

Title: Flipping social determinants on its head: Medical student perspectives on the flipped classroom and simulated patients to teach social determinants of health

Short title: Flipped classrooms and social determinants

Author information:

Authors: Gostelow N, Barber J, Gishen F, Berlin A

Institution: all research was conducted at University College London Medical School

Corresponding author: Dr Naomi Gostelow, iBSc MBBS PG Cert FHEA, Medical School,
University College London Medical School, UK

Address: Rm 138 Medical School Building, 74 Huntley Street, London WC1E 6BT

Email: n.gostelow@ucl.ac.uk

Co-authors:

Dr John Barber MA MB BChir, Department of Primary Care and Population Health,
University College London

Dr Faye Gishen, BSc MBBS FRCP SFHEA, University College London Medical School, ,
UK.

Prof. Anita Berlin FRCGP EdD, Barts and the London School of Medicine and Dentistry,
Queen Mary's University, London, UK

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Abstract

Background: Inequalities in healthcare are increasing. Engaging medical students to tackle this urgent challenge alongside clinical sciences can be demanding. This study examines medical student perceptions of a flipped approach to health inequalities co-designed by faculty and 6th year students.

Innovation: A flipped learning session was piloted for year 4 medical students combining an online lesson followed by a tutorial with a simulated patient.

Methods: A mixed-methods approach collected questionnaire data using 4 point Likert scales and free text answers. A semi-structured group interview was conducted with six voluntary participants.

Results: 289 students completed questionnaires. 85% (n=246) completed the online lesson. Students agreed the session helped their understanding of key concepts (mean 3.2), was improved by having an actor (mean=3.6) and was enjoyable (mean=3.2). Thematic analysis of qualitative questionnaire and interview data revealed three themes: engagement; structure; and attitudes towards social determinants of health. The simulation increased clinical relevance and students gained understanding of the impact of health inequalities upon individuals.

Conclusion: This paper supports using flipped learning to increase clinical relevance and engagement within both population health and person-centred care. Further work could assess changes in behaviour and attitudes of future doctors in tackling global healthcare issues.

Keywords:

- Public Health
- Health Promotion
- Collaborative/Peer-to-peer

- Simulation
- Small group

Introduction

Social determinants of health are defined as the conditions in which people live impacting upon their health and life chances(Martinez et al. 2014). World Health Organization and Institute of Health Equity reports emphasise the impact of inequalities caused by these social factors, and the role of all healthcare professionals in tackling them(WHO 2016, Marmot 2010). Medical education can empower graduates to reduce inequalities and champion such teaching in medical curricula (Cuff and Vanselow 2004, GMC 2011, RCP, 2010).

Medical curricula may not routinely include social determinants and addressing these alongside clinical specialties can be challenging (Martinez et al. 2014, Sharma, Pinot and Kumagai 2018.). Unpublished evaluations within our institution demonstrate that some students struggle to understand the clinical relevance, how these factors influence the lives and health of patients, and their role in addressing inequity.

Previous reviews recommend educators integrate the social determinants and related population health topics within biological principles(Martinez et al. 2014, Sharma, Pinto and Kumagai 2018). Students then spend most of classroom time discussing their application to practice and policy. Innovations in this field aim to demonstrate the clinical relevance of public health by utilising technology enhanced learning to appeal to 21st century learners(Vyas et al. 2017).

Flipped learning is a pedagogical approach whereby the acquisition of knowledge is facilitated prior to its application in an interactive classroom environment(Flipped Learning Network, 2014). Thus, what seems like traditional “homework” is covered in advance to underpin and

inform classwork. Best practice in flipped learning employs students' newly acquired knowledge in active-learning exercises thus using 'classroom' time to "better-effect"(Moffett 2014). The approach is potentially more learner-centred, facilitating more tutor-student interaction, and accommodating multiple learning styles(Lage et al. 2000).

