

# Using consensus methods to develop a communication process assessment tool for Year one undergraduate pharmacy students in Great Britain

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## Abstract

**Introduction:** Effective communication is important for delivering patient-centred care and has two components: content (what is said) and process (how it is said). However, assessing communication process is often overlooked. This paper describes the development of a tool for the assessment of communication process in Year one British undergraduate M.Pharm. students.

**Description of innovation:** Tool development involved three stages: initial construction (Stage 1); testing for inter-rater reliability then revising the tool using consensus methods (Stage 2); re-testing to determine inter-rater reliability and usability (Stage 3).

**Evaluation:** Inter-rater reliability improved following revision of the tool, with *kappa* score increasing from 0.065 (Stage 2) to 0.217 (Stage 3). Consensus meetings improved usability, face and content validity.

**Future plans and Implementation:** The tool can be adapted according to the learning outcomes being assessed, year of study, and communication scenario. Using it throughout the undergraduate programme has allowed for constructive alignment of teaching and assessment.

**Keywords:** *Counselling, Health Humanities, Interviewing, Patients' Experiences, Self-Reflection*

## Introduction

Patient-centred communication skills are essential for all healthcare professionals, including pharmacists, and have a positive impact on patients' health behaviours and outcomes such as adherence (Dwamena *et al.*, 2012; Taylor, 2009). Failure to include the patient and communicate effectively has been linked to patient dissatisfaction, and is a recognised indicator of poorer quality of care (Campbell, Roland & Buetow, 2000; Hobgood *et al.*, 2002). There is evidence to suggest that patient-centred communication skills can be taught (Hess *et al.*, 2016); however, there is a lack of consensus regarding how to reliably assess undergraduate pharmacy students, to ensure they are developing the skills they will need in practice to carry out their role as a healthcare provider (Kimberlin, 2006; Svensberg *et al.*, 2017). This is in contrast to medical education, for example, where considerable effort has been put into developing and validating instruments, in part to address concerns regarding the lack of valid and reliable assessment of the skills required of professional practice (Cömert *et al.*, 2016).

Communication skills can be thought of as comprising two main components: content skills (what is said); and process skills (how it is said) (Draper, Kurtz & Silverman, 2005). Communication process lies within the affective, behavioural domain of clinical competence and is more difficult to assess due to its subjective nature. As a result, many assessment tools focus primarily on the content of the communication, and assess the process of communication in relation to a limited number of domains such as verbal and non-verbal skills or the display of empathy (Draper, Kurtz & Silverman, 2005). To address the need for a valid and reliable assessment of consultation skills in pharmacy, Abdel-Tawab *et al.* developed and validated the Medication-Related Consultation Framework (MRCF) (Abdel-Tawab *et al.*, 2011). The MRCF integrates the assessment of both content and process skills for practicing pharmacists, and can be used to structure teaching and assessment for undergraduate pharmacy students. The MRCF has an important role in supporting the development of the skills required to identify and resolve patients' medication-related needs. However, its

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explicit focus on medication-related consultations makes it more relevant to assessing the skills required for delivering clinical services such as medicines use reviews, rather than those required for patient encounters that are not limited to medicines, including consultations for public health services such as smoking cessation or flu vaccinations.

To address the need for an assessment tool not focused on medicines-related consultations, a literature review of communication models was undertaken. This identified a number of widely-used communication models, with the Calgary-Cambridge guide found to have been used to inform a national learning programme for consultation skills in the pharmacy setting devised by the Centre for Pharmacy Postgraduate Education (CPPE) and Health Education England (HEE). CPPE is the national provider of post-registration education in England. The CPPE learning programme was created to support pharmacists in developing and subsequently demonstrating competence in the consultation skills required of professional practice. (CPPE, 2014; NHS Health Education England, 2014). The Calgary-Cambridge guide has a clear focus on communication process, and includes seven key elements characterising communication (initiating the session; gathering information; physical examination; explaining and planning; closing the session; providing structure; building the relationship) (Kurtz & Silverman, 1996).

The purpose of this paper is to describe a multi-stage methodology for developing a communication process assessment for undergraduate Year one M.Pharm. students at a British pharmacy school. The M.Pharm. degree is a four year undergraduate programme accredited by the regulator of pharmacists, pharmacy technicians and pharmacies in Great Britain, the General Pharmaceutical Council (GPhC). Most students enter Year one of the M.Pharm. programme following completion of compulsory education at the age of 18.

