PEC Innovation 5 (2024) 100322

Contents lists available at ScienceDirect

PEC Innovation

journal homepage: www.elsevier.com/locate/pecinn

"Bring your worst": Residents' perspectives on video review of challenging patient communication as a learning tool

Jane Ege Møller [a,*], Eva Doherty [b], Matilde Nisbeth Brøgger [c]

[a] Department of Clinical Medicine, Aarhus University, Hedeager 1, 8200 Aarhus N, Denmark
[b] Department of Surgical Affairs, RCSI University of Medicine and Health Sciences, Dublin, Ireland
[c] School of Communication and Culture, Jens Chr. Skous Vej 4, 8000 Aarhus C, Denmark

ARTICLE INFO

Keywords:
Video review
Communication skills training
Residents
Qualitative

ABSTRACT

Objective: To investigate residents' experiences recording and receiving feedback on a challenging video of a patient encounter. Methods: We used a qualitative design with first year residents who took part in a mandatory communication skills course in which all participants were asked to bring a challenging video of a patient encounter. The methods consisted of brief reflection texts and focus groups related to their perspectives on the use of challenging videos. Results: 106 residents wrote brief reflection texts, and 13 residents participated in four focus groups. Residents mainly expressed positive experiences with the challenging video exercise. Residents reported that the pressure to perform was felt to be less than on previous teaching sessions because the focus was on choosing an encounter which was less than perfect. They also reported that they appreciated the opportunity to see that other doctors were not performing optimally. Conclusion: The use of challenging videos as a teaching method for communication skills was experienced as encouraging by residents and facilitated enhanced learning. *Innovation:* We recommend adding more focus on challenging situations in video review. This could support learning by providing what our participants found to be a less daunting learning environment.

1. Introduction

Video-recording patient encounters for educational purposes (i.e. video review) has been used in medical education since the 1960s [1,2]. It is well-established that it is an effective method for teaching and improving health communication skills [3-6] and is sometimes referred to as "the gold standard of communication teaching" [4]. The effectiveness of video review is related to the advantages it provides compared to e.g. role play. It enables the learner to look at themselves "from the outside" [3], enabling reflection based on self-observation [7], and it provides opportunities to get feedback on communication with real patients. Furthermore, performance can be reviewed several times and thus various aspects of communicative performance can be assessed such as what was said (content), and how it was said (tone and non-verbal communication). However, video review has also been associated with disadvantages such as anxiety, apprehension [8-10] or worries that patients feel uncomfortable during the video-recorded encounter [11].

Research into video review as a communication skills learning method has investigated various approaches to the method, e.g. using simulated patients [12,13], using real patients [14], or standardised patients [15] using self-feedback [16], peer feedback [10] and teacher/expert feedback [7]. Despite the long tradition of using video review and the consensus that it is an effective tool for communication skills training, little knowledge is available on what learners are supposed to video-record. For summative assessments, there is an implicit assumption that learners will bring a video of their most successful encounter. However, little is known about whether such a high-performance video provides the best learning opportunities for communication skills teaching. There is no evidence available about video review of challenging encounters. We sought to answer the following research question: how do residents experience recording, showing and receiving feedback on a challenging video? The study will provide new knowledge on how to best use video review in medical communication skills curricula.

* Corresponding author at: Department of Clinical Medicine, Aarhus University, Hedeager 1, 8200 Aarhus N, Denmark.
E-mail addresses: jane@clin.au.dk (J.E. Møller), edoherty@rcsi.ie (E. Doherty), matnj@cc.au.dk (M.N. Brøgger).

https://doi.org/10.1016/j.pecinn.2024.100322
Received 21 May 2024; Received in revised form 30 June 2024; Accepted 11 July 2024
Available online 14 July 2024

2. Materials and methods

2.1. Setting

In Denmark, all first-year residents[1] (approximately 1000 a year) must attend a mandatory three-day communication skills course that focuses on doctor-patient communication. In Central Denmark Region, which is the context of this study, 300 residents attend the course every year. For more information on the course, see Appendix 1 and Møller et al. 2022 [17]. Fifteen residents participate in each course. When attending the course, they are in the second part of their first-year residency (foundation year) and have worked as doctors for approximately 6–10 months. Most (80%) are undertaking a six months' placement in general practice, 10% are working in psychiatry, and the last 10% are internal medicine residents. The course consists of two consecutive days followed by a third day after a 3–4 week interval. As part of their preparation for day three, learners are asked to record and bring a video in which they felt challenged in relation to the communication with a patient. Learners are instructed to record as many videos as possible in order to increase the chances of getting a challenging one as this cannot necessarily be predicted. Written consent must be obtained from all recorded patients. On day three, videos are presented, and peer feedback is facilitated in groups of five. Feedback is facilitated by a trained facilitator.

