

What Qualities Do Medical Students Expect in an Effective Teacher: A Cross Sectional Study

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Abstract

In an increasingly competitive world, education starting right from kindergarten to university has become an extremely important aspect of life. This is why it's very important that we identify which characteristics make a teacher as efficient as possible. The objective of our study was to identify which characteristics medical students find most attractive in a teacher and to ascertain whether there are any differences in opinions on this among students of both genders, different age groups, years of study, ethnicities, household incomes and areas of residence. **Methods:** A questionnaire based cross-sectional study was carried out in Melaka Manipal Medical College, Malaysia. Questionnaires were self-administered to students in the Muar campus (Batches 37, 38) while an online questionnaire was sent to students in the Melaka campus. (Batches 34, 35, 36). Students had to fill in their batch, age, ethnicity, household income, area of residence. Then they had to rate 13 qualities of a teacher on a 5 point Likert scale. Data was collected and analyzed using Microsoft Excel 2007 and Epi Info™ software. Significance was results were ascertained using unpaired t test and ANOVA. **Results:** The results showed that the most important qualities of teacher as perceived by students in this study were communicating skills, enthusiasm regarding teaching and subject, and approachability Next up was pleasant personality, inspirational/motivational and knowledge of subject. The least favorable qualities were Past publications/Research and constructive criticism. There was a significant difference of scores given between male and female students and also between students who lived in urban and rural areas. In conclusion the results confirmed that there was a significant difference of opinion between male and female students with regard to what qualities make up an efficient teacher. There was a significant difference in opinion between students who live in urban areas and students who live in rural areas. There was no significant difference between students of different years of study, ethnicities and different household income. Students from families with higher household tended to expect more from teachers.

Keywords

Medical College, Medicine, Teachers, Lecturers, Education

1. Introduction

In an increasingly competitive world, education starting right from kindergarten to university has become an extremely important aspect of life. Therefore it's crucial that educating has to be done at very high standards. This responsibility falls on the shoulders of teachers at every level of schooling. This is why it's very important that we identify which characteristics make a teacher as efficient as possible.

According to Harry Wong an educator speaker and

renowned author, there are three main characteristics of an effective teacher [1]. An effective teacher has positive expectations for student success; excels at classroom management and designs lessons for mastery. Since effective teachers believe that their students are capable of the tasks that are given to them, positive expectations are the cornerstone of their beliefs. Effective teachers know that students can achieve their goals if given proper, detailed and precise guidance. Effective teachers run their classrooms efficiently. Teachers who are effective are able to recognise what needs to be done and find ways to consistently achieve

order. Studies show that effective teachers are the most important factor contributing to student achievements. [2]

Previous studies have shown that the factors affecting effectiveness of a teacher are behaviour in the class, personality, interaction with students and professional development [3]. Other studies have identified the following traits: Communication skills enthusiasm, knowledge of subject, interest in imparting knowledge, encouraging, and inspiring students [4]. Qualities such as staying prepared, holding a high expectation of students and cultivating a sense of belonging have also been deemed to be important characteristics of an efficient teacher. [5]

In this medical college, where the study is conducted, there are students from diverse cultural and ethnic backgrounds such as Malay, Chinese, Indians, Sri Lankans and others. Therefore we will be analysing whether race/ethnicity of a student has an effect on what they expect out of an efficient teacher. But one previous study done in 2013 [6] did not yield any evidence that there is any significant difference of opinion among different races in Malaysia on this subject

Although many authors have published their studies of characteristics of an effective teacher [5, 7-14], there are fewer updated current studies that have used feedback from medical students themselves to define an effective teacher. And few have taken year of study, Area of study and Monthly income of family into account. So our study will be a pioneering study in that aspect. The purpose of this study is to quantify student evaluated teacher effectiveness in order to increase efficacy of student learning. By conducting this research we would able to understand that a medical students’ perspective on an effective MBBS lecturer in Melaka Manipal Medical College (MMMC) whereby the results of this study could be used to develop a set of criteria for the “Best Medical Teacher” that will improve the faculty development program. Hence they will help produce better doctors in the future. We hypothesized that the perception of an effective teacher differs according to Age, Year of study, Gender, Race, Monthly income of family and Area of residence.

