

Cross-sectional study of perceptions of qualities of a good medical teacher among medical students from first to final year

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INTRODUCTION Defining the characteristics of a good medical teacher has implications for faculty selection and development. Perceptions of characteristics may differ with cultural context and level of training, as medical students progress from didactic preclinical training based on cognitivist learning theory to more complex integration of theory and practice in specific contexts in clinical training based on constructivist learning theory.

METHODS We modified a validated questionnaire with permission from the original authors at Melaka Manipal Medical College, Melaka, Malaysia. Participants rated 35 characteristics on a 5-point Likert scale. The modified questionnaire was validated in a pilot pool of medical students (n = 69), with a Cronbach's alpha of 0.90, and administered to Year 1–5 medical students (n = 917) at the Yong Loo Lin School of Medicine, National University of Singapore, Singapore.

RESULTS Based on the proportion of favourable Likert scoring, four top desirable characteristics were common across Year 1–5 students: good communication skills (84.4%); sound knowledge of subject (82.7%); enthusiasm (78.4%); and providing effective explanations (74.4%). Approachability (p = 0.005), encouraging participation (p < 0.001) and constructive criticism (p < 0.001) were more important to clinical students (Year 3–5) than preclinical students (Year 1–2).

CONCLUSION The top four characteristics were consistent across all years of medical students in this study. Characteristics emphasised in the clinical years facilitate active learner participation, consistent with constructivist learning theory.

Keywords: learner perspectives, medical education, undergraduate

INTRODUCTION

Harden and Crosby⁽¹⁾ proposed that a good teacher has a larger effect on improving student achievement than other factors, such as class size. Although good medical teachers are important, there are differing perspectives in the literature regarding their definition, with more opinions than empirical data. Elucidating specific characteristics of good medical teachers would clarify this definition.

Sutkin et al⁽²⁾ conducted a systematic review of 68 articles in the literature and grouped the descriptors into 49 themes, which in turn were clustered into three major categories of teacher, physician and human characteristics. Teacher characteristics included generic teaching skills as well as knowledge and application of teaching methods. Physician characteristics included clinical knowledge, clinical skills and experience. Human characteristics included relationship skills, emotional states and personality types. The authors found that human characteristics were predominant over teacher and physician characteristics. This systematic review, although comprehensive, addressed medical teaching generically rather than specific stages of training.

Cultural differences in an Asian context may lead to a different emphasis⁽³⁾ from Western contexts.⁽⁴⁾ Due to the relative paucity of Asian literature on this matter, it is unclear whether differences in emphasis are consistent across different Asian

countries. Kikukawa et al⁽⁵⁾ conducted focus group interviews with resident physicians in Japan and found an emphasis on teacher characteristics instead, such as providing feedback or presenting residents with opportunities to think. Singh et al⁽⁶⁾ devised and validated a questionnaire (Cronbach's alpha 0.86) based on the characteristics of a good medical teacher derived from current literature and administered it to faculty members of a medical and dental undergraduate course in Melaka, Malaysia. They found that knowledge of a subject, enthusiasm and communication skills were the top three desirable characteristics, emphasising human and physician characteristics.

It is important to consider the differences at varying stages of medical training, as appropriate teaching approaches may differ with increasing learner maturity and skill.⁽⁷⁾ Ertmer and Newby⁽⁸⁾ suggest that increasing cognitive demands and increasing levels of learner knowledge, such as the progression seen in medical training, are best served by moving from behavioural and cognitivist strategies initially to constructivist strategies at later stages of training. Desirable teacher characteristics may change in tandem with teaching strategies as learners progress.⁽⁹⁾

Kua et al⁽¹⁰⁾ sought to determine whether there were differences in desired medical teacher characteristics for first-year medical students compared to final-year medical students. They surveyed first- and final-year Singapore medical students using a narrower scope of characteristics derived from author judgement, and

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found variation in desired characteristics, with first-year students preferring handouts while final-year students emphasised encouraging student participation and empathy. The ability to motivate students and being passionate about teaching were the most desirable across first- and final-year students, which can retrospectively be recognised as a balance between teacher (motivating students) and human (passionate about teaching) characteristics.

