum, small group instruction is given additional importance, necessitating the teaching of undergraduate students in groups of eight to ten. Based on these guidelines, a minimum of 10-12 faculty members is needed for a batch of 150 students. NMC has specially and regressively lowered the required number of faculty members in the field of Forensic Medicine and Toxicology. [5] As a solution to all these problems, faculties are in constant search of new innovative teaching-learning methods. One of the new dynamic and engaging media is Video-based learning (VBL). [6] Various methods of video-based approaches used to enhance students' engagement and learning through video, which are particularly useful in areas that involve practical skills such as health education. [7-9] In addition to being learner-centered, VBL approaches offer several benefits, including increased engagement, accessibility and flexibility in learning. [5]

By engaging learners in practical scenarios, VBL can encourage the application of knowledge in real-world settings. [10] Video can potentially bridge the gap between theory and practice in health education by demonstration of medical procedures and various skills in an understandable and simplified manner. [11]

Morgado Mariana et al. found that video-based learning has a significant positive effect on knowledge acquisition in dentistry and medicine. The Cognitive Theory of Multimedia Learning emphasizes the importance of devising, implementing and integrating multimedia elements; which can positively impact learning outcomes. Video based educational tools remain an important part of this approach. [12]

Methods

Aims:

1. To introduce educational videos as new teaching tools for Forensic Medicine practical classes.
2. To study the effectiveness of educational video as a teaching tool.

Objectives:

1. To design and implement an educational video clips-based learning module on autopsy for undergraduate students.
2. To compare the knowledge retention and understanding of autopsy concepts between students exposed to video clips-based learning and those using traditional teaching- learning methods.
3. To study the student's perceptions on their experiences on conventional autopsy learning and learning through the educational video clips.

The study was conducted in Dhubri Medical College, Dhubri, Assam. Design and planning were started in the month of August, 2024 and ethical clearance was applied for, from the Institutional Ethics Committee. Ethical clearance certificate was received in December, 2024. It was an interventional study on Phase III Part IMBBS students and sampling method was non-randomized convenience sampling. Depending on availability of two deceased with similar alleged history and preliminary findings, the study was conducted on 6th January, 2025. All the students of Phase III Part I MBBS present in the class on that day (80 out of total 98 students) were considered for the study. Students not submitting the google form (pre-test, post-test and feedback) were excluded from the study.

Data collection procedure/methodology: Short-duration video clips of autopsy procedure with special reference to a case of death by hanging were created by the existing faculty members of the Department of Forensic Medicine, DMCH, Dhubri beforehand; choosing appropriate cases and with positive findings of death due to hanging. While recording the videos, due care was taken for maintaining privacy and dignity of the deceased. On 6th January, 2025, a lecture class was conducted on autopsy procedure with special reference to hanging

case at 9 am to 10 am for the students of Phase III Part I. On the same day, at 2 pm, all the students were instructed to gather at the lecture hall first. The purpose and procedure of the project were explained to them and they were requested to co-operate in the whole procedure with honesty and dedication. Then all students of Phase III Part I were divided into two groups: Group A - roll number 1 to 49 and Group B - roll number 50 to 98. A pre-test was conducted by sharing two different links for Google Forms among all the students of both the groups separately. The links both included the same questionnaire (multiple-choice questions) on autopsy procedure with special reference to a case of hanging. (Annexure 1).

After that, the Group B was instructed to go to Autopsy Hall for observing the procedure of conducting an autopsy. Bodies of two deceased were available for autopsy at that time with history of alleged hanging during the preceding night. One of the teaching faculty from our department demonstrated to them (Group B) the autopsy procedures on the one of the two bodies as to demonstrate the conventional teaching methods of conducting an autopsy. At the same time Group A was shown the pre-recorded videos in the lecture hall with in-depth description by faculty members whenever needed, while the video was paused. After Group A was shown autopsy procedure in video format and Group B was taught in conventional method, the group B students returned to the classroom. A post-test was conducted by sharing two different links for Google Forms among all the students of both the groups separately using the same set of questions as in pre-test.