2. Methodology

2.1. Study Design, Settings, and Population

This study was conducted in Melaka Manipal Medical College, Malaysia in both the Melaka and Muar campuses from November to December 2018. The study population were students of batches 34, 35, 36, 37 and 38 of the medicine faculty. A questionnaire based cross-sectional design was used to conduct this research.

2.2. Sample Size

The sample size for the research was calculated using the finite population proportion formula as shown below:

$$n = \frac{N\delta^2z^2 \frac{1-d}{2}}{d^{(2)}(N-1) + \delta^2z^2 \frac{1-d}{2}}$$

Where:

n= sample size

N= Study population size, N=750

δ^2 = variance

$z^2 = 1.96^2$

The formula used for adjustment for non-response was,

The formula used for adjustment for non-response was as follows:

$$n_{final} = \frac{n_{calculated}}{1 - nonresponse\%}$$

2.3. Calculations

$$n = \frac{750 \cdot 0.6^2 \cdot 1.96^2}{0.15^{(2)}(750-1) + 0.6^2 \cdot 1.96^2} = 185$$

$$n_{final} = \frac{185}{1 - 30\%} = 264.3 \approx 264$$

A previous study (4) stated that the variance (δ^2) for the variable “Knowledge of subject” as 0.6². A level of error of 0.075 was used. These values were then incorporated into the Finite population proportion formula and the Sample Size was calculated. To allow for a dropout rate of 30%, we calculated our final sample size as 264.

2.4. Sampling

The sampling technique implemented is Purposive sampling. 270 volunteers studying at the Muar and Melaka campuses of MMMC were recruited for the study. Volunteers were taken from Batch 34, 35, 36, 37 and 38. Students of all races and nationalities were included. The study was done with the volunteers’ written consent. Students from batches other than the ones mentioned were excluded from the study. So were students from the Dentistry faculty.

2.5. Data Collection

A Self-administered questionnaire was distributed by us in our Muar campus while an online questionnaire was sent to students in the Melaka campus. Participants will be required to fill in their Batch, Age, gender, Ethnicity and Household income and area of residence. The questionnaire consisted of 13 parameters (Qualities of a teacher) that were to be rated by the participants on a 5 point Likert-scale. (1= Strongly disagree, 2= Disagree, 3=Neutral, 4=Agree, 5= Strongly Agree.) The parameters the volunteers had to rate were namely: Knowledge of the subject, Skills of communication, Approachability, Enthusiasm regarding teaching and subject, Past research or publications, Pleasant personality, Caring nature/Empathy, Constructive criticism, Being inspirational or motivational, Calmness and Patience, Respect for students/Make students feel important, Sense of Humor and Willingness to learn/Being open to change.

Anonymity of the volunteers was preserved throughout the study.

2.6. Data Processing and Analysis

The data was tabulated using Microsoft Excel and analyzed using the Epi Info™ application. Frequency and percentages were to represent the qualitative demographic data. Measures of central tendency (Mean and Standard deviation) were applied to the scores from the 5 point Likert scale for all parameters. Unpaired T-test was used to assess any association between Gender and each of the 13 parameters. To assess correlation between Race, Year of study and social status with the 13 parameters, ANOVA was used. The level of statistical significance will be set at 0.05. The measure of association used was the p value.

2.7. Ethics

This study was done after its approval by the ethics committee. It was made clear that participation in our study was purely voluntary. Informed written consent was taken at the start of the questionnaire. Confidentiality was preserved through the study.

3. Results

The total number of participant who received the questionnaire were 300, out of which 210 (70%) responded. Also an online questionnaire was sent to students of Batch 34, 35 and 36, of which 26 responded. The total number of participants are 236 students. Distribution of participants according to gender, age, batch (year), race, household income and residency is shown in table below [Table 1]. The mean age of respondents was noted to be 22.2 years (Not in table).

Table 1. Distribution of respondents according to gender, age, batch (year), race, household income, residency (n=236).