2.2. Design and data

We used a two-part qualitative design. A qualitative approach was chosen to elicit the subjective experiences with challenging videos. In part one, shortly after showing and receiving feedback on their video, we asked residents to write short reflection texts with their perspectives on video review in general, and on recording, showing, watching and getting feedback on a challenging video. All residents were invited to take part in the second part, which we conducted using online focus groups (over Zoom). Such virtual formats are described as effective for gathering individuals from different geographical locations [18], are easy to use, and provide opportunities for a more relaxed atmosphere leading to deeper content [19,20].

Both in the short reflection texts and in the focus group interviews, residents were asked to give their perspectives on video review in general, on bringing and showing a challenging video and on the difference between a high-performance and a challenging video in relation to learning communication skills. The reflection exercise contained open questions, but also asked the residents to respond to a quantitative item by asking which type of video learners preferred in relation to learning. The focus group method allowed for an elicitation of perspectives in a less controlled way and encouraged participants to react to each others' views, thereby making information available that might otherwise have remained unarticulated [21]. The focus groups followed the funnel model [22], starting with open questions to encourage participants to speak from their own experiences, followed by more specific questions.

2.3. Data analysis

Our research utilized a constructivist approach to explore residents' experiences. This approach acknowledges that meanings, experiences, and interpretations are collaboratively constructed among participants, interviewers, and the research team [23]. With this in mind, we found that reflexive thematic analysis was suitable [24]. See Table 1 for an overview.

[1] In the Danish post-graduate medical education system, the first year after graduating from medical school consists of two periods of six months training; one at a hospital department and one in general practice/psychiatry. After this, they choose a specialty and continue their training.

Table 1
Overview of the data analysis.

Step	Process of the study
1. *Data familiarization*	The first and third authors read the reflection texts and the focus group transcripts and considered initial patterns to obtain a sense of the residents' experiences.
2. *Systematic data coding*	The first and third authors individually coded the material and compared codes. We went back and forth between the focus group transcripts and the reflection texts.
3. *Generating initial themes*	The first and third authors conducted a more in-depth analysis of developing patterns in the focus groups and defined themes.
4. *Developing and reviewing themes*	The first and third authors reviewed the themes discussing any ambiguities.
5. *Refining, defining and naming themes*	The first and third authors defined and described the final themes, relating the analysis to the study objective. In this phase, we combined the analysis with a quantitative component by counting the number of participants who in their reflections stated whether they preferred the video review using e.g. challenging or high performance.
6. *Writing the report*	The first and third authors wrote the analysis and this was reviewed and commented by the second author. Then the first and third authors wrote the final analysis.

3. Results

We received brief reflection texts from 106 participants. Except for two, all found video review a useful and powerful method for learning communication skills, yet many described it as challenging, disturbing and daunting. When specifically asked about their preference, a majority (91), preferred a challenging video and reported that choosing a challenging video facilitated enhanced learning and led to less anxiety. Five participants reported that using both best performance and challenging videos provided good learning opportunities. Six had not tried video recording before and therefore could not compare. Three answered that they did not know, and one preferred best performance. These findings were explored in the focus groups.

We conducted four focus group interviews with four male and nine female residents (See Table 2). We deemed four focus groups to be sufficient as we reached data saturation i.e. no new themes appeared [25].

Most participants had previous experience with video-recording patient conversations in their pre-graduate training, especially in relation to final exams. In such situations, they would aim to bring a 'high-performance' video, i.e. where they performed well both diagnostically and communication skills wise.

They expressed an ambivalence about video recording and feedback on a patient encounter. On the one hand, they felt in a vulnerable position, characterized by nervousness, anxiety and a sense of unpleasant exposure to their colleagues, fearing to be caught 'prescribing the wrong

Table 2
Focus group participants.