Thereafter, group A was instructed to go to Autopsy Hall, where they were shown the conventional autopsy procedure on the body of another deceased and group B was shown the pre-recorded video clips with appropriate moderation by the faculty.

After that, all the students were gathered in the Lecture Hall where a link for a further Google Form was shared to receive feedback to evaluate their acceptance and understanding on Likert Scale [13] and challenges on use of the videos and they were requested to submit those within 10 minutes. The questionnaires of the feedback form are given as Annexure 2.

Observations and Results

Out of 98 students of the batch, total 80 students attended the class but only 74 students were able to submit all three forms (pre-test, post-test and feedback) due to various factors. 39 out of 43 students in Group and 35 out of 37 students in Group B submitted all three Forms. So, 74 (39+35) students have been considered for data analysis. (Table 1)

Table 1: Number of students present in class and response received

Total students	Present in class	Response submitted
Group A	43	39
Group B	37	35

Observation of Pre-test: In group A, average score was 5.46/10, median 5/10 points and range of score was 3-9 points. In Group B, average score was 4.6/10, median 5/10 points and range of score was 0-7 points. (Table 2)

Observation of Post-test: In group A, average score was 8.85/10, median 9/10 points and range of score was 6-10 points. In Group B, average score was 8.03/10, median 9/10 points and range of score was 5-10 points. (Table 2)

Table 2: Observations of pre and post -test

	Group	Average	Median	Range
Pre-test	A	5.46	5	3-9
	B	4.6	5	0-7
Post-test	A	8.85	9	6-10
	B	8.03	9	5-10

To strengthen the findings, statistical tests were performed. Paired t-tests revealed a significant improvement in post-test scores compared to pre-test in both groups (Group A: $t(38) = 13.47$, $p < 0.001$; Group B: $t(34) = 10.80$, $p < 0.001$). The independent t-test comparing the mean gain in scores between groups showed no statistically significant difference ($t(72) = 0.34$, $p = 0.74$). (Table 3)

Table 3: Pre- and post-test performance with statistical analysis

Group	Pre-test Mean ± SD	Post-test Mean ± SD	Mean Gain ± SD	Paired t (df)	p-value
A (n=39)	5.46 ± 1.65	8.85 ± 1.12	3.39 ± 1.52	13.47 (38)	<0.001
B (n=35)	4.60 ± 1.71	8.03 ± 1.25	3.43 ± 1.68	10.80 (34)	<0.001

Evaluation of the questionnaires of feedback: Student responses to the nine structured feedback questions (5-point Likert scale) showed that majority of students either agreed or strongly agreed with the positive statements regarding video-assisted autopsy teaching. (Figure 1 and Table 4). The 10th and 11th questions collected qualitative responses by collecting feedback from the students regarding specific elements of the session that they liked and disliked, respectively. Students reported better visibility and understanding during video demonstrations. Limitations mentioned included reduced opportunity for hands-on exposure and time constraints. Most students suggested combining video-based teaching with live autopsy demonstrations. (Figure 1)

To statistically examine whether the responses were skewed toward agreement, a Chi-square goodness-of-fit test was applied to each question. The results demonstrated a significant deviation from uniform response distribution in all questions ($p < 0.001$ for all), confirming that students overwhelmingly favoured video-based learning. (Table 4)

