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Some like it hot: medical student views on choosing the emotional level of a simulation

Abstract

Objectives

To determine the impact of giving junior medical students control over the level of emotion expressed by a simulated patient in a teaching session designed to prepare them to handle emotions when interviewing real patients on placements.

Methods

First year medical students at Keele University School of Medicine were allowed to set the degree of emotion to be displayed by the simulated patient in their first "emotional interview". This innovation was evaluated by mixed methods in two consecutive academic years as part of an action research project, along with other developments in a new communications skills curriculum. Questionnaires were completed after the first and second iteration by students, tutors and simulated patients. Sixteen students also participated in evaluative focus group discussions at the end of the first year.

Results

Most students found the "emotion-setting switch" helpful, whether they were interviewing the simulated patient or observing. Student interviewers were helped by perceiving that they had control over the difficulty of the task. Student observers found it helpful to see the different levels of emotion and to think about how they might empathise with patients.

In contrast some students found the “control switch” unnecessary or even unhelpful. These students felt that challenge was good for them and preferred not to be given the option of reducing it.

Discussion

The emotional level control was a useful innovation for most students and may potentially be used in any first encounter with challenging simulation. We suggest that it addresses innate needs for competence and autonomy. The insights gained enable us to suggest ways of building in the element of choice to such sessions. The disadvantages of choice highlighted by some students should be surmountable by tutor “scaffolding” of the learning for both student interviewers and observers.

Introduction

Self-determination in learning

Self-directedness is important for adult learning in a group setting and learners should be encouraged to have choice and control when possible (1). Adult learners also value self-esteem, and it is important that they do not fail dismally (2). Furthermore, students differ in their self-confidence, risk-taking, self-awareness (metacognition), mastery and performance goals and this affects how individuals learn and how much support and challenge each requires (3-5).

Teaching in medical schools which supports autonomy has been found to produce a more humanistic approach to the patient as well as lower student anxiety, higher self-esteem, and enhanced learning as evidenced by better test grades (6).

Learning should also build on existing knowledge and skills (7;8). First year medical students differ in their pre-existing skills and how far they are able to move beyond existing competence – in Vygotsky's term the "width of their zone of proximal development" (9). One of the tutor's roles is therefore to help the learner progress to the next level of achievement by appropriate steps, not to expect him/her to bridge an unbridgeable gap.

Learning of social skills is thought to be based on modelling others, the “social cognitive learning theory”. Learners are thought to gauge their capabilities not only through their own performance but also by observing similar others perform, by persuasion from others (“you can do it”) and by their physiological indexes (heart rate, sweating) (10).

Student control in simulation

Simulation is used in medical learning to allow students to experiment, to rehearse skills and to get immediate feedback all in safety for both student and patients (11-13). Two features of Simulated (Standardised) Patients which enable experimentation and re-rehearsing are the “pause” and “rewind” functions. The pause function (to enable the interviewer to discuss with observers what is happening and then proceed with the interview at the pace which suits him/her) and use of the rewind/replay facility (for the interviewer or a peer to try different approaches and see what happens) are both examples of giving students control to help their learning (13). However, while students have typically been given control over the *pace* of interviews, there are no studies reporting sessions giving students control over the *content* of interviews, nor the effects of this extra layer of control on student learning.

For the past two years we have given junior medical students control over the level of emotion expressed by a simulated patient in their first “emotional interview”. Simulated patients are usually trained to set the emotional temperature as the script or facilitator instructs (13). The innovation here was that the student interviewer had the “control switch” for the degree of emotion. This paper describes the impacts of offering such control to students on their learning, behaviour, and peer and self perception. This is discussed within a theoretical framework which builds on the zone of proximal development and its implications for small group teaching.

Institution-specific background - the communication skills programme and emotion-setting exercise

The communication skills programme within Keele University's new medical curriculum was designed by an action research group. One session was designed to prepare first year medical students to handle patients' emotions by conducting interviews with emotional content about chronic illness with simulated patients. The design group included a medical student member (SC) who proposed that the student interviewer be allowed to set the level of emotion expressed by the simulated patient. SC argued that an emotionally charged interview is a scary experience for a first year medical student, especially because s/he is performing in front of peers and does not want to fail. It was proposed that giving the choice of emotional temperature to the students would allow each student to face the size of challenge they could manage. The underlying hypothesis was that this in turn would enable students to learn more effectively, consistent with the theory of the 'zone of proximal development' (9).