Focus group	Pseudonym	Gender	Current department
A	FGA:1	Female	General practice
	FGA:2	Female	General practice
	FGA:3	Male	General practice
	FGA:4	Male	Psychiatry
B	FGB:1	Female	General practice
	FGB:2	Male	General practice
	FGB:3	Female	General practice
C	FGC:1	Female	General practice
	FGC:2	Female	General practice
D	FGD:1	Female	General practice
	FGD:2	Female	General practice
	FGD:3	Female	General practice
	FGD:4	Male	General practice

treatment' or being exposed as a 'bad communicator'. On the other hand, they reported an overwhelming sense of learning from the videos, especially because video review provided the opportunity to 'see oneself from the outside', noticing 'one's non-verbal behaviors' and 'unconscious bad habits' and somehow gave a picture of one's clinical reality, which roleplay would not allow for. This was evident in the following quote:

> So it wasn't something I was looking forward to, recording that video, or showing it or anything, but I also think, as the others are saying, you know very well that there is so much learning in it […] it's also interesting to see examples from real life. Yes, more than roleplaying (FGA: 2).

Many said that despite it being unpleasant to video review in the beginning, they overcame this and got used to it. In addition, their under-graduate experiences with video-based methods had helped them to feel more comfortable about it. A major challenge which remained was the practical issue about asking patients' permission and fitting this extra task into their busy clinical setting.

3.1. Bringing 'the worst video'

When asked specifically about their perspectives on and experiences with bringing a challenging video, the aforementioned ambivalence was still observed; however, it took a different form. Vulnerability still existed, but seemed to decrease, and simultaneously, the perceived learning outcomes were experienced to become more 'in depth' and 'meaningful'. Four themes were seen which shed light on these dynamics, namely 1) meaningful feedback, 2) individual vulnerability, 3) sharing vulnerability with peers, 4) structure and safety.

3.1.1. Meaningful feedback

Bringing a challenging video created learning opportunities, which the residents valued. Several dimensions were mentioned, such as, 1) self-assessment and the ability to 'see oneself from the outside', 2) concrete feedback tailored to individual needs, 3) feedback from others, 4) learning from other colleagues' challenging encounters, 5) becoming aware of the effective communication skills in the challenging encounter.

The self-assessment aspect of 'seeing oneself from the outside' in a challenging patient encounter was recurrently emphasized as valuable, especially because one could become aware of bad habits or unconscious ineffective behaviors. The opportunity to see discrepancies between one's intended and actual communication enabled the learner to correct and change behavior as is for example expressed by this resident:

> I learned when I watched my video that I tend to stare at the computer screen. When they [patients] said something they had been examined for previously, or something like "well I was here last year with something similar", then I reflexively start looking into the screen. And I have started to say that out loud: "I'm just trying to find, uh, what we talked about" so they don't think I'm zoning out. And then I've started to ask more questions about, "what are you really worried about this could be". So try to do some of the things that I could see I wasn't doing. So I've become aware of what I didn't do. Erm, at the same time, I got some nice comments about what I was actually doing well (FGB:3).

Becoming aware of one's own blind spots, thus enabled the residents to correct what they found to be dysfunctional in the encounters. For a few residents, the self-assessment was perceived as the most important part of the learning process.

The residents valued that the feedback they received related to their specific needs and found it to be more in depth and meaningful because it dealt with their individual challenges, as opposed to learning from seeing effective behaviors. Some reported that the instruction had made them reflect more on what they actually found challenging and this led to enhanced self-reflection. Furthermore, they reported that a focus on what they struggled with was rewarding because they often would not be able to figure out alternative and more effective communicative strategies themselves:

> I think that what you do well, you can also feel it gradually, that it works really well. But where you get into trouble is when things go awry or when you don't know how to get the message delivered properly. And you need to discuss that with others in a confidential situation. And you can do that in a video like this, where you sit with others and get feedback (FGC:1).

Expressions such as 'meaningful', 'more useful', 'in-depth', 'learning more', 'getting more out of it', were used. In addition, a challenge-focus was seen as matching the right level of complexity, because of being more experienced showing high-performance videos was considered 'a step backwards':

> And it is not that we just fire off one perfect communication consultation after another, but more that the basic things might not be that interesting to talk about anymore, you are able to take it a step up. So that's why I think it would have been going a little backwards if we had to bring a high performance with us, where everything went smoothly, and it wasn't a challenging conversation. Then I think: "We have probably already been there" (FGC:2).