While the primary focus of the tool development, undertaken in 2014, was to create a tool that could be used in teaching, learning and assessment of communication process in Year one students, the intention was to develop a methodologically robust approach to tool development that could then be applied to developing assessment of communication at other levels of the programme in the future.

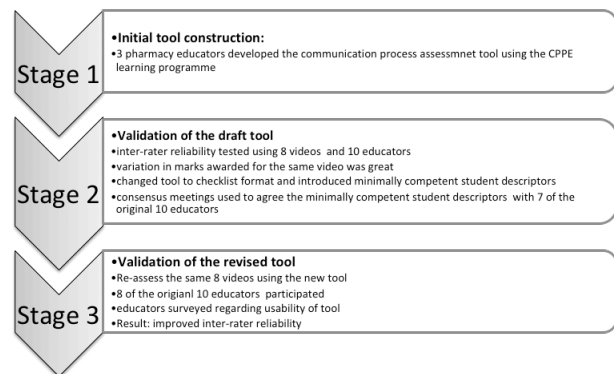
### Description of innovation

This paper provides a description of a multi-stage programme of work undertaken to:

1. Develop a tool to assess communication process of Year one M.Pharm. students;
2. Test the reliability of the tool.

The main stages of the work are shown in Figure 1.

**Figure 1: A diagram outlining the main stages in the tools development**



### Stage 1: Initial construction of the tool

The existing CPPE pharmacy consultation skills learning programme, developed with an emphasis on the Calgary-Cambridge observation guide, which focuses on communication process, was used as a starting point. The development team then worked with pharmacy educators involved in communication teaching and learning at their higher education institution to identify a blueprint for undergraduate pharmacy communication, and then mapped the learning outcomes to those of the CPPE learning programme. Since communication process was the central learning outcome of communication skills teaching and learning at the higher education institution, communication process was used as the focus for the assessment tool being developed; this then allowed for constructive alignment between the teaching and the assessment criteria (Draper, Kurtz & Silverman, 2005). It was, furthermore, considered that having a blueprint for communication that consisted of a set of descriptors explicitly capturing good communication process would support the undergraduates' communication skills learning. For this reason, developing a usable tool was undertaken to effectively facilitate undergraduate learning of a patient-centred approach by making explicit the importance of process.

The tool had to be flexible enough so that it could be tailored to different levels of undergraduate learning, and be able to assess students in any type of pharmacist-patient interaction. Consequently, the next step in developing the tool involved three pharmacy educators reviewing the CPPE learning programme to establish the content validity of descriptors used to capture different aspects of communication related to the seven elements of communication process taken from the Calgary-Cambridge observation guide. These three pharmacy educators were subject matter experts involved in teaching, learning and assessment of communication skills at the higher education institution. They considered each descriptor in turn to revise the CPPE learning programme material, removing redundant items such as those related to physical examination as this is not

routinely part of a pharmacy consultation and hence was not needed in this teaching, learning and assessment tool. Further rationalisation was undertaken by removing repeated descriptors in the ‘Providing structure’ element and renaming it ‘Consultation behaviours’; the ‘Building the relationship’ element was also renamed, and described as ‘Patient-centred approach’ to make it explicit to students that this was an intended learning outcome. Some descriptors were removed on the basis that they were not valid measures for all levels of undergraduate students, such as descriptors relating to the concept of ‘patient ideas, concerns and expectations’ (ICE). Additional descriptors were included such as ‘student demonstrates professional confidence’, ‘patient has the opportunity to ask questions’ and ‘all questions answered appropriately’ as these were important learning outcomes to be assessed. This process allowed for a set of descriptors to be derived and adapted from the CPPE learning programme that represented a blueprint of undergraduate communication process skills, from which a communication assessment tool could be developed relevant to a pharmacist-patient interaction, and the learning outcomes then used in the M.Pharm. programme at the higher education institution.

Following this process, an initial draft of the tool was produced, consisting of six domains related to communication process (introduction, gathering information, explaining, close, consultation behaviours and patient centred approach). Each domain was

constructed by a number of descriptors; for example, the domain ‘introduction’ was constructed of three descriptors relating to appearance, greeting, and confirmation of patient identity. In order to be operationalised as an assessment tool, the next step involved the introduction of a rating scale against which competence in a domain could be measured. A number of different methods for scoring communication process were identified during the literature review undertaken for this programme of work, including Likert and dichotomous rating scales (Streiner, Norman & Cairney, 2014). The team adopted a rating scale consisting of four categories which had been used previously at the higher education institution so the assessors were familiar with it. The four categories consisted of: no or limited demonstration of the descriptors, some demonstration, mostly demonstrated, or fully demonstrated. The initial draft tool can be found in Figure 2.