We hypothesised that the balance between teacher and human characteristics would change as learners progress through their training, in a manner consistent with progression from behavioural and cognitivist learning strategies to constructivist strategies in the later years, and that this emphasis would vary across different Asian countries. We also hypothesised that considering a wider scope of characteristics, derived from the most current literature, would lead to different results from the existing Singapore literature.

We conducted our study at the Yong Loo Lin School of Medicine, National University of Singapore (NUS Medicine), Singapore. Singapore has an interesting mix of cultural influences. It is an English-speaking Southeast Asian former British colony with a majority ethnic Chinese population, significant ethnic minority populations (Malay 13.4%, Indian 9.1%, other 3.2%),⁽¹¹⁾ and first-world living standards. It represented a mix of Asian and Western perspectives for the purposes of this study. NUS Medicine is a leading Asian medical school⁽¹²⁾ that trains a majority of doctors practising in Singapore.

METHODS

This cross-sectional study was conducted from May to November 2015. Participants comprised first-year to final-year medical students of the five-year undergraduate medicine course. Ethical approval was obtained from the NUS Institutional Review Board (reference no. 2014/01203). Informed consent was obtained from all participants of the study.

We adapted a validated questionnaire by Singh et al⁽⁶⁾ with kind permission from the original authors. Additional characteristics derived from the systematic review by Sutkin et al⁽²⁾ were included in the questionnaire based on our judgement of which characteristics were most likely to be important (Appendix). The questionnaire was initially disseminated to selected faculty members at NUS Medicine and the Centre for Medical Education at NUS for review and refinement, and to residents at National University Hospital, Singapore, for cognitive interviewing to ensure accuracy of questionnaire interpretation.

The adapted questionnaire was validated using a pilot pool of 69 first-year medical students that was separate from the eventual survey participants. With the exclusion of two out of 37 characteristics from the questionnaire, namely 'inflexible regarding maintaining classroom discipline' and 'very generous in assessing the performance of students during exams', we derived a Cronbach's alpha of 0.90, indicating good internal consistency. The aforementioned two characteristics were excluded from further analysis.

There were 35 statements relating to the characteristics of effective teachers in our questionnaire. The questionnaire was administered in a paper format to medical students at NUS Medicine between May and November 2015. Participants were asked to score these on a 5-point Likert scale (strongly agree = 5 to strongly disagree = 1). Participants could also suggest three other characteristics and rank these on the same Likert scale. At the end of the questionnaire, participants were asked to choose their top five most important characteristics, in anticipation of multiple characteristics receiving the maximum rating on the Likert scale.

Data was tabulated using Microsoft Excel 2013 (Microsoft Inc, Redmond, WA, USA) and analysed using STATA 14 (StataCorp LP, College Station, TX, USA). Responses to items using the Likert scale were reported using median and proportion of students who responded positively. Characteristics of individual items were analysed for differences among the various years of study using the Kruskal-Wallis test and for trends using chi-square test. Characteristics were grouped according to teacher, physician and human characteristics according to Sutkin's meta-analysis.⁽²⁾

RESULTS

We received responses from students of all years with varying response rates: Year 1 (77.0%, 231/300 students); Year 2 (56.7%, 170/300 students); Year 3 (46.0%, 139/302 students); Year 4 (82.4%, 248/301 students); and Year 5 (45.6%, 129/283 students). Year 1–2 students were grouped as preclinical students, while Year 3–5 students were grouped as clinical students.

Based on an aggregate of Likert scale scoring, human (56.8%) and teacher (53.4%) characteristics were generally rated more favourably by all students when compared to physician characteristics (36.3%). Based on the proportion of favourable Likert scale scoring, four top characteristics were common across all five years of study: 'has good communication skills' (84.4% of all respondents); 'has a sound knowledge of the subject' (82.7%); 'enthusiastic and has passion to teach' (78.4%); and 'provides effective explanations, answers and demonstrations' (74.4%). The fifth most important characteristic was 'being patient with others' for Year 1–4 students and 'offers constructive criticism to students' for Year 5 students (Table I).