Flipped learning has been applied to many settings within medical education allowing students to engage in clinically relevant exercises in class(Prober and Khan 2013). Examples include using pre-class videos or reading followed by in-class case-based discussions(Morgan et al. 2015, Veeramani, Madhugiri and Chand 2015, Gillispie 2016), or practical skills such as surgical skills and simulations (Liebert et al. 2016). Flipped learning can combine technology enhanced learning with greater opportunities for application of theory as suggested by Martinez. It may offer solutions to the challenges of teaching social determinants, in particular the lack of experiential learning and the perception that social determinants are outside the scope of a doctor's practice(Vyas et al. 2017 Sharma, Pinto and Kumgai 2018)

The Teaching Innovation

This article describes the implementation and evaluation of a flipped classroom innovation within a medical school curriculum. The institution utilises mostly traditional lecture-based and small-group teaching with some recent introduction of flipped sessions. The innovation, co-designed by faculty and three final (6th) year medical students, took place in year 4 as students began their clinical clerkships, and aimed to link an understanding of health inequalities with learning to take a social history. This replaced a lecture and case-based discussion.

The design of our flipped classroom was informed by the literature. We created an online platform for information delivery allowing interaction with materials previously delivered in a didactic format.

The hour-long online Self-Paced Learning session (SPL) combined reading, videos, (such as TED Talks (Ted.com)) and quizzes to ensure engagement with material, varied stimuli, and concise content(Sharma et al 2015). The institution's established virtual learning environment was used to increase accessibility and ease of use (Moffett 2015).

The SPL was followed one week later by a 90-minute facilitator-led tutorial with a simulated patient in groups of up to thirty. Facilitators were clinicians with either a community or public health background. All facilitators were briefed, with annotated lesson plans and simulated patient script to enhance consistency across sessions. Students took a social history from the simulated patient as a group, taking turns to ask questions. The social history was interrupted at points to encourage discussion between the students, facilitator and the simulated patient (in role) to consider the patient's social world, to apply the "lifecourse model" (Marmot 2010) and to identify actions doctors can undertake to enhance health equity. In line with transformative learning theory facilitators focussed on students' critical reflection on how they may act as advocates to reduce health inequalities for individuals and communities(Frenk et al. 2011)Table 1 shows key learning objectives and how these were addressed in both the SPL and tutorial. [Table 1 here]

The aim of the evaluation was to examine student perceptions of this flipped approach to the social determinants of health. The analysis focused on the positive and negative factors influencing learning and changes in attitude and engagement with the topic.

Methods

This mixed-methods study adopted an interpretivist paradigm creating an account of the educational intervention from those with personal experience of it (Bunniss and Kelly 2010). Initial data was collected following tutorials via feedback questionnaires consisting of 4-point Likert scales and free-text answers. All students attending the tutorials were invited to participate.

To further explore positive and negative factors influencing learning in the flipped classroom a semi-structured group interview was conducted. Non-probability convenience sampling was used; participation was voluntary. Initial recruitment was conducted via the student bulletin but, due to low response rates, further recruitment happened at a subsequent unrelated teaching session with prior faculty consent. The principal researcher assisted in the development and delivery of the session, conducted the interview and performed the analysis. Therefore, this researcher adopted “teacher-as-researcher” (Burke and Kirton 2006) and “insider researcher” (Le Gallais 2008) stances. The benefits and limitations of these will be considered in the discussion.

The interview was audio-recorded and anonymously transcribed. Free-text answers and group interview transcript were combined and an inductive thematic analysis was performed by one researcher using a hybrid model of emergent and template coding (Braun and Clarke 2006) acknowledging the influence of the literature search on initial codes and sub-themes.

No major ethical issues were anticipated or encountered. The research protocol, information sheets and consent forms were granted ethical approval from UCL Research Ethics Committee with the initial data collection via feedback questionnaires deemed exempt from ethical approval by the same body.

Results

Tutorials were attended by 289 students (75% of the year group). 85% of these (n=246) reported they had completed the SPL beforehand. Six participants were recruited to the group interview: four male and two female. All had completed both parts of the teaching session. One self-identified as having a keen interest in the module and four had completed related optional modules.

Questionnaire results

Likert scales gauged student views of the flipped session and how they felt the session may impact upon their future practice[figure 1 near here]. Responses showed 94% of students agreed or strongly agreed that the session helped their understanding of key concepts, 93% felt that the session would improve their future social history taking skills, 96% agreed the session was relevant to their stage of training and 98% agreed they were likely to use these skills to improve patient care. 94% agreed the session was improved by having an actor and 89% enjoyed the session overall. 64% agreed or strongly agreed completing the SPL beforehand was useful.