**Stage 2: Validation of the draft tool**

In Stage 2, the initial draft tool was tested to determine its reliability. Given multiple assessors are used to assess communication performance it was critical that the tool would promote consistency in marking. The main focus of the reliability testing therefore involved determining inter-rater reliability. To establish this, a purposive sample of eight videos of first year undergraduate

**Figure 2: initial draft of tool developed for the year one assessment**

Student ID number: <input type="text"/>		Name of marker: <input type="text"/>				
Communication Skill	Descriptor	Clear fail (0-1)	Borderline (2)	Clear pass (3-4)	Excellent (5)	Mark
Introduction:	<ul style="list-style-type: none"> <li>Appearance is professional and appropriate</li> <li>Patient is greeted in a professional manner</li> <li>Confirm patient ID (if relevant)</li> </ul>	No or limited demonstration	Some demonstrated	Mostly demonstrated	All demonstrated	
Gathering information:	<ul style="list-style-type: none"> <li>Uses appropriate mix of open and closed questions to establish needs of patient</li> <li>Questions are appropriate and relevant</li> <li>Questions are in an appropriate order</li> <li>Patient lifestyle/contributing factors are explored</li> </ul>	No or limited demonstration	Some demonstrated	Mostly demonstrated	All demonstrated	
Explaining :	<ul style="list-style-type: none"> <li>Establish patients current knowledge</li> <li>Establish what patient wants and needs to know</li> <li>Explanations are clear, concise and well structured</li> </ul>	No or limited demonstration	Some demonstrated	Mostly demonstrated	All demonstrated	
Close:	<ul style="list-style-type: none"> <li>Summarises or checks understanding</li> <li>Patient has the opportunity to ask questions</li> <li>All questions are answered appropriately</li> <li>Safety net discussed for if things don't go to plan</li> <li>Clear ending using verbal and non-verbal communication</li> </ul>	No or limited demonstration	Some demonstrated	Mostly demonstrated	All demonstrated	
Consultation behaviours:	<ul style="list-style-type: none"> <li>Student demonstrates professional confidence</li> <li>Actively listened and allowed patient to complete statements</li> <li>Language was appropriate for the patient, avoided or explained jargon and used an appropriate tone</li> <li>Body language is appropriate, including facial expressions, eye contact, posture, use of hands, arms and legs, mirrors patients body language</li> </ul>	No or limited demonstration	Some demonstrated	Mostly demonstrated	All demonstrated	
Patient centred approach:	<ul style="list-style-type: none"> <li>Demonstrates empathy</li> <li>Involves the patient in the discussion and/or decision making</li> <li>Demonstrates an interest in the patient and puts patient at ease</li> <li>Picks up on patient cues</li> </ul>	No or limited demonstration	Some demonstrated	Mostly demonstrated	All demonstrated	
<b>Total mark/30</b>						
Student can effectively communicate in English, i.e. can understand and be understood – agree between marker and patient		Adequate		Inadequate		
<b>Global mark – independent of mark scheme</b>						
Fail		Borderline		Clear pass		Excellent

pharmacy student consultation role-plays with simulated patients, recorded during a recent communication assessment, were used. Videos from two different patient scenarios were selected to ensure that a range in student performance in the assessment were included in the reliability testing, included four videos from each patient scenario, making a total of eight videos being sampled. These videos were sent electronically using a secure link to 19 pharmacy educators involved in the assessment of undergraduate communication skills across the M.Pharm. programme at the higher education institution. Eighteen of the educators were registered pharmacists in Great Britain; one was a registered pharmacist in Canada. The educators were also sent a consent form and an information sheet about the purpose of the inter-rater reliability testing, together with instructions asking them to assess the videos using the draft tool and to provide feedback on their experiences of using it. Educators were blind to the quality of the recordings they were being asked to assess.