The following were most commonly selected as the top most important characteristic at the end of the questionnaire (Table II): 'has good communication skills' for preclinical students (19.9% of responses in Year 1; 14.7% in Year 2); 'enthusiastic and has passion to teach' for Year 4 students (13.7% of responses); and 'provides effective explanations, answers and demonstrations' for Year 3 and Year 5 students (14.4% of responses in Year 3; 17.1% in Year 5), showing a significant overlap with the top characteristics derived from Likert scale scoring.

Analysis for trend found a significant tendency towards emphasis of the following characteristics in the clinical years when compared to the preclinical years: 'aware of students' interests and needs' ($p = 0.001$); 'is easily approachable/affable' ($p = 0.005$); 'encourages student participation during theory lecture classes' ($p < 0.001$); 'offers constructive criticism to

Table 1. Percentage of participants who scored 5 on the Likert scale (or 1 if inversely phrased).

Domain	Question	%						p-value	
		All (n = 917)	Preclinical students			Clinical students		Kruskal-Wallis test	Chi-square test
			Yr 1 (n = 231)	Yr 2 (n = 170)	Yr 3 (n = 139)	Yr 4 (n = 248)	Yr 5 (n = 129)		
Human	Has good communication skills – conveys ideas and concerns clearly to patients, relatives, colleagues and students, listens well	84.4	85.3	82.9	87.1	83.1	84.5	0.821	0.784
Human	Impatient with others (inversely phrased)	75.2	74.9	78.2	79.1	75.8	66.7	0.083	0.212
Human	Is easily approachable/affable	67.5	64.1	59.4	69.1	73.8	70.5	0.015*	0.005*
Human	Acts as a role model, sets an example	66.4	66.7	61.2	71.2	66.9	66.7	0.325	0.420
Human	Honest, moral and ethical	62.1	64.5	65.3	68.3	56.9	56.6	0.083	0.042*
Human	Willing to learn and open to change (flexible)	44.4	46.8	44.7	45.3	39.9	47.3	0.873	0.757
Human	Appreciates culture and different cultural backgrounds	40.2	43.7	40.6	43.2	34.7	41.1	0.202	0.325
Human	Punctual	39.3	44.6	47.1	36.0	32.3	36.4	0.006*	0.002*
Human	Uses a good sense of humour in teaching sessions	31.5	26.8	30.6	37.4	32.3	33.3	0.082	0.236
Teacher	Enthusiastic and has passion to teach, enjoys teaching	78.4	74.5	81.8	84.2	75.4	80.6	0.075	0.406
Teacher	Provides effective explanations, answers and demonstrations – easily remembered, crystallises concepts accurately and succinctly	74.4	72.7	72.4	75.5	76.2	75.2	0.649	0.217
Teacher	Unbiased – such as in assessment of and interaction with students	64.9	69.3	70.6	64.7	60.9	57.4	0.081	0.006*
Teacher	Inspiring and motivational to students	64.2	61.5	61.2	70.5	64.5	65.9	0.175	0.148
Teacher	Stimulates trainees' thinking	63.4	63.2	59.4	67.6	62.5	65.9	0.511	0.402
Teacher	Trusts and respects students	62.3	61.0	59.4	66.2	61.3	65.9	0.755	0.329
Teacher	Has good presentation skills – memorable, a pleasure to listen to or to watch	62.2	62.8	64.7	69.1	58.5	57.4	0.205	0.212
Teacher	Encourages trainees' active involvement in clinical work, e.g. patient care, patient procedures	61.9	61.9	55.3	64.0	66.9	58.9	0.049*	0.209
Teacher	Caring and shows empathy towards students	61.7	61.5	56.5	61.2	64.1	65.1	0.469	0.139
Teacher	Aware of students' interests and needs	61.2	55.8	54.1	67.6	63.7	68.2	0.008*	0.001*
Teacher	Offers constructive criticism to students	58.3	50.6	48.8	68.3	59.7	71.3	< 0.001*	< 0.001*
Teacher	Emphasises observational skills – encourages alertness to clues in environment and patient, to truly see rather than look inattentively	57.3	58.9	59.4	59.7	52.8	57.4	0.389	0.249
Teacher	Skilful and accurate in assessing and evaluating a learner – correctly judges a learner's true proficiency, strengths and weakness	56.7	56.7	54.1	56.8	57.3	58.9	0.887	0.464
Teacher	Well organised and possesses excellent time management skills (good planner)	52.5	57.1	52.4	54.0	46.0	54.3	0.404	0.246
Teacher	Makes students feel empowered	47.0	39.0	44.1	51.8	54.4	45.7	0.001*	0.001*
Teacher	Teaches professionalism	41.9	47.6	44.1	48.2	32.7	39.5	0.001*	0.003*
Teacher	Does not encourage student participation during theory lecture classes (inversely phrased)	32.8	24.7	32.9	32.4	36.3	41.1	0.005*	< 0.001*