Learning from feedback given by others was another dimension that was emphasized, as other residents would work collaboratively and problem-solve the challenge that the resident showing the video felt. Their colleagues made it possible to catch issues they had not seen.

This would also lead to a general sharing of ideas and 'things to say' in different challenging situations, whether this was dissatisfied or angry patients, not being able to maintain a structure, not finding out the patient's agenda or having too many things on the agenda, overhearing patients' cues, mismatched expectations or as in the following, a very talkative patient:

> I had brought a case with a very talkative patient, where I had to manage the entire consultation process. It was really a challenge. But we, I think we had a really good talk about both how to handle such a person, but also when some of them come, for example physical symptoms that are scattered, where it might actually be more about something, so, something psycho-social, psycho-somatic um. Yes. Erm, how you can maybe open up for a talk about some of those things, because there were actually some openings in the conversation that I hadn't spotted at all, because there was chaos in my head […]
>
> (FGB:1)

Seeing their colleagues' challenging videos was in itself a source for learning. All found that because they could recognize the kind of situations where others felt challenged. This was a rare and golden opportunity for learning from their way of handling them, and that it was inspiring to see the colleagues as expressed in this quote:

> But I think I have primarily used it [the videos] as some real-life examples of the various challenges we all meet in different disguises all the time (FGC:2).

Through the feedback on the challenging encounters, they also realized that there were actually effective elements in their communication and that 'not everything was as bad as they initially thought'. This gave a feeling of comfort and a positive 'pat on the back', creating a sense of 'even when I feel challenged and not knowing what to do, I do things ok'.

3.1.2. Individual vulnerability

A dominant pattern was that bringing a challenging video made the whole exercise less anxiety provoking. An example of this is seen in the following quote:

> It was a giant relief, I think. In other words, it actually meant that I almost didn't think about what I recorded. I just turned the camera on and recorded and, yeah. So I've actually experienced being more myself on these videos than I have before, because earlier, it had to be a good video and, "remember the structure of the conversation" or all that crap. Sorry (smiles) (FGA:2).

The instruction to bring an example of the imperfect encounter made the exercise less stressful because perfection was not and ideal to strive for. Some expressed that if that had been the case, they would have been more nervous. As such, the instruction was important because completing the task involved bringing a video where one would be exposed:

> Well, when the criterion was that it had to be a video where there was something to talk about and where it had been challenging, and didn't have to be perfect, then you didn't have to strive for that, and then it became a little more calm, I think, towards myself, to take something with me where I knew I would feel exposed, but that was also what the task was about. That we, that it wasn't supposed to be perfect (FGB:1).

This in turn produced another level of honesty about themselves as a communicators, because showing a video where they were challenged made them 'being brutally honest' about their communicative weaknesses and strengths. Leaving the 'exam' element out of the exercise was seen as positive:

> You show up with a greater desire to learn and to receive feedback and constructive criticism, and when there is not that exam element (FGA:2).

Despite this being the dominant pattern, a few reported that bringing a challenging video did not change their anxiety level. They still found it anxiety-provoking and some chose to bring not their best performance but not their worst either:

> I think overall I'm fine with it, but I'm probably not 100% cool, I don't think. So, uhm, I remember when I was looking through the videos and had to choose one, I thought like, I don't want to choose one of those where the others might think, "no okay she doesn't even know that", for example, or where I'm just um, extremely bad. Um, so you know, a really bad day at the office. I would probably rather have something where I think that I solved it in a good way, but there are just some pitfalls, yes, and I also fell into some of them, but it can happen to all of us. That's how I think I picked my video (FGC:2).

Interestingly, this resident found it 'cool' that a fellow resident brought a video where she was 'exposed', despite not 'daring' to bring one herself, which underscores that participants found it valuable to share challenging situations, both those who 'dared' to bring the most challenging and those who choose a less challenging video.

3.1.3. Sharing vulnerability with peers

Sharing vulnerability was emphasized as a particularly meaningful aspect of showing the video. Bringing a challenging video was seen as creating a space for talking about the difficult aspects of residency as in contrast to the existing culture of being high performers:

> I also think it was so cool that we had to show a little vulnerability. We are always high performers and always talk about the great professional challenges we have faced and solved, but never when it is difficult. You miss that very much especially when you have just started your residency. A space for that was created in these situations, because we had to show some difficult videos and it was really nice that others also have a hard time. (FGD:1).