In this session each group of eight or nine students discussed the skills involved in eliciting a patient's story and how to handle challenges they might face on their next placement which was to interview a patient with a chronic condition. In each group three simulated interviews followed with a rotation of simulated patients and student interviewers. Students interviewed in pairs or alone (their choice) observed by the rest of the group, followed by feedback. The tutor invited interviewers to choose the level of initial emotion expressed by the simulated patient (Mild/ Medium/ Strong). The simulated patients had been trained to "feel" and display this level of emotion when the topic of the chronic condition was broached, but also to respond to the student within the interview.

Methods of evaluation

Study population recruitment

The study population comprised the first two cohorts of year one undergraduate medical students in Keele University's new undergraduate medical curriculum (intake Sept 2007 and Sept 2008). At the end of their session on handling an emotional interview all attending students were asked to complete a routine evaluation of their four session introductory communication skills course and were asked to give their optional informed consent for their responses to be used in research.

A sub-set of students were recruited to join focus group discussions to evaluate the first year of the new curriculum via an announcement made at a lecture and on the university's virtual learning environment. Students were asked to indicate (by return of an information slip or by email) their interest in participating in a focus group to include evaluation and research questions or evaluation questions only. Groups were arranged so that as many students as possible could participate within their timetables (it was possible to allocate 26 out of 31 volunteers to groups), to ensure as even a gender split as possible, to separate PBL groups and to have adequate numbers in each group. Five focus groups were held in total. Two groups included students who wished to participate only in evaluation. The data discussed here come from the other three (research and

evaluation) groups. Figure 1. shows how the sample of students related to the year cohort.

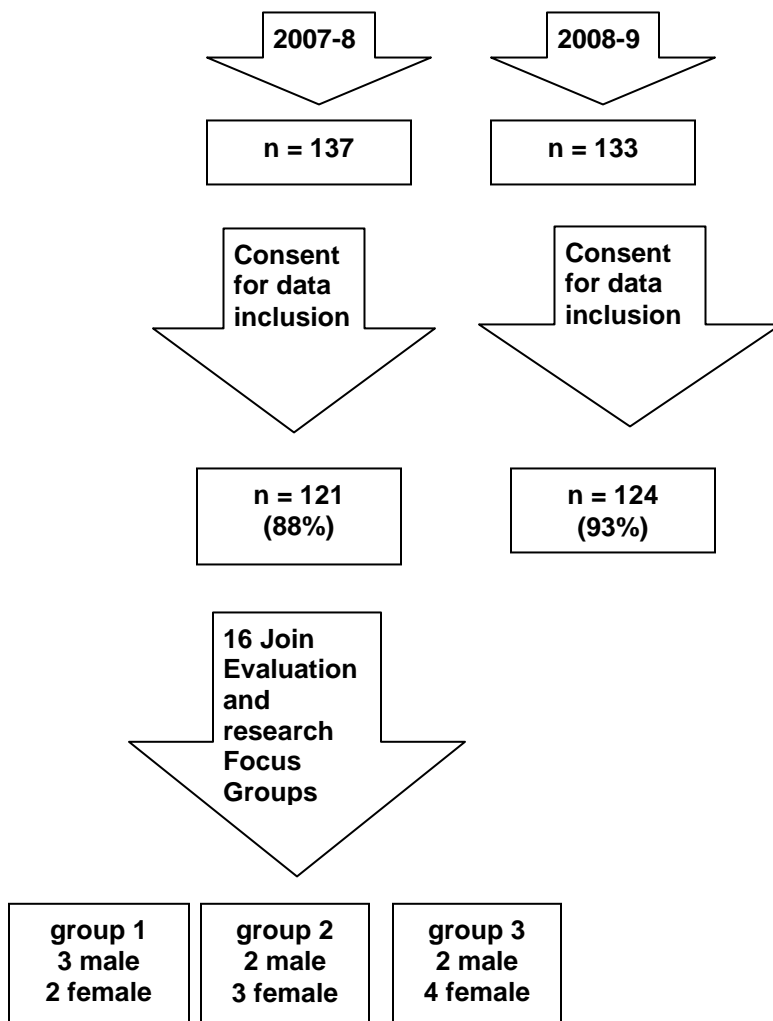


Fig 1: Flow chart to illustrate the evaluation cycle and how the sample of students in the study related to the year cohort.

Framework for questioning and analysis of responses

The routine evaluation questionnaire comprised sixteen questions on the communication skills course with space for written comments (Appendix 1).

Focus group implementation

The focus groups took the modified grounded theory approach (14;15).