(Contd...)

Table I. (Contd...)

Domain	Question	%					Kruskal-Wallis test	p-value	Chi-square test
		All (n = 917)		Clinical students					
		Yr 1 (n = 231)	Yr 2 (n = 170)	Yr 3 (n = 139)	Yr 4 (n = 248)	Yr 5 (n = 129)			
Teacher	Innovative in using technology in the classroom	13.3	13.9	14.8	12.9	11.3	14.7	0.072	0.010*
Physician	Has a sound knowledge of the subject	82.7	82.3	86.5	83.5	79.4	83.7	0.652	0.749
Physician	Has a distant relationship with patients (inversely phrased)	41.5	33.8	38.2	43.9	50.0	41.1	< 0.001*	< 0.001*
Physician	Accepts uncertainty in medicine – does not impose certainty unfairly on a clinical scenario, comfortable making decisions despite uncertainty	37.2	35.9	36.5	34.5	39.1	39.5	0.870	0.358
Physician	Competence in procedural/technical skills – e.g. skilled at surgery and able to complete a procedure thoroughly, elegantly and in good time	35.3	37.7	37.1	38.1	30.2	35.7	0.411	0.081
Physician	Works well with colleagues and administrators – a good team player	35.1	34.2	32.9	43.2	30.6	39.5	0.051	0.222
Physician	Has leadership qualities	30.5	35.1	28.8	28.8	28.6	30.2	0.701	0.337
Physician	Has many years of experience in medicine – someone who has 'been there and done that' and 'seen it all'	17.2	19.5	15.3	15.8	14.9	21.7	0.004*	0.114
Physician	Active in research, has publications	10.5	12.6	11.2	6.5	7.3	16.3	0.007*	0.001*

* p < 0.05 is statistically significant.

students' (p < 0.001); and 'makes students feel empowered' (p = 0.001). A higher proportion of students in the preclinical years rated 'being punctual' (p = 0.002) and 'teaches professionalism' (p = 0.003) more highly when compared to students in the clinical years (Table I). Based on the proportion of favourable Likert scale scores, the three least valued characteristics were also common across all five years of study: 'active in research, has publications' (10.5% of all respondents); 'innovative in using technology in the classroom' (13.3%); and 'has many years of experience' (17.2%).

The aggregate percentage of responses for each domain that was scored 5 on the Likert scale by students of each year indicated that characteristics in the human and teacher domains were consistently scored 5 by over 50% of students from Years 1–5 (Table III).

DISCUSSION

Since the top four characteristics were similar across all five years of medical students, they can be considered high-yield characteristics with transferable value across different teaching contexts, be it in a lecture room or a bedside teaching session. Some of the top characteristics found in this study, such as enthusiasm and communication skills,⁽¹³⁾ were also emphasised in the existing literature, including the non-medical teaching literature,⁽¹⁴⁻¹⁶⁾ suggesting greater generalisability.

A common theme in the clinical years was emphasising characteristics that facilitate interaction and involvement, such as approachability, constructive criticism and encouraging participation. We postulate that this may be related to increased personal interaction between teachers and learners during the clinical years, with the primacy of small-group bedside tutorials and involvement in daily ward work. For instance, approachability opens the door to interaction between the learner and teacher. This was consistent with an emphasis on constructivist teaching strategies in the later stages of medical training, which emphasise learner involvement in meaningful tasks in real-world contexts, cognitive apprenticeships and social negotiation through debate and discussion.

