



## Maintenance of learning following teaching communication, disability and diversity to medical students

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### ARTICLE INFO

Received : 25/06/2013  
Accepted : 30/09/2013  
Published : 09/03/2014

### KEYWORD

Communication education  
Disability  
Cultural diversity  
Student attitudes

### ABSTRACT

**Objective:** Doctors need to communicate with patients, despite disability or cultural differences. This study investigated the effects of teaching these topics together. **Method:** Communication, disability and cultural diversity were taught to a cohort of medical students beginning their clinical studies in a single three hour session. Participants received theoretical input and discussed diversity issues in small groups. All students talked with both a patient with a communication disability and a non-English speaker via an interpreter. Questionnaire data were collected beforehand, immediately afterwards and an average of 31 weeks later. Additionally, focus group and interview data were collected 27 weeks and an average of 39 weeks after the session respectively. **Result:** Students' understanding of diversity issues and their ability to describe disabilities, along with their confidence in interviewing people with a communication disability or where English is not a shared language, all improved and this improvement was sustained up to 39 weeks later. Key communication skills learnt were giving time, positioning during interactions, and using interpreters. Attitudinal changes reported included increased empathy and sensitivity and not making judgments or assumptions. Deeper awareness was also reported of barriers to communication within individual students and external factors such as underlying cultural beliefs. **Conclusion:** Teaching combining communication, disability and cultural diversity in a single highly experiential three hour session is effective, well-received, and results in long term change (up to 39 weeks) in medical students' reported skills, attitudes and confidence. Maintenance of skill and attitude change after teaching on disability and diversity has not previously been reported.

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### Introduction

Equipping medical students to practice and communicate in healthcare contexts involving disability or cultural diversity is central to the work of medical schools. The General Medical Council expects future medical practitioners to

respect patients regardless of their lifestyle, culture, beliefs, race, colour, gender, sexuality, disability, age, and social or economic status (1). Nevertheless, medical students may have negative associations with the term 'disability' (2), negative attitudes towards people with disability (3), only superficial awareness of

multicultural diversity issues (4), and often resist engaging in discussions on 'difficult topics' such as race, gender, social class and sexual identity (5, 6).

Additionally, doctors are expected to ensure that patients understand information and can communicate their wishes, offering support, such as advocates or interpreters, as necessary (7). Skills for communicating with patients, whatever their disability or cultural background, are a fundamental part of undergraduate medical curricula (8).

There have been a variety of educational approaches to teaching student health professionals on these issues. Students value such teaching (4, 9), which can have a positive effect on student knowledge of, and attitudes towards, both disability (10, 11) and cultural diversity (12, 13). For learning about and changing attitudes towards disability, the evidence suggests that opportunities to interact with disabled people are essential (14). Similarly, teaching about cultural diversity, alongside the opportunity to interview a non-English speaker through an interpreter, evaluates well (15-17).

What is less clear is the long term effect of such teaching. All the work cited above is based on evaluations before and immediately after teaching sessions (with the exception of McEvoy et al (16) who also evaluated at seven weeks post course). In this study, we assessed the short term (immediately after the teaching) and long term (up to 39 weeks later) effects of an innovative approach to teaching communication, disability and diversity in a single session (summarized in the Appendix) on the awareness and attitudes of a cohort of medical students.

## **Method**

### ***Design, participants and recruitment***

This was an intervention (teaching session - delivered by SC/NB – see Appendix) study, with effectiveness analysed by both qualitative and quantitative methods. Participants were student

doctors at Manchester Medical School (MMS) undertaking the communication component of the undergraduate curriculum. This component forms part of every year of the five year course and aims to equip graduates to communicate effectively in all situations (from routine consulting to angry or dying patients or relatives) and in all contexts (verbally, by phone, electronically, in writing). Relevant curriculum learning objectives include, firstly, knowledge of the effects of age, gender, social class, disability, culture and ethnicity on health beliefs and expressed health needs. Secondly, demonstrating the ability to interview someone with a communication disability or where there is not a shared language.

Participants were a single cohort of third year MMS students who were attending an Introduction to Clinical Learning course at the start of the three year clinical phase which completes their five year undergraduate training. Each participating student consented to fill in a paper questionnaire immediately before and after the three hour teaching session [Part 1]. The same cohort was asked to complete and return the same questionnaire by email 26 weeks later.