Thematic Analysis

Three key themes emerged: structure of flipped sessions; factors impacting on student engagement; and attitudes towards social determinants of health.

Structure of flipped sessions

Overall, student participants responded positively to the structure of flipped sessions compared to a traditional lecture format, favouring their flexibility and interactivity which they felt provided “*more potential*” for in-class activities. One participant particularly enjoyed that the on-line component was not geographically confined to a classroom:

“I was in bed. It doesn’t mean you’re not learning just because you’re in bed.”

Participants completed the learning at different times prior to the tutorial and acknowledged appealing to differing work styles was “*logistically difficult*”. Participants in the group interview disagreed on the appropriate timing of pre-reading assignments:

“the email reminder is a good idea [but] the week before? Absolutely not because I get loads of emails”

“...then I would be annoyed if I got emailed the night before saying you had to do this by tomorrow”

Furthermore, students commented on their large workload and having “*many different things to juggle*”. This was particularly problematic when some sessions require pre-reading and others suggest follow-up reading.

“everyone has their own time they dedicate to it. I allocate Thursdays...so I go to the session and afterwards I read up and do other things so I don’t have any time to read up beforehand”

Students highlighted a desire for pre-class assignments to be concise with clear take-home messages helping to ease this workload.

The data highlighted the benefit of making clear links between the pre-reading on-line and the in-class task. This was balanced by a dislike of repetition between the two components which could impact upon motivation: students felt repeating points from the SPL reduces motivation to complete it beforehand.

if [online] is the only time you’ll be able to go through the information properly...that would probably make you do it.”

The strength of the classroom session for participants was the patient simulation which conferred clinical relevance to the topic.

“The case study and actor brought the concepts together and made them more tangible”

“I thought it was very useful to have an actor and a history to work through. It really helped illustrate concepts and aid understanding. “

Having a simulated patient was seen as useful especially as the acting was deemed realistic. Students recognised this improved both their social history and general communication skills in addition to the scenario being “*applicable to the clinical environment*”.

Observing how their peers performed a social history was beneficial although the group size could inhibit interaction. Students valued feedback, particularly from the actor.

Factors impacting student engagement

Students identified several factors which affected their engagement with the flipped classroom and with the topic. Motivation to complete online learning was largely driven by preparation for examinations. Demonstrating how knowledge could be examined was viewed as important and students felt this was done well in this case. In addition, participants identified they were more likely to complete the SPL if they felt they would do better in the interactive task compared to colleagues who had not completed it.

“the SPL linked really really well with the session and because you’d done that work it meant you could do better in the tutorial”

“I think if you go into it knowing a bit about it you’ve got more confidence, you’re more likely to speak up. Whereas I feel very uneasy talking about something I don’t know anything about.”

Similarly motivation was reduced if they felt the pre-classroom online learning was not necessary in order to do well in the tutorial task. As well as motivation for examination success, students also acknowledged that engagement is increased if they are shown how it will help them be a better doctor:

“the key thing is to demonstrate how it’s going to be examined then above that, how it will help you be a better doctor.... I think displaying that extra level of utility is much better”

Participants identified conflicting positions regarding their own responsibility for learning. They expressed a desire to be treated as adult learners but also thought there should be consequences for those who had not engaged and mechanisms for monitoring participation. However it was important for the session to be flexible and revisited if necessary.

Attitudes towards Social Determinants of Health

Students expressed negative pre-conceptions towards social determinants commenting that it *“is viewed as more wishy-washy and quite a vague issue.”* They also felt overwhelmed by the scale of issues it represents and how these differ from clinical specialties.

“conceptually it was a bit heavy. The stuff we got in the SPL wasn’t really like anything else we’d had before... so yeah it took a while to get your head around it”

Participants felt it was an interesting topic, capable of provoking in-depth discussion. There were comments stating that in order to enhance engagement it was important to make sure students understood the impact of health inequities on health outcomes and its clinical relevance:

“The case for why it is so important for medical professionals to understand this, I don’t think that was made very clearly [in previous teaching]. It’s really important for you to know why this happens and what you can do to help. I think that’s really engaging when you know it directly impacts.”