The moderator (CB) and assistant were known to the students as the course evaluators and were not their tutors. The focus groups explored a range of issues relating to the new curriculum, and as part of this broader evaluation each group was asked to discuss their experiences of being allowed to set the emotional level of a simulated patient interview.

Focus groups were audio-recorded and transcribed with written consent from participants. Thematic analysis of transcript data was performed using NVivo 2.0 software. Tentative interpretations were developed at the time of data collection and the relevant literature was scanned to widen the interpretation. Assumptions were discussed by the action research group in light of findings, highlighting exceptions and seeking explanations for apparent disagreement.

Results

121 of the 137 students in the first cycle (88%) and 124 of the 133 students in the second cycle (93%) consented for their routine evaluation data to be included in this study. Both years had a majority of female students and were similar with regard to the proportion of graduates (table 1).

Table 1 : Frequency table of gender and graduate status of the student study participants
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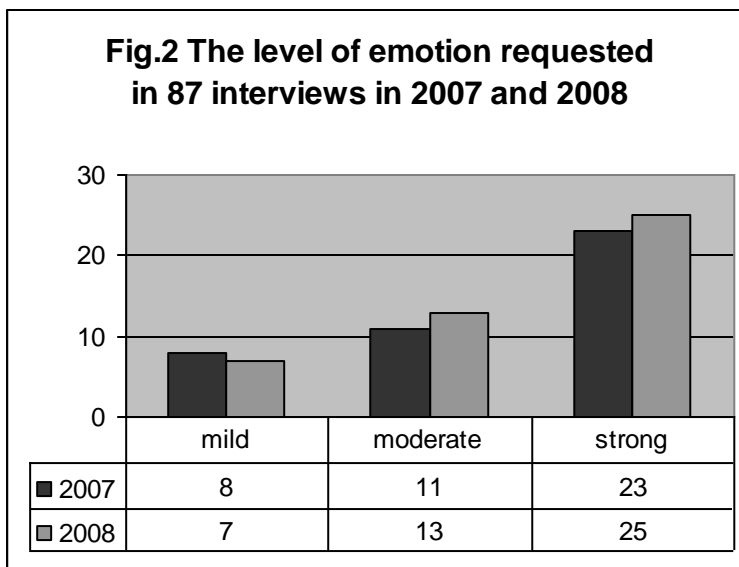
Cohort Year 1 in:	Female	Male	Graduates	Total study participants	Total Year group
2007-8	69 (57%)	52 (43%)	14 (11.6%)	121	137
2008-9	75 (60.5%)	49 (39.5%)	18 (14.5%)	124	133

Quotations from questionnaire respondents are annotated with their response on the Likert scale of: [Strongly agree] [Agree] [Disagree] [Strongly disagree] and by their identification number (eg. T55 - a member of group T5 in 2007; 345 – a member of group 34 in 2008) gender and graduate status (when positive).

At the end of the first year of the course, 16 students (7 male and 9 female) took part in three focus groups. Two of the female students had previous degrees. Focus group members are identified by an initial, their gender and graduate status (when positive).

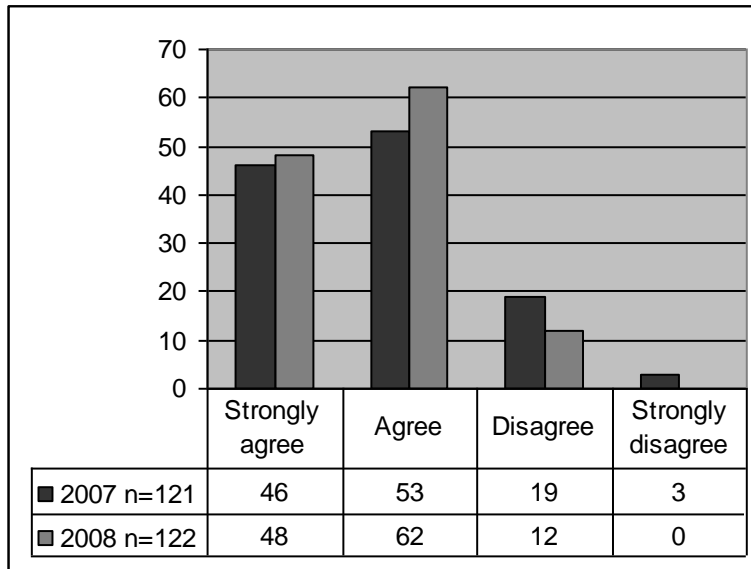
Students’ evaluation of the “emotion-setting switch”

The proportion of students choosing each level of emotion as recorded by group tutors was similar in 2007 and 2008, with around 55% of students requesting strong displayed emotion. (Fig 2).