Four self-selected students took part in a focus group (led by JH/TS) 27 weeks after the teaching intervention [Part 2]. For Part 3, participants were recruited by inviting two students [selected by applying random number tables] from each of the fifty seven student small groups at MMS. Interested respondents received further information by email and gave written consent prior to interview. Using an interview topic guide based on data from the focus group, nineteen students then took part in semi-structured interviews (by AA) between 36 and 40 weeks after the teaching [Part 3].

### ***Data collection and analysis***

Questionnaires were designed by the authors and consisted of five questions (Table 1). Participant ratings were made on a six point scale ranging from strongly agree (+3) to strongly disagree (-3). Analysis used mean ratings and the Mann-Whitney-U Test to compare ratings before and

immediately after, before and six months later, and immediately after and six months later.

The focus group and interviews were semi-structured using a topic guide developed by the authors through discussion, taking into account relevant literature. They focused on exploring the effect of the teaching session on students' approach, understanding and knowledge of issues concerning communication with people with disability or who are culturally diverse. Prompts allowed broader dialogue to develop with exploration more generally of students' beliefs and attitudes towards cultural diversity and disability. The topic guide for the interviews was informed by analysis of the focus group discussion.

Focus group and interviews were recorded with consent and transcribed to form the data which were subject to analysis. Transcripts were coded, indexed, and analysed according to the constant comparative method of Strauss & Corbin (18). Initial transcript analysis and category identification were undertaken independently by

AA and SC. Categories were then agreed through discussion allowing interview topic guide modification as new themes emerged. Recruitment continued until category saturation was reached. Tapes were wiped after transcription, and transcripts were anonymised.

## Result

### *Questionnaires*

From a cohort of 446 (192 male, 254 female) in the year group studied [2010-11], 439 students (96%) filled in the questionnaire before the teaching session, 443 students (97%) immediately after, and 208 students (45.5%) completed it 26-38 weeks (mean 31 weeks) later. Mean questionnaire score results and statistical analysis are given in Table 1 and displayed graphically in Figure 1. Apart from Question 5, all scores improved significantly immediately after the teaching session and this improvement remained significant, though slightly reduced, 31 weeks later.

Table 1: Mean questionnaire scores immediately before the teaching intervention, immediately after, and 31 weeks after the teaching intervention.

Question	Before	Immediately after	31 weeks after
1. I feel confident about interviewing patients with a communication disability.	0.23	1.82	1.52
2. I feel confident about interviewing a patient where there is not a shared language.	-0.56	1.91	1.3
3. I understand the effects of age, gender, social class, culture and ethnicity on health beliefs and expressed health needs.	1.48	2.26 <sup>1</sup>	2.16 <sup>1</sup>
4. I can describe a range of disabilities that can lead to difficulties in communication and approaches to managing them.	0.79	2	1.67
5. I understand that all patients have a right to respect however difficult they are to communicate with.	2.7 <sup>2</sup>	2.84 <sup>2</sup>	2.68 <sup>2</sup>

For questions 1-4, all mean score comparisons (before and immediately after the teaching intervention, before and 31 weeks after, and immediately after and 31 weeks after the teaching intervention) were significantly

different (Mann Whitney U test:  $p < 0.05$ ) apart from 1.

There was no significant difference between mean scores for question 5 (2).