Although this was not statistically significantly different across the years, we note that communication skills were most often specifically selected as the most important characteristic by preclinical students. This may be a result of the predominance of didactic lectures in the preclinical years, where the effects of good or poor communication skills are amplified.

There was no overall difference across the years in the emphasis on human characteristics and teacher characteristics. In general, human and teacher characteristics were rated highly more commonly than physician characteristics. Human and teacher characteristics had almost equal weightage, with human characteristics being slightly more valued. This was different from reports from other Asian countries such as Japan,⁽⁵⁾ suggesting that Asian medical learners are not homogenous in their desired medical teacher characteristics and that the balance between characteristics is individualised according to each country's unique cultural context.

In stark contrast to the other physician characteristics, which tended to be poorly rated, having sound knowledge

Table II. Characteristics selected by respondents as the single most important.

Yr	First	No. (%)	Second	No. (%)	Third	No. (%)
1	Good communication skills	46/231 (19.9)	Provides clear explanations	24/231 (10.4)	Enthusiastic and has passion to teach	18/231 (7.8)
2	Good communication skills	25/170 (14.7)	Has a sound knowledge of subject	21/170 (12.4)	Provides clear explanations	20/170 (11.8)
3	Provides clear explanations	20/139 (14.4)	Good communication skills	15/139 (10.8)	Enthusiastic and has passion to teach	12/139 (8.6)
4	Enthusiastic and has passion to teach	34/248 (13.7)	Provides clear explanations	28/248 (11.3)	Is easily approachable/affable	25/248 (10.1)
5	Provides clear explanations	22/129 (17.1)	Enthusiastic and has passion to teach	12/129 (9.3)	Is easily approachable/affable	9/129 (7.0)

Table III. Aggregate percentage of responses for each domain that scored 5 on the Likert scale (or 1 if inversely phrased).

Domain	%					
	All	Preclinical students			Clinical students	
		Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
Human	56.8	57.5	56.7	59.6	55.1	55.9
Teacher	53.4	52.4	51.5	56.1	52.8	54.8
Physician	36.3	36.4	35.8	36.8	35.0	38.5

of the subject was a top four characteristic that was common across all four years. Of the top four characteristics, two were teacher characteristics, one was a human characteristic and one was a physician characteristic. If the other overall most popular characteristic of 'being patient with others' were included, then a total of two human characteristics, two teacher characteristics and one physician characteristic would be in the top five. Our interpretation of this finding was that medical teachers must have a good understanding of the subject, but beyond that, a broad base of teacher and human characteristics plays a greater role. This is consistent with the assertion by Irby⁽¹⁷⁾ that medical teachers do not necessarily need to be content experts and top-notch physicians but should instead have a balance of medical knowledge specifically relevant for education and various other domains of knowledge, including teaching skills and knowledge of learners. It is also consistent with our finding that medical students do not emphasise the importance of their medical teacher having many years of experience.

These results suggest focus areas for faculty development, selection and allocation. Given the presence of a core set of top characteristics that were common across all five years of medical students, development programmes for faculty who teach medical students may include training in these top characteristics as part of a core curriculum. Such training would be of high yield and transferable across different levels of medical students, and therefore represent good returns on training investment. Although it may seem difficult to change human characteristics, Schiffer et al⁽¹⁸⁾ argue that non-cognitive characteristics are both measurable and modifiable, allowing for growth. It would be useful to determine whether these top characteristics are also valued by postgraduate residents in Singapore, which would

further increase their transferability and add impetus to include training to enhance such characteristics in faculty development programmes.

Faculty members may also benefit from programmes that focus on developing specific skills according to the level they would be teaching at. For example, faculty development programmes may emphasise characteristics that facilitate interaction and participation when teaching clinical-year medical students. Faculty members can be allocated to teach specific levels of medical students according to the specific strengths of each faculty member and how these match the desirable characteristics at different levels of medical student training.

Intelligent implementation of such changes to faculty development and selection should be driven by perceptual data and also supported by objective data demonstrating improved learner outcomes. The top characteristics identified in this study, as well as the variations between different levels of training, provide the focus areas for further research to obtain such data. Such research should objectively assess and compare learner outcomes when learners are taught by medical teachers that rate highly on these characteristics, versus those who rate lower.