Participants also commented that engagement was increased by enthusiastic tutors with a relevant background. One participant noted:

“We had a public health doctor, she gave a little talk at the start about how interesting it was and how she loved her job and I thought that was quite nice.”

When asked what they had learned students identified two key themes: the bigger picture of public health; and person-centred or individualised care. Participants recognised that *“an individual’s health is multifactorial and public health can have a huge impact”*. Furthermore one stated:

“how small an impact medicine and direct biological intervention has upon someone’s overall wellbeing- there’s so many other factors on so many levels to consider”.

Students also learned how to apply this to individual patients and were introduced to beneficial services to which they can be referred. Providing students with the knowledge of interventions helped improve engagement.

“There are so many interventions at different levels we can offer to patients to help them and make a big difference to their quality of life”

These themes are summarized in table 2 along with example quotes.

Discussion

This is the first paper to describe and evaluate a flipped learning intervention for medical students in a social determinants of health curriculum. The aim of the study was to identify students' perspectives on this approach and to explore positive and negative factors influencing learning and changes in attitude and engagement with social determinants. Students confirmed that the flipped structure improved interactivity and flexibility. The interactive tutorial also clinically contextualised the content. Motivation to complete learning was driven by engagement with the session format, the topic itself and strongly driven by assessment. Both motivation and engagement were enhanced if students were shown how knowledge and skills could be examined. Pre-session assignments were well received if clear links existed between them and in-class activities. A lack of such links or too much repetition discouraged completion of the SPL. Students reported that they juggle a heavy workload, and pre-reading complicates this further.

Students identified the session had increased their awareness of health inequalities and taught them about the wider applications of public and population health and how these affect patients as individuals. However, students felt the arguments for learning about the social determinants of health need to be made more clearly, particularly outlining the doctor's role. This could be improved by using facilitators with backgrounds in public health. Students found facilitators with relevant background knowledge and clinical experience added legitimacy and relevance to the clinical scenarios.

Similar studies have also shown that students enjoy the interactivity of flipped learning(Simpson and Richards 2015), and that this can improve engagement with more abstract topics such as public health(Galway et al. 2014). A frequently recognised limitation of flipped learning is students' fear of increased workload(Galway et al. 2014, Sharma et al. 2015, Rotellar and Cain 2016,) which was also borne out in this study. Many institutions flipped the entire curriculum when introducing this method(Galway et al. 2014, Simpson and Richards 2015). This was not done in this study and the expectation of both pre-reading and post-reading in the curriculum may exacerbate the perception of increased work. Moffet (2014) advises these challenges may be overcome by preparing students when transferring into a flipped approach; explaining educational rationale can improve student buy-in(Moffet 2014). Other studies also identified increased student responsibility for learning(Galway et al. 2014, Simpson and Richards 2015). This was not a strong theme within this study. Students wished to be treated like adult learners but also supported penalties if pre-classroom work was not completed. This may reflect that a one-off teaching session may not be enough to shift the onus of responsibility for preparation to the student.

There are several possible reasons why the students favoured the session over a lecture. Clear links to assessment was a key motivator for learning and students. Our Year 4 students are examined with both Single Best Answer questions and Objective Structured Clinical Examinations (OSCE). They valued the inclusion of questions in exam format and the potential for patient interaction to mimic an examination scenario. This may be more explicit in an online lesson and role play, in contrast to a lecture, resulting in better constructive alignment(Biggs 2003).

Adult Learning Theory(Knowles 1984) may explain how students, as adult learners, are motivated by personal relevance problem solving. Students were motivated by imminent examinations and their long-term goals of becoming better clinicians. Transformative learning, which informed the development of the teaching innovation, would also account for this longer-term goal of improved clinical practice(Kearsley 2015). The task of taking a purposeful social history also gave the session immediate applicability to hospital and community clerkships students were undertaking at the same time(Martinez et al. 2014). It is noteworthy that students primarily motivated by exams may reflect curricula which teach to exams. Effective lifelong learning is facilitated by active learning, teaching for understanding rather than examinations and maximising interaction(Murdoch-Eaton and Whittle 2012). Indeed, studies have shown that medical students perceive their self-directed lifelong learning skills are enhanced by the flipped classroom (Ramnanan and Pound 2017).