VARIABLES	n (%)
GENDER	
MALE	101 (42.80%)
FEMALE	135 (57.20%)
AGE	
<22	70 (29.66%)

VARIABLES	n (%)
22-25	161 (68.22%)
>25	5 (2.12%)
BATCH	
YEAR 3 (BATCH 37&38)	210 (88.98%)
YEAR 4 (BATCH 35&36)	22 (9.32%)
YEAR 5 (BATCH 34)	4 (1.69%)
RACE	
MALAY	27 (11.44%)
CHINESE	71 (30.08%)
INDIAN	105 (44.49%)
OTHERS	33 (13.98%)
HOUSEHOLD INCOME	
<RM5000	21 (8.90%)
RM5000-RM7500	47 (19.92%)
RM7500-RM10000	68 (28.81%)
>RM10000	100 (42.37%)
RESIDENCE	
URBAN	202 (85.59%)
RURAL	34 (14.41%)

Based on table above the total number of participants are 236. From the total number of participants 101 (42.8%) students are male while remaining are female students 135 (57.2%). This shows that there are more female participants compare to male. The majority of the participants are age between 22- 25 with the frequency of 161 (68.22%) followed by age <22 with frequency of 70 (29.66%) and age >25 with frequency of 5 (2.12%). From the total number of participants 210 (88.98%) students from year 3, 22 (9.32%) students from year 4 and 4 (1.69%) are from year 5 according to medical year. Following our collected data there are 27 (11.44%) Malay, 71 (30.08%) Chinese, 105 (44.49%) Indians and 33 (13.98%) other races. Most our participants are coming from a household income of >RM10000 which is 100 (42.37%) students and the remaining students are 68 (28.81%) with a household income of RM7500-RM10000, 47 (19.92%) with a household income of RM5000-RM7500 and the minority are 21 (8.90%) with a household income of <RM5000. Talking about the residence of our 236 participants 202 (85.59%) are from urban area and 34 (14.41%) are from rural area.

Table 2. Mean and standard deviation of effective teacher characteristics.

Independent Variable	Mean (SD)
Knowledge towards a subject	4.4 (1.0)
Enthusiasm regarding teaching and subject	4.5 (0.9)
Communicating skills	4.5 (0.9)
Approachability	4.5 (0.9)
Good sense of humour	4.0 (0.9)
Past publication/research	3.1 (1.1)
Caring nature/empathy	4.3 (1.0)
Pleasant personality	4.4 (0.9)
Inspirational/motivational	4.4 (0.9)
Constructive criticism	3.9 (1.0)
Patience/calmness	4.3 (1.1)
Willing to learn/being open to change	4.3 (1.0)
Respect for students/make students feel important	4.3 (1.0)

Note. 1=Strongly Disagree, 2=Disagree, 3=Uncertain, 4=Agree, 5=Strongly Agree

The most important quality of teacher as perceived by students in this study was enthusiasm regarding teaching and

subject, communicating skills and approachability (mean=4.5). Next up was knowledge towards subject,

pleasant personality and inspirational/motivational (mean=4.4). But Students of MMMC were less impressed by caring nature/empathy, patience/calmness, willing to learn/being open to change and respect for students/ make students feel important (mean=4.3), good sense of humour (mean=4.0). Students had an even less favourable preference for Constructive criticism (mean=3.9) and past publication/research (mean=3.1)

Table 3. *Effective Teacher Characteristics based on gender of students (n=236).*

Independent Variable	Male Mean (SD)	Female Mean (SD)	p value
Knowledge of subject	4.1 (1.3)	4.6 (0.7)	<0.001
Enthusiasm regarding subject	4.2 (1.2)	4.7 (0.6)	<0.001
Communication skills	4.2 (1.1)	4.8 (0.6)	<0.001
Approachability	4.3 (1.0)	4.6 (0.7)	<0.001
Good sense of humour	3.9 (1.1)	4.1 (0.8)	0.037
Past Publication/Research	3.0 (1.2)	3.2 (1.1)	0.225
Caring nature/Empathy	4.1 (1.1)	4.5 (0.7)	0.001
Pleasant Personality	4.1 (1.0)	4.6 (0.7)	<0.001
Inspirational/Motivational	4.2 (1.1)	4.6 (0.7)	<0.001
Constructive criticism	3.8 (1.1)	4.0 (1.0)	0.217
Patience/Calmness	4.0 (1.2)	4.5 (0.7)	<0.001
Willing to learn/ Being open to change	3.9 (1.3)	4.7 (0.6)	<0.001
Respect for students	3.9 (1.2)	4.6 (0.7)	<0.001

Note. 1=Strongly Disagree, 2=Disagree, 3=Uncertain, 4=Agree, 5=Strongly Agree

There was a significant difference of scores ($p < 0.05$) between the two genders for 11 characteristics. These were Knowledge of subject, Enthusiasm regarding subject, Communication skills, Approachability, Pleasant personality, Being Inspirational/Motivational, Patience/Calmness, Willing to learn/Being open to change, Respect for students Good sense of humour and Caring nature/Empathy.

