

Students in the picture



How to improve workplace learning through the use of video recordings

M. Robbrecht, M. Zaghi, T. Mulder, K. Norga, M. Van Winckel, M. Embo

Background

Improving the learning process of medical students during undergraduate and postgraduate clinical training is challenging, as the working environment is focused on patient care rather than student learning. To optimize learning at the workplace, there is a need for direct observation to provide specific feedback. Unfortunately, direct observation is often hindered by logistical and situational issues.

Therefore, the implementation of video recording observation of students' performances might be helpful to guide and structure the learning process. Although there are many individual studies dedicated to video use in medical education, there is no thorough overview of the available recommendations to implement video use or to design studies evaluating this tool during workplace learning so far.

Literature search

Population medicine, medical education, medical student, medical trainee, resident
Intervention video, video feedback, video learning, video training, video evaluation, video teaching, recording, filming, multimedia
Context workplace learning, clinical setting, clinical work, clinical training, clinical learning
Outcome feedback, evaluation, reflection, assessment

Recording students for educational purposes

155 articles: simulated setting

49 articles: authentic patient setting

Advantages and pitfalls of video usage during workplace learning

- | | | |
|--|--|---|
| <p>Authentic environment
The students perform in an unpredictable clinical environment that cannot be simulated. More natural interaction with patients can be observed.</p> | <p>Lower cognitive load
Reflection can be done with detailed information of the performance, but at a time when the student is not mentally occupied with the performance itself.</p> | <p>Costs
The equipment and infrastructure are an investment. Assigning protected staff time for guidance on reflection might be an additional cost.</p> |
| <p>Fewer scheduling issues
Supervisors are not required to be at the same place, on the same time as the students perform.</p> | <p>Improved self-reflection
The students can watch themselves as others view them. Additionally, they can review details that otherwise might be missed.</p> | <p>Initial greater time investment
Setting up the material and reviewing the videos take up time.</p> |
| <p>Feedback: specific and objective
A link can be made between observed behavior and feedback. The facts can be revisited as they occurred. Multiple assessors can observe one video.</p> | <p>Learning more in less time
The students learn more out of one clinical performance. Watching and reflecting on videos of peers performing offers learning opportunities complementary to own clinical experiences.</p> | <p>Feelings of stress and fear
Common among students at implementation, although this often disappears rapidly and can be minimized if the technique is introduced in a safe learning climate.</p> |
| <p>Focus on different competencies
Reviewing the video is the perfect opportunity to provide feedback on different competencies in the same context, therefore maximizing learning.</p> | <p>Technical issues
Recording, storing, and viewing videos can be a technical challenge as the proper equipment and knowledgeable staff are required.</p> | <p>Ethical and legal issues
Recordings are sensitive patient data that must be protected. Use in jurisdiction must also be avoided.</p> |

Recommendations for future video usage

Supportive learning climate

- Introduce the why and how of video use to lower fear
- Support students in their growth as healthcare professionals
- Avoid stressful situations
- Emphasize what went well to foster confidence

Feedback instead of critique

- Establish performance criteria
- Have a two-way conversation when providing feedback
- Discuss both strengths and opportunities for improvement
- Provide specific suggestions and advice on how to improve less-developed performances

Emphasis on formative use

- Single videos are not suitable for high-stakes examinations, as the context of being recorded might alter behavior
- Repeated use of video fosters growth and excellence
- Use videos to facilitate coaching and support self-directed learning

Not an exclusive feedback source

- Implementation among other forms of instruction and feedback practices is recommended, to have a holistic representation of student's performances

External viewer

- Guidance with watching the video can be useful to provide information on what students do not know that they do not know
- Caution with group reviews should be taken as they might elevate feelings of anxiety and stress

Confidentiality of recordings

- Measures for patient safety, as well as protection of students and staff, should be taken
- Informed consent is always needed from patients, students, and staff

Conclusion

Recording videos of students during workplace learning has already been shown to improve the learning process in a structured clinical learning environment. Future studies might focus on implementing video during unpredictable daily practice. It is recommended to integrate advantages, pitfalls and recommendations in research designs investigating video use to improve workplace learning in the clinical setting.

Contact

Marieke.Robbrecht@ugent.be
www.sbo-scaffold.com

scaffold