Ten educators completed the assessment of the videos using the draft tool. Preliminary analysis of the marks awarded indicated considerable variation between assessors for any one video. Overall, the marks awarded ranged considerably, with one video being awarded marks ranging from 9 out of 30 (equivalent to a mark of 30%) to 29 out of 30 (96.7%), which represents a range of 20 marks (66.7%). The mean range of marks across all videos was 13.74 marks out of 30 (45.8%). As the marking policy at the higher education institution where the work was conducted tolerated up to 10% variation in marks awarded by different assessors for the same student, it was apparent that at this stage the tool was insufficiently reliable. To help identify possible reasons for this poor reliability, an analysis of feedback on the draft tool's usability was undertaken. This identified three sources of assessor variation: first of all, there was a lack of consensus regarding what 'good' communication looks like in terms of observable behaviours demonstrating competence of communication process of first year students; secondly the descriptors for each domain were being interpreted differently by each assessor; and thirdly the tool was viewed as hard to use.

To address these, it was decided to develop a check list style of assessment tool as these have good reliability (van der Vleuten & Swanson, 1990), and to simplify descriptors so that each only consisted of a single behaviour or activity, resulting in an increase in the number of descriptors from twenty-three to twenty-five. In order to clarify the question of what 'good' communication of a first year student was, hence to improve the validity of the tool, it was decided to add minimally competent student definitions to each descriptor based on the intended learning outcomes of the assessment, as it is important that assessment criteria are based on these (Boursicot & Roberts, 2006). In addition, given face and content validity can be achieved by using a panel of experts, closely considering the

intended learning outcomes of the assessment and piloting of the assessment (Draper, Kurtz & Silverman, 2005), the next step in the tool development involved two consensus meetings with the educators who had been involved in marking the videos. During the consensus meetings, educators developed definitions for minimally competent students, to improve both the content validity and assessor familiarity with and ownership of the tool (Wilkinson *et al.*, 2003). Five participants attended the first consensus meeting including the study lead. Participants were given thirty minutes to individually define each descriptor at the level of a minimally competent Year one student, and were further instructed that descriptors also needed to align with the intended learning outcomes being assessed. After generating the definitions individually, the study lead facilitated a group discussion of the definitions until consensus was reached for each descriptor. As a result of this process, some changes were made to descriptors and to domains in which they were included, allowing for face and content validity to be established. Before closing the consensus meeting, those present were asked to use the revised draft tool to assess two new videos not previously used in the reliability testing. Views on the ease of use of the revised tool were sought as well as consensus on marks awarded for student performance of communication process.

A second consensus meeting was then held involving two further educators and the study lead. During this meeting additional refinements were made to the tool, resulting in minor changes in wording of some of the minimally competent level definitions. Following this expert consultation process, a second iteration of the tool was produced, consisting of a consultation process assessment tool of twenty-five descriptors grouped into six domains. To improve consistency in assessing students using the tool, each descriptor was underpinned with a clear definition of what a minimally competent first year student needed to demonstrate.

### **Stage 3: Validation of the revised tool**

Having revised the tool in Stage 2, the purpose of Stage 3 was to investigate the revised tool's inter-rater reliability and to determine whether the revisions made following the consensus meetings had had an impact on usability. To achieve this, the same sample of eight videos were re-distributed to the ten pharmacy educators that participated in Stage 2, along with a copy of the revised tool, instructions for how to use it in marking, and a survey consisting of seven questions designed to capture views on usability and acceptability of the tool and its descriptors. Eight pharmacy educators participated in the remarking stage and seven completed the usability survey.

A final iteration of the tool is shown below in Figure 3.

**Figure 3: Final iteration of tool developed for the year one assessment**

Student ID number:  Name of marker:

Skill	Descriptor	Minimal competent level description for a first year student	Level reached	
Introduction:	Appearance is professional and appropriate	Casual business dress, shirt and trousers/skirt/dress, no lab coat		
	Patient is greeted in a professional manner	Says hello, role, name and intentioned outcome of discussion		
	Confirm patient ID (if relevant)	Check name and address/DOB, stated by either patient or student		
Gathering information:	Uses appropriate style of questions to establish needs of patient	Depends on the consultation as to what is appropriate		
	Questions are appropriate and relevant	All questions are logical and student maintains patient dignity		
	Questions are in an appropriate order	All questions are asked before the student has closed the consultation		
	Patient lifestyle/contributing factors are explored	Explores impact of condition/drug on patient - see OSCE blue print		
	Establish patients current knowledge appropriately	Asks 'what did the Dr say' or 'what do you already know'		
Explaining :	Establish what patient wants and needs to know	Obvious from the task - PIL or TERM		
	Explanations are concise	No unnecessarily long explanations		
Close:	Explanations are clear and well structured	Explanation easy to understand by patient and has some structure		
	Summarises or checks understanding appropriately	Ensure everything is 'ok' for the patient in an appropriate way		
	Patient has the opportunity to ask questions	Asks if they have any questions, patient to ask a question even if that information has already been given by the student - see OSCE blue print		
Consultation behaviours:	All questions are answered appropriately	If can't answer: 'I don't know' and find answer or refer to appropriately		
	Appropriate safety net discussed for if things don't go to plan	See pharmacist (themselves)/Dr - quality of safety net assessed in content		
	Clear ending using verbal and non-verbal communication	Only verbal necessary - says 'good bye' in a professional way		
	Student demonstrates professional confidence	Maintains appropriate visual composure through out		
	Actively listened and allowed patient to complete statements	Does not interrupt the patient <b>and</b> no unnecessary repetition		
	Appropriate tone used	Depends on scenario		
Patient centred approach:	Language was appropriate for the patient, avoided or explained jargon	No jargon (explained jargon only) or slang used		
	Body language is appropriate, including facial expressions, eye contact, posture, use of hands, arms and legs, mirrors patients body language	All relevant body language demonstrated to some degree		
	Demonstrates empathy	Displays genuine concern		
	Involves the patient in the discussion and/or decision making	Involves patient in the discussion more than once (not jgg ID confirmation)		
Patient centred approach:	Demonstrates an interest in the patient and puts patient at ease	Student is friendly in a professional way		
	Picks up on patient cues	Student picks up on cues and tries to address issue - see OSCE blue print		
Student can effectively communicate in English, i.e. can understand and be understood - patient should be asked to grade this		Satisfactory	Passable but requires improvement	Inadequate
Communication global mark - independent of mark scheme				
	Fail	Borderline	Clear pass	Excellent

**Evaluation**

Marks awarded using the revised tool were analysed to determine the range in marks per video, calculated by subtracting the lowest mark from the highest mark awarded for each of the eight videos. Table I shows the lowest and highest awarded marks for each video, marks for each video are also presented as percentages, together with the range of marks awarded.

In addition, the mean range of marks awarded at Stage 2 and Stage 3 were compared using percentage marks only as the total possible marks for the tool changed from 30 to 25 between Stages 2 and 3. The mean range of marks at Stage 2 was 45.8% (SD±10.95), with the greatest difference between markers found to be 66% for any one video and the smallest difference between markers 27%. In Stage 3, the mean range of marks was 28.5% (SD±8.12) with the greatest difference in markers found to be 40% for any one video and the smallest difference between markers 16%. Comparing marks awarded at Stage 2 and Stage 3, a significant reduction in variation was found in the range of percentage marks for each video (*t*-test, *p*<0.01).

*Kappa* scores for more than two assessors were calculated (see Table II) using STATA version 14 (StataCorp, College Station, TX, US). The *kappa* statistic (Hallgren, 2012) was calculated for the raw marks where each possible mark was used as a category. A further sensitivity analysis was conducted by calculating *kappa* scores for each video where marks were categorised as

being within one mark, two marks and five marks of each other.

**Table I: Range of marks awarded at Stage 2 and Stage 3**

Video	Stage 2 (marked out of 30)			Stage 3 (marked out of 25)		
	Lowest mark awarded	Highest mark awarded	Mark range	Lowest mark awarded	Highest mark awarded	Mark range
1	16 [53.3%]	29 [96.7%]	13 [43.3%]	20 [80%]	24 [96%]	4 [16.0%]
2	11 [36.7%]	26 [86.7%]	15 [50.0%]	17 [68%]	24 [96%]	7 [28.0%]
3	4 [13.3%]	17 [56.7%]	13 [43.3%]	10 [40%]	18 [72%]	8 [32.0%]
4	9 [30%]	29 [96.7%]	20 [66.7%]	15 [60%]	20 [80%]	5 [20.0%]
5	9 [30%]	17 [56.7%]	8 [26.7%]	12 [48%]	18 [72%]	6 [24.0%]
6	3 [10%]	17 [56.7%]	14 [46.7%]	5 [20%]	15 [60%]	10 [40.0%]
7	4 [13.3%]	18 [60%]	14 [46.7%]	5 [20%]	14 [56%]	9 [36.0%]
8	14 [46.7%]	27 [90%]	13 [43.3%]	15 [60%]	23 [92%]	8 [32.0%]
<b>Mean range of marks</b>			13.74 [45.8%]			7.125 [28.5%]