Of the 243 students whose data was included in the relevant questionnaire item, 209 (86%) agreed (or agreed strongly) with the statement “Being able to select the level of emotion in session 4 was very helpful”.

Fig. 3 Students’ responses to the statement ‘Being able to select the level of emotion in session 4 was very helpful’ in 2007 and 2008



The students’ written comments to this question were analysed by expected and contrasting views. The expected view, supported by several student comments, was that giving control to the student enabled students to feel comfortable, prepared and self-confident and that too much challenge would be bad.

But the contrasting point also emerged from some other student comments that challenge is good and as such, it would be better not to be too prepared.

Other themes emerging in both cycles were that seeing the range of emotions was educational and that the session topic itself was good preparation for placements. These themes are illustrated in figure 4. and developed below.

Fig 4. Examples of comments of students agreeing or disagreeing with the statement 'Being able to select the level of emotion in session 4 was very helpful':

[Agree] This meant that you were more confident and comfortable – thinking that you had decided on a level you can handle. (T55 Female)

[Agree] as we weren't just thrown in the deep end. (T57 Female)

[Strongly agree] Our group selected one of each level – this was very good for comparative purposes (345 male graduate)

[Agree] Although having a varied or unknown level is realistic, at least one strong emotional case is useful (336 male)

[Disagree] [The emotion switch] [w]ould only help those who were less confident. I felt most people wanted the challenge of high though. (T13 Female)

[Disagree] may have been more of a challenge to not know the emotion level. (F15 Male)

Students' experiences of being in control

The focus groups shed further light on students' experiences of having control. Contrasting themes emerged. On the one hand, having control enabled students to feel comfortable and to adjust the exercise to their learning needs. However, group dynamics also shaped the way control was used and perceived.

Control as a route to comfortable learning for individuals

Students liked being able to control both the pace of the interview and the level of emotion. This student referred to the standard simulated patient facilities of "pause" and "rewind":

I think the “pause” and the “rewind” kind of commands were really useful, because you could stop and talk to the group and things like that and that helped a lot rather than carrying on to fail and then talking about how badly you failed. It gave you a chance to correct what you were doing if you were making a mistake. (R male group 1)

And the next student took the discussion onto the additional emotional level control:

I’m glad we could choose the levels because I was scared, and I thought if they just came in and they chose themselves that they were going to be really angry or upset, I wouldn’t know how to deal with that, but if we just chose it would be a mild one, you knew how to deal with that better. (S female group 1)

Here the “control switch” clearly enabled the student to bring the task into her range rather than being disabled by the degree of the challenge. Other students in this focus group agreed that it made learning more comfortable.

Students also learnt from observing the interviews of others. The emotion-setting exercise added value through observation of the handling of different levels of emotion.

Student comments both in questionnaire responses and in focus groups about subsequent placement interviews indicated that students transferred this learning into skills used in placement interviews with real patients.

The influence of the group on the interpretation of control

A second major theme identified in the focus group data was the idea that challenge is good (and therefore comfort is bad). The fact that this was expressed more in the focus group discussions (two of the three groups) than in the questionnaire comments may reflect the fading of emotional memories by the time of the focus groups, and/or the tendency of groups to find consensus – in this case towards seeing themselves as challenge-seeking. Alternatively, it may be that the students volunteering for the focus groups were among the more confident or extrovert students. Nevertheless, what these

discussions illustrated was that in selecting their emotional level, students may have been influenced by the presence of their peers as well as by their individual learning needs.

Focus group discussion revealed that challenge-seeking was regarded by some as a male attribute:

All the guys went for the top ones [levels] (D male group 2)

We do not have data to triangulate with this view on a gender difference, and it is worth noting that the male-female difference in rating of the helpfulness of the “control switch” was not statistically significant. However, the comment indicates that there may have been an element of bravado in students’ choice of level, evident also in that student’s reflection on the risk of the exercise becoming more about controlling the simulated patient than about learning to communicate:

Instead of focussing on our communication skills, we would be joking around afterwards about how we made a SP cry or did you see the SP, focussing on the SP rather than what we were actually doing – that was the only danger I could see from doing it (D Male group 2)