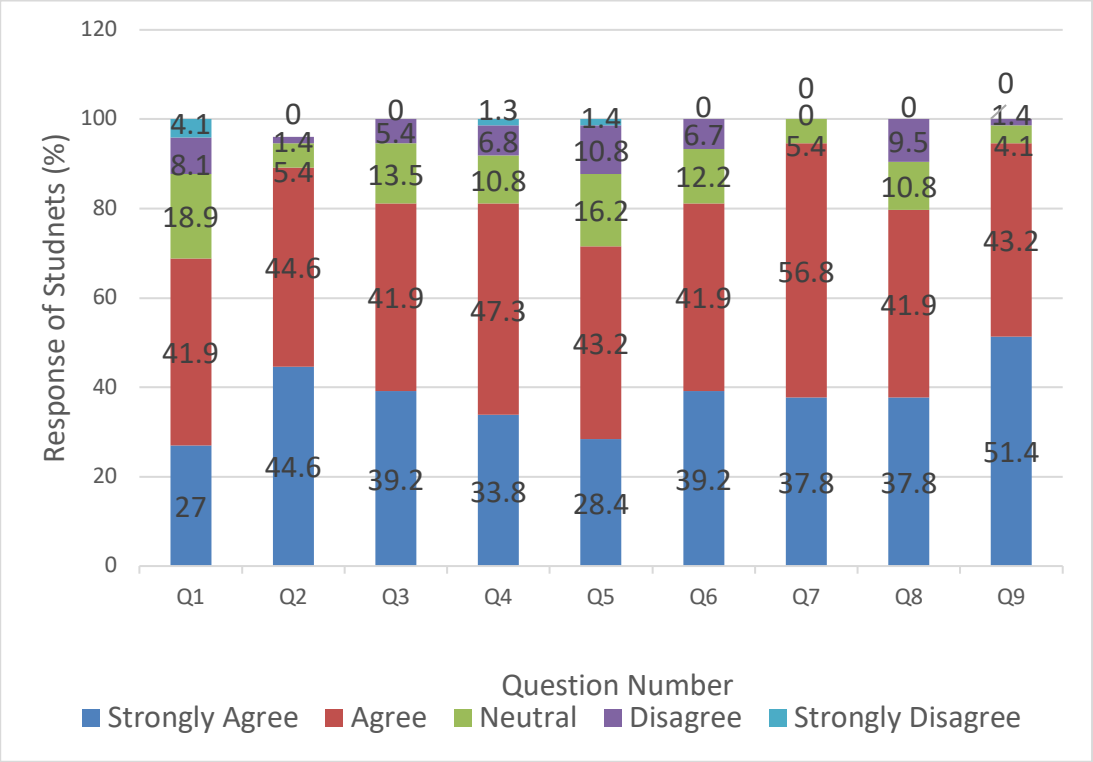

Figure 1: Distribution of Student Responses to Feedback Questions on Video-Assisted Autopsy Teaching.

Table 4: Student responses to feedback questions

Question	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)	χ^2	df	p-value
Q1	27	41.9	18.9	8.1	4.1	34.24	4	<0.001
Q2	44.6	44.6	5.4	1.4	0	83.58	4	<0.001
Q3	39.2	41.9	13.5	5.4	0	55.59	4	<0.001
Q4	33.8	47.3	10.8	6.8	1.3	57.08	4	<0.001
Q5	28.4	43.2	16.2	10.8	1.4	39.11	4	<0.001
Q6	39.2	41.9	12.2	6.7	0	54.92	4	<0.001
Q7	37.8	56.8	5.4	0	0	99.24	4	<0.001
Q8	37.8	41.9	10.8	9.5	0	51.54	4	<0.001
Q9	51.4	43.2	4.1	1.4	0	93.43	4	<0.001

Discussion

The present study evaluated the effectiveness of video-assisted teaching of autopsy procedures in the context of Competency-Based Medical Education (CBME). Both video-based and conventional methods demonstrated significant improvements in student knowledge, highlighting that either modality can be effectively employed for undergraduate training in forensic medicine.