**Table II: Kappa scores comparing at Stage 2 and Stage 3**

Mark category	Stage 2 <i>kappa</i> score	Stage 3 <i>Kappa</i> score
Raw mark	-0.0019	0.0542
Within 1 mark	0.0269	0.1495
Within 2 marks	0.0645	0.2166
Within 5 marks	0.0831	0.3138

As shown in Table II, inter-rater reliability was poor at Stage 2 even after categorising marks to within five marks of each other. Following the consensus meetings, inter-rater reliability at Stage 3 is slight when using the raw marks, but allowing for small variation in marks by using categories helps to improve it. For example, allowing for up to 10% variation between markers, where marks are within two marks of each other, Kappa scores improve from 0.065 (Stage 2) to 0.217 (Stage 3), indicating degree of agreement changes from slight to fair agreement, although a *kappa* score above 0.67 indicating substantial agreement would be preferable (Krippendorff as cited by Hallgren, 2012). However, in the evaluation reported here up to ten assessors were involved rather than two assessors normally used in undergraduate assessment, where the likelihood of agreement is more probable.

Possible explanations for why scores failed to reach substantial agreement are suggested by the survey responses. Based on analysis of the data collected from the seven who responded, it would appear that though most assessors viewed the descriptors as relevant or pitched at the right level not all assessors did. However they did find the tool easy to use and felt confident using it. These results indicate that face and content validity have been achieved to some extent. Table III summarises the results of the survey.

### Future plans and Implementation

Through a multi-stage process, a communication assessment tool has been developed consisting of a framework of domains and descriptors derived from the Calgary-Cambridge observation guides and a national learning programme. The tool is supported by explicit definitions of minimally competent levels for each descriptor produced by consensus meetings with pharmacy communication educator experts. The use of consensus methods with a panel of experts to develop the tool is recommended for improving face and content validity. The methodological approach adopted also had a positive impact on reducing variation in marks awarded between assessors for any one video, suggesting it is a valid approach for establishing inter-rater reliability.

The use of consensus meetings to develop minimally competent level definitions reduced inter-rater variation, and offers an important method for future development of the tool in assessing pharmacy communication process skills as they spiral up the curriculum at all levels of study. This communication process tool can be adapted according to the learning outcomes being assessed, year of study, and communication scenario by using consensus methods with the relevant educators, to define the minimally competent levels for the assessment in question using the same overall communication process framework. A series of further consensus meetings will be conducted to address the issues highlighted by the usability survey relating to relevance and level of the descriptors in the Year one tool, also to adapt the tool for use in assessments in other years throughout the programme. Using it throughout the undergraduate programme also allows for constructive alignment of teaching and assessment, and for a consistent approach to assessment of communication skills. Although the generalisability of the tool has not been evaluated here, the framework combined with consensus meetings can potentially be used by other undergraduate pharmacy programmes to develop tailored communication process assessments.

**Table III: Summary of usability survey responses after Stage 3**

Question	Likert scale descriptors and number of responses					
	Very easy	Easy to use	Undecided	Difficult to use	Very difficult to use	No response
How easy did you find the tool to use while marking?	2	4	1	0	0	0
How confident did you feel while using the tool to mark the students?	Very confident 1	Confident 6	Undecided 0	Uncertain 0	Very uncertain 0	No response 0
Were the minimally competent level descriptors easy to understand?	Very easy to understand 3	Easy to understand 3	Undecided 0	Difficult to understand 0	Very difficult to understand 0	No response 1
Were the minimally competent level descriptors relevant in scenario 1?	All relevant 3	Mostly relevant 4	Some relevant 0	Mostly irrelevant 0	All irrelevant 0	No response 0
Were the minimally competent level descriptors relevant in scenario 2?	All relevant 0	Mostly relevant 4	Some relevant 2	Mostly irrelevant 0	All irrelevant 0	No response 1
Were the minimally competent level descriptors pitched at the right level for first year students in scenario 1?	All right level 2	Mostly right level 4	Some right level 1	Mostly wrong level 0	All wrong level 0	No response 0
Were the minimally competent level descriptors pitched at the right level for first year students in scenario 2?	All right level 1	Mostly right level 3	Some right level 2	Mostly wrong level 0	All wrong level 0	No response 1

Future work to establish the impact of the tool on students' development of communication skills will help to identify the extent to which it has helped students not only structure their communication in a consultation scenario, but also helped them to develop a patient-centred approach, consistent with constructive alignment theory (Biggs, 1996).

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