Thus bringing a challenging video created a sense of community where it became visible for the residents that what was previously being considered as one's own individual struggles and feelings of inadequacy, was instead shared and gave a feeling of being in 'the same boat'. The collegial recognition provided the feeling that it was ok to be vulnerable.

> And then I just think that exactly that fact that all people recognize that you are so vulnerable and you are allowed to be. That, I think is really cool. And together with some colleagues who can accommodate it (FGA:3).

3.1.4. Structure and safety

The residents mentioned several conditions that in their view had to be in place for this video review to work, namely that there was a clear structure for the feedback sessions, a safe learning environment, and that they knew the feedback was for their own learning and not assessment purposes.

A majority expressed that their working with role play in the same small groups for two days before actually showing the video, made them feel that group connectedness was established and that this made them feel safe enough to expose their vulnerability. In addition, they mentioned the importance of having experienced facilitators who followed a structure in the sessions, ensuring that all knew what to expect:

> In other words, I think the structure was set. We were all in the same boat. We had a supervisor or whatever you call it, a captain who controlled the course of events, uh, who I at least trusted was competent in what he was doing. And then you just did it, and it went on professionally and comfortably, and as FGA:3 also said, we had been together for two days there already (FGA:4).

Both these aspects were repeatedly mentioned as necessary for the exercise of bringing a challenging video to work. Furthermore, they stressed that it was important that summative assessment was not part of the exercise. Thus, their learning was the goal, which also made the learning aspect more valuable, as demonstrated by this quote:

> if I had been here with the premise that these three days must be passed at the end, I probably hadn't focused on anything but that. All the communicative tools, and the learning we got from that course, I wouldn't have thought much about that, apart from thinking that the video had to be absolutely perfect (FGC:1).

> I totally agree. And I also think that it would affect the whole space of trust that is there when you watch videos and discuss cases […] I also think my focus would be different, but I also think I'd be more alert in relation to the teachers. It may well be that they are not assessing you right now, but they will later. And what if you say something really stupid (FGC:2).

4. Discussion and conclusion

4.1. Discussion

The results of this study provide us with insights into the perspectives of residents on recording and receiving feedback on challenging patient communication videos. Similar to previous work, learners report anxiety about this process [8-10]; however, the instruction to bring a challenging rather than a high performance video seems to alleviate this anxiety. Perhaps by removing the pressure to demonstrate competency and by prescribing less than perfect performance, residents can feel

more comfortable exposing their challenges and embrace the opportunity to learn.

In a theoretical perspective, the findings are reminiscent of the effect of role-modelling and learning in Albert Bandura's social learning theory [26]. Bandura found in the '60s that subjects (i.e. children) learned more from a role model who displayed some flaws but overcame them, compared to a perfect role model. Imperfect models who succeed despite flaws are more relatable however the impact can be lost if the role models do not manage to achieve success. Caution should be used in generalising this possible learning benefit of challenging performances as this has not been investigated in medical education to date. It may be that the benefit is derived from the reduction in perceived pressure to perform. Elevated anxiety and stress has been noted previously and is a common finding in studies involving debriefing of individuals' performances [27].

Medical students and doctors tend to score high on personality tests which estimate the conscientiousness trait and this in turn has been found to predict success in medical training [28,29]. Conscientiousness can be experienced as perfectionistic attitudes and the expectation to provide a video depicting one's expert performance can be stressful for doctors. Taking this expectation out of the learning process may facilitate psychological safety which promotes humility and openness to mistakes [30].

An interesting finding was that participants reported that however challenging it felt to demonstrate an imperfect performance to peers, they also valued sharing their vulnerability in a safe learning environment. In the light of the increasing focus on psychological safety in the workplace [30] which is described as a culture where individuals trust that colleagues will not embarrass, reject or punish them for sharing an error [31], this particular kind of training is a way to rehearse the sharing of imperfect and challenging situations. Thus, it could be said to be a building block in creating such a culture.