Before watching the autopsy procedure, average score of the Group A was 5.46 which increased to 8.85 after watching the video and average score of

the Group B was 4.6 which increased to 8.03 after watching the conventional autopsy procedure in the Autopsy Block. It indicates that knowledge acquisition is significant in both the teaching-learning methods, but there are no significant differences between the two groups. Students can be taught and oriented about autopsy procedures as well as findings of various cases by both – demonstration by pre-recorded video; and demonstration of live dissection during autopsy procedures in Autopsy Block. These findings are congruent with those of Schwarz CS, Kramer S, Germerott T, et al. [2], who concluded that although a video cannot substitute for personal interaction, it is useful in preparing students for their autopsy participation. Morgado M, Botelho J, Machado V, et al [12] also reported that video-based learning is effective in knowledge acquisition in Medicine and Dentistry but imparts only moderately high effect in skill development. Söderlund A, Blazeviciene A, Elvén M, et al. [8] found significant improvements in knowledge acquisition and skill development of the students following incorporation of digital technologies in the learning process. Stockwell, B. R., Stockwell, M. S., Cennamo, M. et al [9] concluded that video assignments were very effective at stimulating student interest and engagement with the course material.

However, it must be stated that Söderlund A, Blazeviciene A, Elvén M, et al. [8] found significant improvement in knowledge acquisition and skill development of the students after use of digital technologies in learning process which appreciably exceeded the findings in our study.

The difference of this finding may be due to limited exposure time to autopsy video, which may be remedied by multiple viewings interspersed with discussions to have its full, intended impact on the teaching-learning process.

The feedback analysis shows that maximum students are in support of video-based learning. 41 (68.9%) students have supported the statement that learning the autopsy through video clips is more effective than the traditional autopsy class. 60 (81.1%) students have supported that understanding concepts is easier when autopsy is shown in pre-recorded video format and freedom to discuss topics in video teaching is greater compared to traditional teaching. Malkawi E and Khayrullina M [4] reported 3.38 points out of 5.00 (Likert scale) in their survey to assess student attitudes towards technology indicating that participants overall appreciated and accepted technology.

The students agreed that proper and clear explanation is better in class with video clips than traditional teaching. 59 (79.7%) students have agreed that teaching learning environment is better in class with video clips than traditional teaching. 70 (94.6%) students have agreed that teaching using video clips can be done in large group which is not possible in traditional teaching. 69 (93.2%) have agreed that adding more videos on autopsy would enhance their learning experience. According to 70 (94.6%) students, moderation by the faculty was useful.

A few students have opined that the traditional teaching method is important. Some have mentioned that watching autopsy being performed on a real dead body in traditional teaching is important to gain real-life experience. Many students expressed a preference to learning autopsy procedure in small group by attending conventional dissection sessions.

From the study it has been noted that both video-based learning and conventional teaching on autopsy procedure carry individual merits and both have near-equal importance in knowledge acquisition. Considering this, video-based learning cannot be recommended to be used as a complete replacement for conventional teaching method for autopsy procedure.

The main challenges for us are small group teaching and availability of the cadaver at the time of allotted hour of a topic in the routine. Though the physical demonstration is always preferable for undergraduate teaching, it may not be feasible due to unavailability of cadaver with a particular finding. It would be extremely unethical for us to wish for cadavers with particular findings just for the purpose of demonstrating to our students. In such situations, pre-recorded videos can provide the solution to allow demonstration of a particular case during the allotted duration as per the timetable and that can be done even in large group teaching effectively.

Many of the students, because of positive first exposure to autopsy procedure in video format might have expressed their liking for the same whereas few of the students have reported that exposure to a live dissection was more appealing. But considering the crowding around the cadaver while dissecting, conventional teaching may leave many students in the group, especially those behind other students or at a distance, with an obstructed view. This particular problem is avoided when a video recording of the procedure is projected, and everybody can see the procedure equally. This fulfils the criteria of new CBME curriculum where every student should be given equal opportunity for learning.

Strengths of the study: To the best of our knowledge, this has been the first study conducted on this topic in Assam after CBME has been implemented. The study explores the applicability and feasibility of audio/visual-based teaching-

learning method in Forensic Medicine and Toxicology to overcome the challenge of small group learning and limited number of available faculties.