Finally, the session was co-designed by final year medical students as near-peers. These near-peers are more likely to understand the difficulties faced by junior students with workload and engagement through shared cognitive congruence(Lockspeiser et al. 2008). For example, the idea of a patient simulation, which was well received and provided clinical relevance, came

from the senior students who felt having an actor would be the most effective way to enhance engagement.

It should be acknowledged that the lowest agreement scale was for the question “completing the SPL beforehand was a useful exercise.” This may be due to the format of this individual session rather than flipped learning as a whole. Students in the group interview commented on the need for clear links between the tasks and lack of repetition which, although was felt to be done well here, could still be improved.

Regarding the classroom component a group history has limitations including a lack of realism and creating a potentially intimidating forum for some students. However, it allows for students to learn through a combination of constructivist and social approaches. By breaking down the social history and relating it back to the concepts learned online, students can gain understanding by assimilating knowledge with new experiences (Piaget 1936). By observing how others approach the social history, students noted that they learnt from their peers as well as the actor (Bandura 1977). Critics have suggested that findings such as these may simply be attributed to this constructivist learning rather than the flipped format itself (Jensen, Kummer and Godoy 2015). It would be possible to have the same patient simulation following a lecture, however, this would lack flexibility which the participants enjoyed and would not normally allow for interaction with the materials.

Limitations

This was a small study based on a single teaching session. Although the questionnaire response rate was high, participants were self-selected, particularly in the group interview. Only one

interviewee identified a strong interest in the topic but all students had completed the work and attended the interview voluntarily suggesting high levels of motivation which may not represent the entire student cohort. This potential bias is alleviated in part by the large cohort of students surveyed, allowing a broader insight into student perspectives.

The principal researcher's position as an insider-researcher and teacher-as-researcher should be considered when interpreting the results. This increases the subjective dimensions of how data is collected and analysed but allows for a better understanding of the educational context by the researcher and rapport with participants(Mercer 2007). Based within one institution, we cannot claim this approach will have universal benefits across different settings. However, even small-scale studies can draw valid conclusions from educational experiences, especially within an interpretivist paradigm(Burke and Kirton 2006).

Conclusions

This study provides an example of integrating principles of public health and social determinants alongside clinical tasks to improve relevance and engagement. It echoes findings of similar work incorporating public health and social determinants within different disciplines and supports established principles for designing effective flipped learning: concise pre-reading, clear links between sessions and adopting active learning methods informed by educational theory. This intervention is currently being improved in line with these recommendations. Tutorial group sizes have also been reduced to make the learning experience more student-centred.

Educators representing non-clinical specialties should consider the use of flipped learning to link theory with application exercises in their own context. This study has only evaluated the students' reactions to the session confining it to the first level of Kirkpatrick's model without evaluating gain in knowledge or change in behaviour(Kirkpatrick and Kirkpatrick 2007). This opens the door for further research into whether flipped learning and integrating these principles with clinical scenarios can change the behaviour and attitudes of future doctors in tackling global healthcare issues.

Practice Points

1. Flipped classrooms can increase interaction and clinical relevance for less clinical topics such as social determinants of health and public health.
2. When designing flipped learning, educators should make online resources concise with clear links between tasks and to both formative and summative examinations.
3. Tutors from relevant backgrounds can act as role models and increase legitimacy of sessions.

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Notes on contributors:

Dr Naomi Gostelow, iBSc, MBBS, PGCert, FHEA is a Clinical Teaching Fellow at University College London Medical School in Clinical and Professional Practice which includes Social Determinants of Health.

Dr John Barber MA MB BChir is a locally funded academic clinical fellow in General Practice at UCL's Department for Primary Care and Population Health and an ST3 GP trainee.

Dr Faye Gishen, BSc, MBBS, FRCP, SFHEA is a Palliative Care physician and academic lead for Clinical and Professional Practice at University College London Medical School.

Prof. Anita Berlin, FRCGP, EdD is Professor of Primary Care Education and Head of Community Based Medical Education at Barts and the London School of Medicine and Dentistry. Her involvement in this project occurred whilst she was module lead for Social Determinants of Health at University College London Medical School.