There are limitations to our study. We investigated learners' perspectives on recording, showing and receiving feedback of a communicatively challenging patient encounter leaving it to the learners to assess what they deem to be a challenging encounter. We did not investigate whether learners did indeed bring a challenging video. It is well-known that recording and showing videos has been found to be daunting for learners, with Paul et al. [8] reporting that most students scored high on anxiety and resistance to videotaping beforehand. Also, the practical circumstances of recording such a video instead of just any video could lead some learners to not bring a challenging video. Furthermore, the results are limited to the specific context of formative feedback as learners in a summative feedback situation may find showing a challenging video less meaningful. Finally, it could be argued that challenging video review may have been particularly beneficial for these learners as they are peers without hierarchical relationships who are not close colleagues [32]. Based on our study, we cannot conclude whether the positive experience with challenging video review was linked to a majority of the residents having some level of experience as doctors and having previous experience with (high-performance) video; therefore, future studies should investigate what experience levels are needed for challenging video review to be a success.

4.2. Innovation

This study offers an innovative approach to a specific kind of video review for communication skills training. It is the first to explore the use of recording, showing and receiving feedback on challenging videos. Despite video review being the "the gold standard of communication teaching" [4], the literature does not describe the type of patient encounter learners are supposed to video-record, i.e. whether it should be a successful encounter with a satisfied patient and a high-performing doctors, or a challenging one. Another innovative aspect of this study is that it raises the question of what type of communication performances should be used in communication skills training when the focus is on learning and formative feedback. Based on our results, we recommend changing current practices by adding more focus on giving explicit instructions for what to video-record and for what purpose. Focusing more on challenging situations (when suitable) could support learning by providing what our participants found to be a less daunting learning environment as it provides opportunities to receive concrete feedback on how to improve skills, not just when communication is running smoothly.

4.3. Conclusion

The use of challenging videos as a learning method for communication skills can provide beneficial learning opportunities. As opposed to high-performance videos, it can provide a less daunting situation for learners which has previously been presented as one of the drawbacks of the video review method. Residents found that showing, watching and thus sharing challenging videos was valuable and that it provided them with the opportunity to share vulnerability and learn from each other.

CRediT authorship contribution statement

Jane Ege Møller: Writing – review & editing, Writing – original draft, Validation, Project administration, Methodology, Formal analysis, Data curation, Conceptualization. **Eva Doherty:** Writing – review & editing, Writing – original draft, Conceptualization. **Matilde Nisbeth Brøgger:** Writing – review & editing, Writing – original draft, Validation, Project administration, Methodology, Formal analysis, Data curation, Conceptualization.

Declaration of competing interest

None.

Acknowledgements

We would like to thank all the residents who participated in our study, and the Center for Competence Development, Central Denmark Region for supporting the study.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.pecinn.2024.100322.

References

[1] Peltier LF, Geertsma RH, Youmans RL. Television videotape recording: an adjunct in teaching emergency medical care. Surgery 1969;66(1):233–6.
[2] Wilmer HA. Practical and theoretical aspects of videotape supervision in psychiatry. J Nerv Ment Dis 1967;145(2):123–30.
[3] Hammoud MM, Morgan HK, Edwards ME, Lyon JA, White C. Is video review of patient encounters an effective tool for medical student learning? A review of the literature. Adv Med Educ Pract 2012;3:19–30.
[4] Kurtz S, Silverman J, Draper J. Teaching and learning communication skills in medicine. 2. ed. Abingdon: Radcliffe Medical; 2005.
[5] Roter DL, Larson S, Shinitzky H, Chernoff R, Serwint JR, Adamo G, et al. Use of an innovative video feedback technique to enhance communication skills training. Med Educ 2004;38(2):145–57.
[6] Noordman J, Verhaak P, van Dulmen S. Web-enabled video-feedback: a method to reflect on the communication skills of experienced physicians. Patient Educ Couns 2011;82(3):335–40.
[7] Wouda JC, van de Wiel HB. The effects of self-assessment and supervisor feedback on residents' patient-education competency using videoed outpatient consultations. Patient Educ Couns 2014;97(1):59–66.
[8] Paul S, Dawson KP, Lanphear JH, Cheema MY. Video recording feedback: a feasible and effective approach to teaching history-taking and physical examination skills in undergraduate paediatric medicine. Med Educ 1998;32(3):332–6.
[9] Herrmann-Werner A, Weber H, Loda T, Keifenheim KE, Erschens R, Mölbert SC, et al. "But Dr Google said…" – training medical students how to communicate with E-patients. Med Teach 2019;41(12):1434–40.