Study limitations: One major limitation of the study is a limited exposure to videos as well as conventional autopsy in a practical session. It is difficult to conclusively opine about the relative merits of the two approaches discussed; depending on a single session. A larger sample size and repeated study on various topics in multiple settings are required to elucidate and consolidate the findings of the present study. In the meanwhile, we anticipate conducting further studies so as to gain a better understanding of the best possible methods to impart knowledge upon our students and refine our approach to the teaching process in this changing landscape.

Conclusion

The study as well as existing literature shows that video-based learning cannot become the sole technique of teaching methodology for autopsy procedure but it can be taken as substitute as and when there is no available cadaver for practical demonstration to the students.

More beneficial teaching-learning method for autopsy would be showing live dissection by the faculties in the autopsy hall and projecting the same on a big screen of the autopsy hall itself where the students can have precise and zoomed-in views of relevant findings on the cadaver.

List of Abbreviations:

GMER 2019 – Graduate Medical Education Regulation 2019

CBME – Competency-Based Medical Education

TLM – Teaching and learning methods

SGD – Small Group Discussions

DOAP – Demonstrate Observe Assist Perform

SDL – Self-Directed Learning

VBL – Video-based learning

NMC – National Medical Commission

Human Ethics and Consent to Participate Declarations: The study was approved by the Institutional Ethics Committee of Dhubri Medical College and Hospital vide Letter No. DMCH/IEC/2024/21 Dated, Dhubri, 05-12-2024.

Written Informed consent to participate in the study were taken from the study participants.

The study ideas and procedure were compliant with the Declaration of Helsinki.

Funding: None.

Authors' Contributions: All the authors equally contributed to the preparation and design of the study. All of them prepared the videos required for the study and equally contributed for collection, analysis and interpretation of data and equally contributed to manuscript writing, review and editing along with search for applicable literature. All of them critically reviewed the manuscript during revision and approved the version to be published.

Acknowledgements: We are grateful to the Phase III Part I MBBS students of Dhubri Medical College who participated in the study and to the Department of Community Medicine of Dhubri Medical College for guiding us in statistical analysis of the presented data.

References

1. Samarguliani N: The Role of Digital Learning in Contemporary Education. European Scientific Journal. 2016 Dec, 32-38.
2. Schwarz CS, Kramer S, Germerott T, et al.: The use of an educational video on forensic autopsy in curricular teaching for medical students- is it worth the effort?: A field report from lecturers and a survey among students. Int J Legal Med. 2024 March, 138:651-658. 10.1007/s00414-023-03113-y
3. Suleiman MM, Danmuchikwali BG: Digital Education: Opportunities, threats, and Challenges. Jurnal Evaluasi Pendidikan. 2020 Oct, 11(2):78-83. 10.21009/10.21009/JEP.0126
4. Malkawi E, Khayrullina M: Digital Learning Environment in Higher Education: New Global Issues. SHS Web of Conferences. 2021, 92:1-10. 10.1051/shsconf/20219205019
5. Singh JP, Kishore M: Competency-based medical education in forensic medicine & toxicology: a view-point on current challenges and future aspects. International journal of scientific research. 2024 Jan, 1:8-9. 10.36106/ijsr/2700325
6. Brame, C. J: Effective educational videos: principles and guidelines for maximizing student learning from video content. CBE—Life Sci. Educ. 2016, 15:1-6. 10.1187/cbe.16-03-0125
7. Schmid RF, Bernard RM, Borokhovski E, et al.: The effects of technology use in postsecondary education: a meta- analysis of classroom applications. Comput. Educ. 2014, 72:271-291. 10.1016/j.compedu.2013.11.002
8. Söderlund A, Blazeviciene A, Elvén M, et al.: Exploring the activities and outcomes of digital teaching and learning of practical skills in higher education for the social and health care