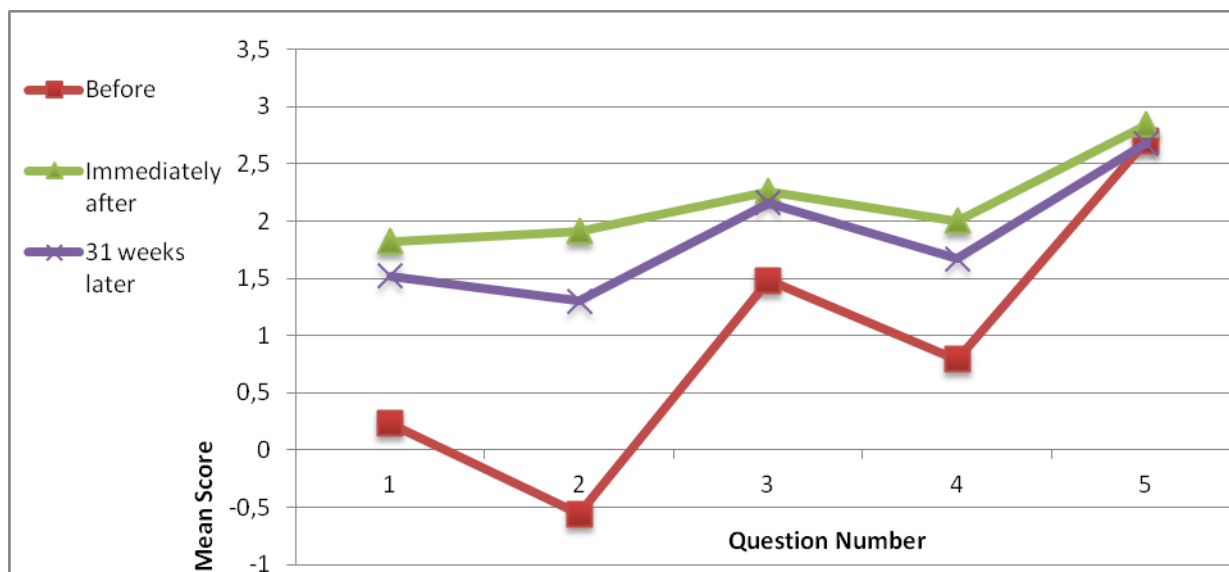


Figure 1: Mean score for each question before the teaching intervention, immediately after, and 31 weeks after the teaching intervention.

### ***Focus group and interviews***

The focus group (four students – 2 male, 2 female) was conducted 27 weeks after the teaching, and the interviews (nineteen students – 8 male, 11 female) were undertaken between 36 and 40 weeks (mean 39 weeks) after the teaching. Three themes emerged from data analysis:

- Learning about communication
- Changed awareness and attitude
- Design of teaching session

Illustrative data are identified by F (focus group) or I (interview) and participant number. Focus group and interview results are summarized in Table 2. No significant difference was observed between genders in questionnaire, focus group or interview data.

### ***Learning about communication***

Students reported learning that they had to alter aspects of their communication including body language and positioning, speed of speech and use of time:

“The danger is putting words in his mouth or finishing his sentences for him. Just because it might seem like someone doesn’t know the word

that they’re looking for, or can’t say what they’re trying to say, doesn’t necessarily mean that that is actually the case. So just having the patience to wait for them...” (I-3)

“The (deaf) woman who could lip read ... we had to make sure where we sat and that we spoke slowly and clearly so she could understand. She didn’t need someone who could use sign language.” (I-6)

In working with interpreters, particular points included positioning to allow the patient to be addressed directly, and maintaining eye contact. Additionally, students noted the importance of smiling to help build up rapport so the consultation was person (rather than interpreter) centered, and of speaking clearly and briefly to enable the interpreter to translate small chunks of information:

“How difficult it is to speak to a person who can’t understand you, because you still have to look at the person and direct your questions to them. That was strange.” (I-3)

“... trying to word your questions rather than waffling, making sure it’s clear and concise questions, so it’s quite a clear conversation between three people.” (I-18)

Overall, students recognised that communication in diverse contexts involved the use of basic skills they already possessed, a type of 'intelligent adaption' of skills and knowledge to diverse challenges and situations:

"Nothing changes - you follow the exact same core skills all the way through, except if there's maybe a language problem you just use simpler English. It's really slight adaptations you have to make but there's no dramatic change at all." (F-3)

Table 2: Summary of qualitative data analysis of interviews with student participants.

#### **Learning about communication**

- Altering body language, speed of speech and use of time.
- When working with interpreters, positioning to allow the patient to be addressed directly and maintaining eye contact.
- Build rapport so consultations are person (rather than interpreter) centered.
- Speaking clearly & briefly so interpreters can translate small chunks of information.
- Using previously learnt basic communication skills in diverse contexts.