Author Contributions

NG was the principal researcher. She had a role in designing and delivering the online learning and tutorials, designed questionnaires, ran the group interview and analysed data. She drafted the first draft of this manuscript. JB had a role in designing and delivering tutorials, data collection and reviewed and revised the manuscript. FG acted in a supervisory capacity for the project, gave intellectual property to the manuscript and reviewed and revised the paper. AB conceived the project, designed and delivered online learning and tutorials, reviewed and

revised the manuscript. All authors gave final approval for submission and agree to be accountable for all aspects of the work.

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Glossary Terms

Flipped Classroom: refers to an approach to teaching where class-time and self-study activities are reversed or “flipped” In practice students prepare for class by pre-reading or watching a pre-recorded lecture. Time in class is then used for interactive discussion, problem-solving and other activities. (Taken from mededworld.org/glossary)

Public Health: The combination of science, skills, and beliefs that is directed to the improvement of the health of all people through collective, organized efforts of society. Public health goals are: to reduce the amount of disease, premature death and disease-produced discomfort and disability in the population. Public health is thus a social institution, a discipline and a practice. (Taken from mededworld.org/glossary)

Social Determinants of Health: The social determinants of health are the conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels. The social determinants of health are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries.

	Learning Outcomes	How these were achieved
Online Self-Paced Learning (1hour)	Understand the size of health inequalities in the UK	Investigation using the Public Health Outcomes Framework to compare life expectancy in neighbouring London Boroughs
	Describe why health inequalities exist	Interactive presentation Youtube Video Ted Talk
	Explain the “causes of causes” healthcare model	Diagram and written explanation Quiz to test understanding
	Describe the Lifecourse Concept (Marmot 2010)	Diagram and explanation
	Describe Proportionate universalism and how it reduces health inequality	Quiz applying Marmot’s 6 recommendations to real-life public health initiatives
	Explain the concept of lifestyle drift	Diagram and explanation Links to a real-life example (UK Sugar Tax debate) and free-text answers to reflect on the arguments for and against.
	Analyse the role of every healthcare professional	Interactive presentation
Simulated Patient Tutorial	Apply knowledge of health inequalities	Revision quiz Information collected from the patient is applied to the concepts of health inequality in particular “causes of causes” and “lifecourse” models
	Enhance skills in taking a social history	Group social history taken from a simulated patient After initial opening questions students were asked to reflect on reason’s for taking a social history and use this to ask more probing questions. Simulated patients provided feedback on consultation skills
	Discuss the doctor’s role in linking social history to the management plan	Students reflected on reason’s to take a social history. Students were presented with examples of how social histories can affect medical management plans to promote person-centred care.

	Understand which interventions are most effective at individual, local and national levels	Students brainstorm in groups interventions divided into: Individual Local National Students consider which are most appropriate for the simulated patient and which will have the greatest effect. This is linked to “Lifestyle” drift
	Apply this knowledge to the role of the healthcare professional in reducing health inequalities	The session is summarized by highlighting to students how individuals can make a difference to health inequality. Students are given examples of prominent healthcare professionals at the forefront inequality and social injustice.

Table 1: Learning outcomes for the Self-Paced Learning and Simulated Patient tutorial and how these were achieved.