professions: a scoping review. Discov Educ. 2023, 2, 2:10.1007/s44217-022-00022-x
9. Stockwell B. R., Stockwell M. S., Cennamo M., et al.: Blended Learn. Improves Sci. Educ.. Cell. 2015, 162:933-936. 10.1016/j.cell.2015.08.009
10. Kolb D. A: Experiential Learning: Experience as the source of learning and development. Prentice-Hall, Englewood Cliffs, NJ; 1984.
11. Hochbaum, G. M., Sorenson, J. R. & Lorig, K: Theory in health education practice. Health Educ. Q.. 1992, 19 (3):295-313. 10.1177/109019819201900303
12. Morgado M, Botelho J, Machado V, et al.: Video-based approaches in health education: a systematic review and meta- analysis. Scientific Reports. 2024, 14, 23651:23651. 10.1038/s41598-024-73671-7
13. Joshi A, Kale S, Chandel S, Pal DK: Likert Scale: Explored and Explained. British Journal of Applied Science & Technology. 2015, 7(4):396-403. 10.9734/BJAST/2015/14975

Annexure 1 - Questionnaires for pre & post test

Sl. No.	Question	Options of multiple-choice answers
1	Clothing of the body should be removed	Upon death at last hospital/dispensary, and body to be covered by a sheet.
		Before inquest by authority conducting inquest
		In front of the autopsy surgeon just before performing autopsy
		Kept on during autopsy and handed over to relatives/next of kin as is.
2	Usually, temperature of body tested by	By clinical thermometer putting it on the axilla
		By chemical thermometer putting it on the axilla
		By touching the body by back of hand and confirmed by measuring rectal temperature by chemical thermometer
		By touching the body by back of hand and confirmed by measuring rectal temperature by clinical thermometer
3	Which of the following is not necessary for estimation of time since death	Cooling of the body
		Rigor mortis
		Postmortem hypostasis
		Cadaveric spasm
4	Postmortem hypostasis fixation is tested by	Thermometer
		Touching with bare hand
		Pressing the area for few seconds
		Tying the tip of finger with a rope
5	I-incision is made	From manubrium sterni to symphysis pubis across the umbilicus
		From symphysis menti to symphysis pubis across the umbilicus
		From manubrium sterni to symphysis pubis either deviating right or left of the umbilicus
		From symphysis menti to symphysis pubis either deviating right or left of the umbilicus
6	The _____ skin incision begins at a point close to the acromion process and extends down below the breast, and then medially across to the xiphoid process on both sides, then extends downwards in a straight line to the pubis	I-incision
		Y-incision
		Modified I-incision
		Modified Y-incision
7	Coronal incision of scalp for access to the skull	Is made glabella to occiput
		Is made glabella to ear and then to occiput on both sides
		Begins behind each ear, and then extends upwards on either side to meet over the crown of the head
		Can be given anywhere depending on the injury on the scalp
8	After giving coronal incision, which one of the following is not done	The scalp tissues are reflected forwards to the lower forehead and backwards to the occiput
		The scalp tissues are reflected towards right and left side
		The calvarium (skull cap) is removed after cutting through completely
		After incising the superior sagittal sinus, the brain is removed using both hands
9	Description of typical ligature mark of hanging	Transverse, non-continuous, high-up on the neck
		Oblique, continuous, high-up on the neck
		Oblique, high-up, encircling the neck
		Oblique, non-continuous, high up on the neck
10	Which body cavity is typically opened first in a case of hanging?	Head
		Neck
		Chest
		Abdomen

Annexure 2 – Questionnaires for feedback

SL NO	Questionnaires	Strongly disagree	Disagree	Neither agree or disagree	Agree	Strongly agree
1	Learning the autopsy through video clips is more effective than the traditional autopsy class					
2	Adding more videos on autopsy would enhance your learning					
3	Understanding concepts is easier when autopsy is shown in pre-recorded video form					
4	Freedom to discuss topics in video teaching is more compared to traditional teaching					
5	Approach to the teacher is easier in class with video clips than traditional teaching					
6	Proper and clear explanation is better in class with video clips than traditional teaching.					
7	Moderation by the faculty was useful.					
8	Teaching learning environment is better in class with video clips than traditional teaching					
9	Teaching using video clips can be done in large group which is not possible in traditional teaching.					
10	What did you like in the class?					
11	What did you dislike in the class?					