There are several limitations to our study. This was a perceptual study that did not quantify the impact of teachers with these perceived desirable characteristics against actual learner outcomes. It was limited to the medical student population and did not extend to other medical learners such as junior residents. It was also a single-centre study, thereby potentially limiting its generalisability. Within NUS Medicine, we garnered responses from 45%–82% of each batch of medical students. A substantial proportion of students did not participate in our study and may hold different views regarding desirable teacher characteristics, which could have led to non-response bias.

The strengths of the study included the use of a validated questionnaire derived from a broad base of characteristics in the current literature, as well as a large sample size capturing a majority of students at Singapore's largest medical school. Singapore's interesting cultural mix also adds a unique perspective to the existing Asian literature.

In conclusion, the top characteristics in this study were consistent across all years of medical students. Characteristics emphasised in the clinical years facilitate active learner

participation, consistent with a shift from cognitivist strategies to constructivist strategies as learners progress. These characteristics are a potential area for further research, to determine whether they are associated with better objective learner outcomes.

Beyond a sound knowledge of the subject, human and teacher characteristics predominated over physician characteristics in our study. Faculty members teaching medical students may not have to be especially accomplished physicians to be perceived as good medical teachers. This difference from other Asian countries in the balance between human, teacher and physician characteristics suggests that Asian medical learners are not homogenous and that it is more important to consider the unique cultural context of each site.

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SUPPLEMENTARY MATERIAL

The Appendix is available online at <https://doi.org/10.11622/smedj.2019097>.

REFERENCES

- Harden RM, Crosby J. AMEE Guide No 20: The good teacher is more than a lecturer - the twelve roles of the teacher. *Med Teach* 2000; 22:334-47.
- Sutkin G, Wagner E, Harris I, Schiffer R. What makes a good clinical teacher in medicine? A review of the literature. *Acad Med* 2008; 83:452-66.
- Salili F, Hong YY, Chiu CY. *Multiple Competencies and Self-regulated Learning: Implications for Multicultural Education*. Greenwich, CT: Information Age Publishing, 2001.
- Kernan WN, Lee MY, Stone SL, Freudigman KA, O'Connor PG. Effective teaching for preceptors of ambulatory care: a survey of medical students. *Am J Med* 2000; 108:499-502.
- Kikukawa M, Nabeta H, Ono M, et al. The characteristics of a good clinical teacher as perceived by resident physicians in Japan: a qualitative study. *BMC Med Educ* 2013; 13:100.
- Singh S, Pai DR, Sinha NK, et al. Qualities of an effective teacher: what do medical teachers think? *BMC Med Educ* 2013; 13:128.
- Jonassen DH. Evaluating constructivistic learning. *Educ Technol* 1991; 31:28-33.
- Ertmer PA, Newby TJ. Behaviorism, cognitivism, constructivism: comparing critical features from an instructional design perspective. *Perf Improv Quart* 1993; 6:50-72.
- Anglin GJ. *Instructional Technology: Past, Present, and Future*. Englewood, CO: Libraries Unlimited Inc, 1991.
- Kua EH, Voon F, Tan CH, Goh LG. What makes an effective medical teacher? Perceptions of medical students. *Med Teach* 2006; 28:738-41.
- Singapore Department of Statistics. *Population Trends 2016*. Available at http://www.singstat.gov.sg/docs/default-source/default-document-library/publications/publications_and_papers/population_and_population_structure/population2016.pdf. Accessed February 27, 2018.
- Best universities for medicine 2017. Available at: <https://www.timeshighereducation.com>. Accessed September 22, 2017.
- Althouse LA, Stritter FT, Steiner BD. Attitudes and approaches of influential role models in clinical education. *Adv Health Sci Educ Theory Pract* 1999; 4:111-22.
- Feldman KA. The perceived instructional effectiveness of college teachers as related to their personality and attitudinal characteristics: a review and synthesis. *Res High Educ* 1986; 24:139-213.
- Young S, Shaw DG. Profiles of effective college and university teachers. *J Higher Educ* 1999; 70:670-86.
- Yilmaz A. Quality problem in teaching profession: qualities teacher candidates feel to be required of teachers. *Educ Res Rev* 2011; 6:812-23.
- Irby DM. What clinical teachers in medicine need to know. *Acad Med* 1994; 69:333-42.
- Schiffer RB, Rao SM, Fogel BS. *Neuropsychiatry: A Comprehensive Textbook*. 2nd ed. Philadelphia: Lippincott Williams and Wilkins, 2003.