#### **Changed awareness and attitude**

- The first experience of talking to someone with a disability for some students.
- Increased empathy, sensitivity, and respect for people with communication difficulties (due to either disability or cultural diversity).
- Emphasis on not making assumptions or judgments.
- Being alert for hidden disabilities.
- Altered attitude, increased awareness and a more comprehensive approach with people from different cultural backgrounds.
- Barriers to communicating with people with disability or from an ethnic minority background included language, diet, gender and the role of women in society, touch and hand shaking, and underlying beliefs.
- Altered barriers within students included being more patient and sensitive.
- Raised awareness of process (how to communicate when someone has a communication disability or is from a different culture) and content (living with disability or living in the UK and being unable to speak English).

#### **Design of teaching session**

- Particularly helpful to use real (rather than simulated) patients allowing insight into peoples' lives and difficulties.
- Very positive that all group members take it in turns to talk with the patient or interpreter, and are allowed to make mistakes in a controlled environment.
- 'Eye opening' teaching.

#### ***Changed awareness and attitude***

Many students explained that this teaching was significant, their first and only experience of talking to someone with a disability:

"I had never spoken to anyone with a disability... starting my third year of medical school I think it was really important to see that aspect... it was good to be exposed to people with disabilities and be aware of communication barriers as well..." (I-6)

“I was scared when I started. I’ve never met anybody who’s been like that. When he started talking, I realised ‘this guy, he’s just like anybody else’.” (F-3)

“So the sense from him about how difficult it was (recovering from a stroke)... it did sound like a very painful process and I really felt for the challenges that were created. The whole group reflected on that afterwards.” (I-8)

As a result, students felt they were more empathetic, sensitive, and respectful of people with communication difficulties (due to either disability or cultural diversity) and more aware of having to work hard to create rapport in such consultations. Additionally, they emphasized not making assumptions or judgments and being alert to hidden disabilities:

“Stay open minded when you’re talking to a patient, making sure you’re not having any pre-judgments... It’s made me think more about the person behind the disability rather than just the disability.” (I-18)

“Not judging someone on their disability if you can see their disability, because some people may have a disability and you’ll not be able to see it. Just treat each patient as equally as you can.” (I-6)

Students commented that the session made them both more aware of, and more confident in managing, the effects of cultural diversity on health beliefs and communication, and the possible difficulties these could bring in a consultation. As a result, several noted now having an altered attitude and a more comprehensive approach with people from different cultural backgrounds:

“I think the session made me very aware of how they might feel, so I was able to empathize - they might not feel comfortable telling you everything - and try and hopefully work around that, make some adjustments beforehand.” (I-19)

After working with an interpreter, students felt prepared, less likely to be surprised or shocked,

and more likely to plan ahead - perhaps book an interpreter - before going into a consultation where English is not a shared language. They were also more aware of potential problems from using family members to interpret and were able to critique communication subsequently observed in the workplace:

“I’ve seen other people doing it, and now I’ve had that session, I know that what they’re doing isn’t necessarily the best way to go about it. Before, I would have looked at what they were doing and thought it was fine.” (I-16)

A number of barriers to communicating with people with a disability or from an ethnic minority background were listed including language, diet, gender and the role of women in society, touch and hand shaking, and underlying beliefs. Barriers also arose within students, who described sustained change and continuing reflection on broad issues of disability and diversity following the teaching:

“The only problem was of me maybe having to be a bit more patient. ... I was having the conversation I would have had with anybody, and I realised it was a barrier being ‘reduced’ and being a bit shocked it was in me.” (F-4)

“You have to be culturally sensitive to everyone you meet. You’ve got to know that people are different and that they come from different cultures and have individual ways of doing things.” (F-2)

Students described the teaching as an ‘eye opening’ experience that raised their awareness both in terms of process (how to communicate when some one has a communication disability or is from a different culture) and about content (living with disability or living in the UK and being unable to speak English).