[10] Nilsen S, Baerheim A. Feedback on video recorded consultations in medical teaching: why students loathe and love it - a focus-group based qualitative study. BMC Med Educ 2005;5:28.
[11] Eeckhout T, Gerits M, Bouquillon D, Schoenmakers B. Video training with peer feedback in real-time consultation: acceptability and feasibility in a general-practice setting. Postgrad Med J 2016;92(1090):431–5.
[12] Hulsman RL, Harmsen AB, Fabriek M. Reflective teaching of medical communication skills with DiViDU: assessing the level of student reflection on recorded consultations with simulated patients. Patient Educ Couns 2009;74(2):142–9.
[13] Supiot S, Bonnaud-Antignac A. Using simulated interviews to teach junior medical students to disclose the diagnosis of cancer. J Cancer Educ 2008;23(2):102–7.
[14] Groener JB, Bugaj TJ, Scarpone R, Koechel A, Stiepak J, Branchereau S, et al. Video-based on-ward supervision for final year medical students. BMC Med Educ 2015;15(1):163.
[15] Myung SJ, Kang SH, Kim YS, Lee EB, Shin JS, Shin HY, et al. The use of standardized patients to teach medical students clinical skills in ambulatory care settings. Med Teach 2010;32(11):e467–70.
[16] Zick A, Granieri M, Makoul G. First-year medical students' assessment of their own communication skills: a video-based, open-ended approach. Patient Educ Couns 2007;68:161–6.
[17] Møller JE, Henriksen J, Søjnæs C, Brøgger MN. Doctors' experiences of earlier mandatory postgraduate communication skills training: a qualitative study. Int J Med Educ 2022;13:47–55.
[18] Matthews KL, Baird M, Duchesne G. Using online meeting software to facilitate geographically dispersed focus groups for health workforce research. Qual Health Res 2018;28(10):1621–8.
[19] Archibald MM, Ambagtsheer RC, Casey MG, Lawless M. Using zoom videoconferencing for qualitative data collection: perceptions and experiences of researchers and participants. Int J Qual Methods 2019;18. 1609406919874596.
[20] Dos Santos Marques IC, Theiss LM, Johnson CY, McLin E, Ruf BA, Vickers SM, et al. Implementation of virtual focus groups for qualitative data collection in a global pandemic. Am J Surg 2021;221:918–22.
[21] Bloor M, Frankland J, Thomas M, Robson K. Focus groups in social research, London. 2001.
[22] Morgan DL. Focus groups. Annu Rev Sociol 1996;22:129–52.
[23] Mann K, MacLeod A. Constructivism: Learning theories and approaches to research. In: Cleland J, Durning SJ, editors. Researching Medical Education. Wiley & Sons; 2015. p. 49–66. https://doi.org/10.1002/9781118838983.ch6.
[24] Braun V, Clarke V. Is thematic analysis used well in health psychology? A critical review of published research, with recommendations for quality practice and reporting, health. Psychol Rev 2023;17:695–718.
[25] Baker S, Edwards R. How many qualitative interviews is enough. 2012.
[26] Cook DA, Artino Jr AR. Motivation to learn: an overview of contemporary theories. Med Educ 2016;50:997–1014.
[27] Rudolph JW, Raemer DB, Simon R. Establishing a safe container for learning in simulation: the role of the presimulation briefing. Simul Healthc 2014;9:339–49.
[28] McManus IC, Keeling A, Paice E. Stress, burnout and doctors' attitudes to work are determined by personality and learning style: a twelve year longitudinal study of UK medical graduates. BMC Med 2004;2:29.
[29] Doherty EM, Nugent E. Personality factors and medical training: a review of the literature. Med Educ 2011;45:132–40.
[30] Edmondson A. Psychological safety and learning behavior in work teams. Adm Sci Q 1999;44:350–83.
[31] Edmondson AC, Higgins M, Singer S, Weiner J. Understanding psychological safety in health care and education organizations: a comparative perspective. Res Hum Dev 2016;13. 65-83.[.
[32] Møller JE, Malling BVG. Workplace-based communication skills training in clinical departments: examining the role of collegial relations through positioning theory. Med Teach 2019;41:309–17.