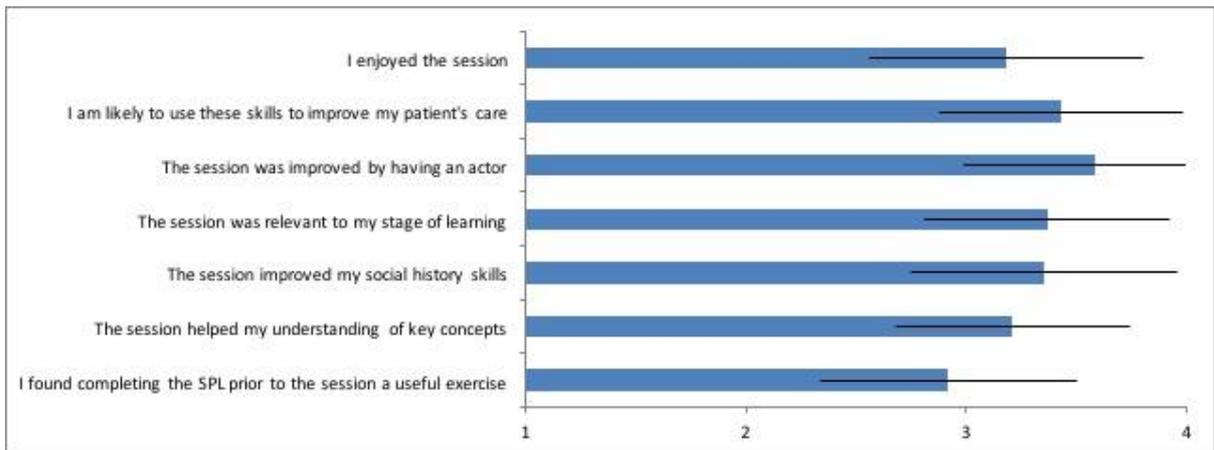


Figure 1: 4-point Likert Scale responses (1=strongly disagree, 4= strongly agree) collected via feedback questionnaires. Error bars show standard deviation.

Theme	Subtheme	Example quotes
Structure of flipped learning	Flexibility	<p>“we had access to it at all time and we could do it whenever”</p> <p>“sometimes you’ll go back and do it afterwards or before the exam. You’ll get it done eventually because you know it could be examined”</p>
	Interaction improved communication skills	<p>“Having the actress who responded well to the questions [worked well] and was able to give us her own feedback on how we could improve our history and questioning style”</p> <p>“Having an actor [worked well] and opportunity to practice asking pertinent but difficult questions without patient really being affected”</p> <p>“[I learnt] social history taking skills, the importance of wider questions than just the risk factors, how questions make the patient feel”</p>
	Preferred clear connection between SPL and tutorial	<p>“The SPL was great, very informative. The [tutorial] session explored lots of different concepts and put it into context.”</p> <p>“I personally like doing it beforehand because its usually discussion based rather than lectures that we have to read this pre-stuff before and I like going in with a bit of knowledge.”</p>
	Excessive workload	<p>“I think this year it’s just so hard having so many different things to juggle”</p> <p>“it does keep coming back to that we’re so busy, we’ve got so much on we just need to think about condensed things”</p> <p>“I think a lot of people struggle being able to keep on top of everything we have to do and then add in pre-reading for sessions.”</p>
Factors affecting student engagement	Motivation by examinations	<p>“sometimes it’s not clear how things would be examined...and so you’re there like oh well I’m wasting time on this if I don’t see a clear way in which this can be examined”</p> <p>“Lots of people are like- if it’s not going to be directly examinable why should I sit here and listen to it.”</p> <p>“If it’s got an OSCE slant... people always like that”</p>
	Motivation by professional development	<p>“it’s really important for you to know why this happens and what you can do to help. I think that’s really engaging when you know it directly impacts.”</p> <p>“[I learnt about] social interventions for carers. I didn't know about winter fuel allowance or carers’ association.”</p>
	Responsibility for learning	<p>“if you have a quiz you can only do once that will force people to sit down and do it [but] we’re grown adults...independent learning”</p> <p>“it’s like ok I know I’ve got this coming up and some point so it would probably be a good idea... and you can ignore if it you want“</p>
	Consequences for non-engagement	<p>“I think it’s either something they have to enforce and get everyone to do otherwise it’s going to be pointless. Some people will have done it and some people haven’t”</p>

Attitudes towards social determinants of health

Case for inclusion should be made	“the case for why it is so important for medical professionals to understand this, I don’t think that was made very clearly”
Reinforces the bigger picture of public health	“[I learnt] Doctors can go into public health and change things for everyone. All doctors must be aware of public health at all times” “An individual’s health is multifactorial and public health can have a huge impact” Doctors have an opportunity and the power to affect some of the social determinants of health. Remembering this is important
Complements person-centred teaching	“We’ve been taught that we need to take a social history but this has been really helpful in knowing how to use it in each patient’s care.” “[I learnt] to be more curious about the patient’s social history and discover more factors about their social circumstances beyond the biomedical smoking and drinking questions” “A patient’s home situation and the people around them may have a massive effect on their health and they may not be aware of this”
Pre-existing negative attitudes	“it is viewed as more wishy washy and it seems quite a vague issue” “it’s quite hard to come up with reasons how we can help with that stuff...that overwhelms people a little bit and so they don’t engage as much”

Table 2. Examples of quotes from questionnaires and group interview divided into themes and sub-themes.