### *Design of teaching session*

All students interviewed were positive about the teaching session. Particularly helpful was the use of real (rather than simulated) patients allowing insight into peoples’ lives and difficulties:



“It was probably the best communication session that we’ve had... it was a really good idea to get volunteers to come in who weren’t actors who were real people because you learn a lot by speaking to them. ... I don’t know if it’s what I was supposed to take away but with the refugee, there was an interpreter that spoke English and Arabic and she was a doctor who couldn’t practice in the UK because of qualifications. It’s so unfair that being an interpreter was the best she could do.” (I-11)

Students also described very positively all group members taking it in turns to talk with the patient or interpreter, and being allowed to make mistakes in a controlled environment. They noted that this increased their confidence for meeting such difficult communication challenges in the clinical workplace and raised their awareness of their lack of experience:

“Although it does take you out of your comfort zone, you know you’re surrounded by a group of people in front of whom you can make mistakes. When you make those mistakes, then when you’re in the actual real situation you’re better prepared for it.” (I-17)

## **Discussion**

### ***Summary of main findings***

Analysis of our questionnaire data suggests that one teaching session had immediate effects on students’ understanding of diversity issues and their ability to describe disabilities, along with their confidence in interviewing people with a communication disability or where English is not a shared language. These effects were sustained (though at a significantly lower level for three of the four questions) 31 weeks after the teaching intervention. In contrast, our questionnaire data demonstrated no significant change following the teaching session in students’ understanding of patients’ right to respect (question 5), suggesting that this fundamental component of clinician patient interaction was already well established prior to this intervention.

Analysis of qualitative focus group and interview data (27 and 39 weeks after the teaching respectively) supported the questionnaire findings. All students were positive about their participation in the teaching, reporting that they learnt from both its process (challenging communication) and its content (what it is like to live with disability or without being able to speak English). Key communication skills learnt were giving people time to speak, positioning and seating during an interaction, and communicating via an interpreter. Significantly, students noted that this challenging communication – both with people with disability and from culturally diverse backgrounds - built on and used the core communication skills that they had already been taught.

Other learning was attitudinal, with reported change in approaches to dealing with diversity or disability and deeper awareness of related issues. Changes included increased empathy and sensitivity with emphasis on not making judgments or assumptions. After the teaching intervention, deeper awareness was reported of barriers to communication both within individual students and external factors such as underlying cultural beliefs.

### ***Strengths and limitations of the study***

The use of both quantitative and qualitative methods allowed exploration of changes for large numbers of students over time following the teaching intervention and in depth investigation of the content of those changes. Using semi-structured interviews for qualitative data collection enabled interviewees to divulge accounts which would be unlikely to emerge from written responses. The high response rate from a single cohort of students gives these findings strength, though this is reduced by the lower response rate at 31 weeks.

Interviewees and focus group members were volunteers and so their responses may not be typical of the whole year group, though category saturation was achieved in the data collected. Additionally, as interviews were undertaken by

AA (of Pakistani origin, wearing a headscarf, and a MMS student at the time of data collection), students may have been cautious of what they said, and may have given 'public accounts' rather than sharing more personal thoughts or truly honest answers (19).

This study is based on students' self-report of their skills, behaviour and attitudes, either through questionnaires or in focus group or interviews. This limits the conclusions that can be drawn as no actual behaviour has been observed.

### ***Comparisons with existing literature***

This study has further demonstrated that students value teaching on both disability and diversity (4, 9), which can positively alter both knowledge and attitudes (10-13). Our work suggests that teaching these two important topics together works well (the skills and attitudes involved overlap considerably) and that the effect of this teaching is sustained for up to 39 weeks. To our knowledge, such long term evidence of change has not previously been published. Such merging of topics in teaching may be helpful for other areas which could pose communication challenges for clinicians [such as gender, poverty, ageing].

Students reported both acquiring new communication skills, for example interviewing through an interpreter (a General Medical Council recommendation (7)), and applying their existing generic communication skills to new situations. Such building on existing skills while increasing complexity is an example of the reiterative helical approach to clinical communication teaching recommended nationally in the UK (8). We anticipate that such training for flexibility means students will be able to handle new and unfamiliar situations as they arise. The changing awareness and attitudes evident in students' interview accounts suggests this teaching has made a contribution to the development of professionalism in these learners – a key part of medical education (8, 20, 21).