APPENDIX

Study on Learner Perceptions of Qualities of Good Medical Teachers (Modified Questionnaire)

Part 1

- Please circle preferred options where available

Year of study: Medical school year 1 / 2 / 3 / 4 / 5 / Graduated

Part 2

- For each of the following characteristics, please give a rating of 1–5,
 - 5 – strongly agree that this is a characteristic of a good teacher
 - 4 – agree that this is a characteristic of a good teacher
 - 3 – neutral with regards to being a good teacher
 - 2 – disagree that this is a characteristic of a good teacher
 - 1 – strongly disagree that this is a characteristic of a good teacher
- Shade the appropriate circle for each row
- You may also add up to three other characteristics of your choice that you think are not covered in the options below and give it the appropriate rating

	Teacher characteristics	1	2	3	4	5
1	Has good communication skills – conveys ideas and concerns clearly to patients, relatives, colleagues and students, listens well	○	○	○	○	○
2	Has good presentation skills – memorable, a pleasure to listen to or to watch	○	○	○	○	○
3	Uses a good sense of humour in teaching sessions	○	○	○	○	○
4	Innovative in using technology in the classroom	○	○	○	○	○
5	Well organised and possesses excellent time management skills (good planner)	○	○	○	○	○
6	Inflexible regarding maintaining classroom discipline	○	○	○	○	○
7	Aware of students' interests and needs	○	○	○	○	○
8	Is easily approachable/affable	○	○	○	○	○
9	Does not encourage student participation during theory lecture classes	○	○	○	○	○
10	Works well with colleagues and administrators – a good team player	○	○	○	○	○
11	Inspiring and motivational to students	○	○	○	○	○
12	Very generous in assessing the performance of students during exams	○	○	○	○	○
13	Offers constructive criticism to students	○	○	○	○	○
14	Trusts and respects students	○	○	○	○	○
15	Caring and shows empathy towards students	○	○	○	○	○
16	Has leadership qualities	○	○	○	○	○
17	Punctual	○	○	○	○	○
18	Unbiased – such as in assessment of and interaction with students	○	○	○	○	○
19	Has a sound knowledge of the subject	○	○	○	○	○
20	Enthusiastic and has passion to teach, enjoys teaching	○	○	○	○	○
21	Honest, moral and ethical	○	○	○	○	○
22	Active in research, has publications	○	○	○	○	○
23	Willing to learn and open to change (flexible)	○	○	○	○	○
24	Competence in procedural/technical skills – e.g. skilled at surgery and able to complete a procedure thoroughly, elegantly and in good time	○	○	○	○	○
25	Has a distant relationship with patients	○	○	○	○	○

(Contd...)

Teacher characteristics		1	2	3	4	5
26	Has many years of experience in medicine – someone who has ‘been there and done that’ and ‘seen it all’	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27	Accepts uncertainty in medicine – does not impose certainty unfairly on a clinical scenario, comfortable making decisions despite uncertainty	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28	Provides effective explanations, answers and demonstrations – easily remembered, crystallises concepts accurately and succinctly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29	Stimulates trainees’ thinking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30	Encourages trainees’ active involvement in clinical work e.g. patient care, patient procedures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31	Skilful and accurate in assessing and evaluating a learner – correctly judges a learner’s true proficiency, strengths and weakness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32	Teaches professionalism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33	Emphasises observational skills – e.g. encourages alertness to clues in environment and patient, to truly see rather than look inattentively	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34	Acts as a role model, sets an example	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35	Appreciates culture and different cultural backgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36	Impatient with others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37	Makes students feel empowered	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38	Others:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39	Others:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40	Others:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

- Choose the five most important characteristics (from the above listed) and rank them in order (you may use numericals)

Most important: _____

Important, but less so: _____

Thank you for completing this survey!