Elsewhere in the focus group discussion, students referred to competition within their PBL groups. It appears that competition may also have shaped students’ perceptions of the emotion-setting exercise. This student felt that to choose for comfort was cowardly, and that it was good to be challenged by a difficult interview:

I don’t think you should be able to pick to be honest. I don’t think you should be allowed to wimp out of it, which I think a lot of people took the easy route and said “give me a little bit”. You don’t learn anything from that. You need to go from normal to quite extreme otherwise you are not getting the full benefit of the session. (W female graduate group 2)

An element of peer pressure to choose the most difficult level was implied by the comments of more than one student:

It is surprising how many people did for go for the higher setting. No one really chickened out and went for the lower one. (A male group 3)

And it took prompting from the moderator (“what did you think, F?”) to get another student to admit that she had indeed been daunted by the challenge, and she used the same judgemental term of herself (“chicken”), while defending her need to choose the mild emotional level:

I found it quite hard, I didn’t really know how to deal with patients. I chickened out and went for the low one, but I think it is good to introduce it to us. We will be dealing with patients who are upset and angry - any range of emotions. (F female group 3)

The choice of emotional level was therefore interpreted by some students within a normative framework in which facing stronger emotion was more highly valued.

Discussion

Our study suggests that giving students choice over the level of emotion expressed by a simulated patient in their first emotional interview is helpful for two main reasons. Firstly, student comments demonstrate the intended effect of the “control switch” along the constructivist principles of enabling learning in the zone of proximal development (10). Students could build their new learning as far out from the existing level as they wished, making use of the teaching at the beginning of the session plus the group’s help if they paused the interview because they were struggling. Secondly, because the “switch” enabled students to tailor the learning experience to their abilities, some chose to be challenged beyond the level which we as tutors would have set the emotional temperature. This broadened the learning experience for the whole group and equipped them better for the range of experiences on placements. This fits with social constructivist views such as Vygotsky’s which stress that social group learning is useful.

As students model for and observe each other, they not only teach skills but experience higher self-efficacy for learning (9;16;17). This benefit to observers provides the group with an opportunity for interviewers to legitimately choose a range of levels between them.

Giving learners choice in a group setting is not always straightforward, and we discovered disadvantages of the “emotion-setting switch”. In contrast to the intended effect, choice also emphasises differences between students which can reduce self-esteem and create peer pressure. This indicates the complexity of students’ decision-making about the challenges they choose to face.

Many medical students are competitive (4). This may make it difficult for some to choose a comfortable level of challenge. Both the challenge-seeking and the challenge-averse may choose an inappropriate level for optimal learning in their zone of proximal development.

An explanation other than peer pressure for our students’ antipathy to choice is that some students observing an interview where the interviewer chose the mild emotional level could have wished the emotional temperature to have been higher for their own learning as observers. They might have rationalised that this would be “good for” their colleagues who were interviewing. The benefit of seeing different emotional levels and how to handle them was certainly an added bonus of the “emotion-setting switch”.

Strengths and weaknesses

The strengths of this study are its mixed methods approach with a class-wide questionnaire and in-depth focus groups enabling exploration of concepts with further refinements of members’ thoughts (18). Weaknesses are that the focus group evaluation had to be part of the broader curriculum evaluation and may not have achieved

saturation of ideas on all themes. Focus groups can overemphasise consensus (19). There was also a delay of six months between the teaching session and the focus groups.

Conclusion

Students' choices are driven by a complex web of peer pressure, challenge seeking and fear of failure and the tutor's task in such sessions is demanding. Constructivist learning theories state that in order to work within their zone of proximal development, individual learners may need "scaffolding" by teachers (10;20). Our tutor notes to this purpose are in figure 5.

Fig. 5 Suggestions for "scaffolding" of simulation in a group setting

The tutor can "scaffold" the learning of both interviewers and observers by:

- 1) Orientating participants respectively to the task for the interviewer and the learning opportunities for the observers
- 2) Enabling self-assessment of their capabilities, an understanding of the "zone of proximal development" and sensible choice by interviewers.
- 3) Encouraging a supportive group response to differing educational needs to enable choice and train better medical teachers of the future.
- 4) Diverting any focus on peripheral aspects of the situation such as the acting prowess of the simulated patient.

Autonomy-supportive teaching is to be commended in medical education because of its many positive outcomes both for students and their patients. The findings of this study probably apply to medical educators interested in giving students choice in any group setting. The next stage in our exploration of the emotional level control is to re-evaluate

its use with explicit scaffolding by tutors to determine whether the negative impact of competitiveness and peer pressure can be reduced.

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