An *attitude* may be defined as 'a disposition to respond favourably or unfavourably' to a situation (22). Previous studies have shown that not only are attitudes hard to change, attitude change during medical training can make students less patient-centred (23). Our students reported that this teaching intervention helped to question their preconceptions and removed internal barriers to communicating with patients. They felt 'surprised' at the changes they had witnessed in themselves particularly in relation to the preconceptions they held. These changes in our students' attitudes suggest an increase in their 'patient-centredness'. Although there is scant evidence of interventions that influence attitude change over time in medical education (24), our data show that attitude change was successfully sustained by students up to 39 weeks after the teaching intervention, alongside enhanced communication skills. Several factors may be involved in this. Firstly, the experiential teaching method [small group work, involving every student in discussion with both interpreter and disabled patient] may challenge students' internal prejudices through observation of other group members. Secondly, linking disability with diversity may widen student perceptions of the range of issues for patients and facilitate generalisation from this specific teaching session. Thirdly, as students were asked to question a patient with a communication disability and a non-English speaker [via interpreter] about their experiences, students learnt from both the *content* of responses and the *process* (communication skills) required to elicit those responses.

Despite engaging fully and finding the teaching directly relevant to clinical practice, our students often expressed apprehension in dealing with disability and cultural diversity issues. Nevertheless, their confidence increased as a result of the session, an improvement which supports previous work (25) and is an important predictor of behaviour change (26).



### ***Implications for future teaching or research***

Building on this educational intervention, further challenging communication teaching could involve more use of highly experiential sessions allowing wider exposure to, and understanding of, both disability and cultural diversity, which our students would welcome. Additionally, learning on this topic might become more established by follow up group work a few months after a single teaching input to allow reflection on observations from the clinical workplace.

Further research might compare different student cohorts, particularly exploring how cultural similarities between students and patients affect both communication and communication education. Observational approaches, and longer follow-up, perhaps later in undergraduate education or after qualification, would all enhance our understanding of the educational effects of this teaching. Our teaching intervention was deliberately brief and intense in contrast to other approaches (e.g., 12, 13). Inter-school comparisons would enable further understanding of how much change can be attributed to a single teaching session which, in turn, would inform future program design.

### **Conclusion**

This study has demonstrated that teaching for third year medical students which combines communication, disability and cultural diversity in a single highly experiential session is effective and results in long term change (for up to 39 weeks) in skills, awareness, attitudes and confidence. The communication skills needed are complementary and students appreciate being required to actively participate, despite initial apprehension. Awareness and attitude change included alteration in internal barriers such as cultural beliefs and learning not to make judgments or assumptions.

### **Acknowledgement**

We thank all our student participants and hospital administrators. We also remain deeply

grateful to our tutors and the interpreters, and non-English speaking and disabled people who so willingly and regularly come to help with our teaching.

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## Appendix

### Description of teaching session: 'Communication, disability and diversity'

#### *Aims*

The aims of the session are to:

- raise awareness of the wide variety of cultural and disability issues which impact on the interactions between patient and doctor;
- raise awareness of personal limits, biases and backgrounds relating to disability and diversity;
- enable students to develop and practice relevant communication skills.

#### *Objectives*

By the end of the session students will be able to:

- demonstrate ability to interview a patient with a communication disability ;
- demonstrate basic skills for interviewing patients where there is not a shared language, using interpreters where necessary;
- describe some effects of age, gender, social class, culture and ethnicity on health beliefs and expressed health needs;
- describe a range of disabilities that can lead to difficulties in communication and approaches to managing them;
- understand that all patients have a right to respect, however difficult they are to communicate with.

#### *Outline of the session*

The session [3 hours including 15 minute break] divides into five main parts:

- a plenary presentation of theoretical input (20 minutes) - introducing communicating with cultural diversity and disability
- 3 tasks (40 minutes each) in small groups (maximum 10 students):
  1. Brainstorm & paper case discussion, both on cultural issues – focus on blocks to communication due to cultural diversity.
  2. Talking to someone who does not speak English through a professional interpreter – questions focused on cultural issues (eg how living in the UK compares to their own country, what is their experience of UK health services).
  3. Interviewing a patient with a communication disability but no cognitive impairment [these varied for each patient/small group but included cerebral palsy, dysphasia following stroke, severe deafness] – questions focused on the experience of living with disability for them and their family along with their experience of health services.
- Debriefing in small groups (10 minutes).

In tasks 2 & 3, each student interviews the patient/interpreter for up to three minutes.