There was no significant difference of scores ($p > 0.05$) between the two genders for 2 characteristics: Past publications/Research and constructive criticism.

Female students rated each quality higher than male students.

The most important quality as perceived by male students was enthusiasm regarding subject (Mean=4.2) and approachability (Mean=4.3), followed by Communication skills (Mean=4.2), pleasant personality (Mean=4.1) and being inspirational/motivational (Mean=4.2). Past Publications and research was the least preferred quality among male students. (Mean=3.0).

The most important quality as perceived by female students was also communication skills (Mean=4.8), followed by Enthusiasm regarding subject, being willing to learn/open to change (Mean=4.7), Approachability, being inspirational/motivational (Mean=4.6). The least preferred quality was Past publications/research (Mean=3.2), similar to the male students.

Table 4. *Effective Teacher Characteristics amongst students of different age groups. (n=236).*

Independent variable	<22 Years Mean (SD)	22-25 Years Mean (SD)	>25 Years Mean (SD)	P Value
Knowledge of subject	4.3 (1.2)	4.4 (1.0)	4.6 (0.5)	0.803
Enthusiasm regarding subject	4.3 (1.0)	4.5 (0.9)	4.6 (0.5)	0.517
Communication skills	4.5 (0.9)	4.5 (0.9)	4.6 (0.5)	0.978
Approachability	4.5 (0.8)	4.5 (0.9)	4.6 (0.5)	0.920
Good sense of humour	4.0 (0.9)	4.0 (1.0)	4.6 (0.5)	0.329
Past Publication/Research	2.9 (1.4)	3.2 (1.0)	2.0 (1.3)	0.097
Caring nature/Empathy	4.3 (0.8)	4.3 (1.0)	4.6 (0.5)	0.807
Pleasant Personality	4.4 (0.7)	4.4 (0.9)	4.6 (0.5)	0.854
Inspirational/Motivational	4.3 (0.7)	4.5 (0.9)	4.6 (0.5)	0.280
Constructive criticism	3.7 (1.0)	4.0 (1.0)	4.6 (0.5)	0.086
Patience/Calmness	4.1 (1.0)	4.4 (1.0)	4.6 (0.5)	0.312
Willing to learn/ Being open to change	4.1 (1.2)	4.4 (1.0)	4.6 (0.5)	0.238
Respect for students	4.4 (0.9)	4.3 (1.1)	4.6 (0.5)	0.613

Note. 1=Strongly Disagree, 2=Disagree, 3=Uncertain, 4=Agree, 5=Strongly Agree

There was no significant difference of scores ($p > 0.05$) between the 3 age groups for all the characteristics.

Communication skills (Mean=4.5) and approachability (Mean=4.5) has been rated highest by students of age less than 22 years. Students of age lesser than 22yrs have scored past publication/research to be their least important characteristic of an effective teacher with a mean of 2.9 on the Likert scale.

Students of age between 22-25yrs voted enthusiasm regarding subject and communication skills to be their most important quality of an effective teacher with a mean score of 4.5. The least favourable quality was again past

publications/research (Mean=3.2)

Students aged over 25 said Knowledge of subject, Enthusiasm regarding subject, Communication skills, approachability, Caring nature, Pleasant personality, Patience and calmness, Willingness to change and respect for students to be equally important with a mean score of 4.6.

Students Overall all students from all three age groups have voted that past publications and research to be the least of importance of an effective teacher with the score of 2.9, 3.2 and 2.0 on the Likert scale for age groups <22yrs, 22-25yrs and >25yrs respectively.

Table 5. Effective Teacher Characteristic based on qualitative analysis amongst students in different years of study. (n=236).

Independent Variable	Year 3 Mean (SD)	Year 4 Mean (SD)	Year 5 Mean (SD)	P value
Knowledge of subject	4.4 (1.0)	4.5 (1.1)	2.8 (0.5)	<0.001
Enthusiasm regarding teaching and subject	4.5 (0.9)	4.5 (1.2)	3.9 (1.5)	0.292
Communication skills	4.5 (0.8)	4.5 (1.0)	3.5 (1.7)	0.064
Approachability	4.5 (0.8)	4.4 (1.1)	3.8 (1.4)	0.188
Good sense of humour	4.0 (0.9)	4.2 (1.1)	2.5 (0.6)	<0.001
Past Publication/Research	3.2 (1.2)	3.0 (1.0)	3.3 (1.0)	0.901
Caring nature/Empathy	4.4 (0.9)	4.1 (1.3)	3.5 (1.6)	0.100
Pleasant Personality	4.4 (0.8)	4.4 (1.2)	3.8 (0.5)	0.274
Inspirational/Motivational	4.5 (0.8)	4.4 (1.2)	3.8 (1.4)	0.261
Constructive criticism	3.9 (1.0)	3.9 (1.2)	3.5 (1.6)	0.617
Patience/Calmness	4.3 (0.9)	4.3 (1.3)	3.8 (1.4)	0.471
Willing to learn/ Being open to change	4.3 (1.0)	4.3 (1.4)	2.8 (0.5)	0.011
Respect for students	4.3 (1.0)	4.2 (1.4)	2.5 (0.5)	<0.001

Note. 1=Strongly Disagree, 2=Disagree, 3=Uncertain, 4=Agree, 5=Strongly Agree

There was a significant difference of scores between the 3 years of study for 4 characteristics. These were Knowledge of subject, Good sense of humour, willing to learn/Being open to change and Respect for students.

There was no significant difference of scores ($p > 0.05$) between the 3 years of study for 9 characteristics. These were enthusiasm regarding teaching and subject, Communication skills, Approachability, Past publication/research, Caring nature/empathy, pleasant personality, Inspirational/Motivational, constructive criticism and patience/calmness.

Students from year 3 thought that Enthusiasm regarding teaching and subject (Mean=4.5), Communication skills

(Mean=4.5), approachability (Mean=4.5) and being inspirational/motivational (Mean=4.5) were the most attractive qualities of a teacher to them.

Students from year 4 perceived that Knowledge of subject (Mean=4.5), Enthusiasm regarding teaching and subject (Mean=4.5) and communication skills (Mean=4.5) were the most important qualities for them.

Students who year 5 said that Enthusiasm regarding teaching and subject (Mean=3.8) was the most important quality for them.

All 3 groups perceived that past publications and research was the least favourable quality of an efficient teacher.

Table 6. Effective Teacher Characteristic based on qualitative analysis amongst students of different races. (n=236).

Independent variable	Malay Mean (SD)	Chinese Mean (SD)	Indian Mean (SD)	Others Mean (SD)	P Value
Knowledge of subject	4.1 (1.3)	4.3 (1.10)	4.4 (1.0)	4.7 (0.8)	0.138
Enthusiasm regarding teaching and subject	4.2 (1.2)	4.4 (1.0)	4.6 (0.8)	4.7 (0.8)	0.113
Communication skills	4.4 (1.1)	4.3 (1.0)	4.6 (0.8)	4.8 (0.7)	0.054
Approachability	4.1 (1.3)	4.4 (1.0)	4.6 (0.6)	4.7 (0.8)	0.024
Good sense of humour	3.5 (1.2)	3.8 (1.0)	4.3 (0.7)	3.9 (1.0)	0.002
Past Publication/Research	3.4 (1.0)	3.0 (1.1)	3.0 (1.2)	3.4 (0.9)	0.258
Caring nature/Empathy	4.0 (1.2)	4.0 (1.2)	4.6 (0.7)	4.5 (0.9)	0.002
Pleasant Personality	4.1 (1.5)	4.3 (1.0)	4.5 (0.6)	4.5 (0.9)	0.125
Inspirational/Motivational	3.9 (1.4)	4.3 (1.1)	4.6 (0.6)	4.6 (0.9)	0.036
Constructive criticism	4.0 (1.5)	3.9 (1.2)	4.0 (1.0)	4.1 (0.9)	0.595
Patience/Calmness	3.8 (1.4)	4.2 (1.2)	4.4 (0.8)	4.6 (0.7)	0.091
Willing to learn/ Being open to change	3.9 (1.4)	4.0 (1.2)	4.5 (1.0)	4.7 (0.8)	0.023
Respect for students/Make students feel important	4.0 (1.2)	3.9 (1.2)	4.6 (0.6)	4.4 (1.1)	<0.001

There was a significant difference in scores ($p < 0.05$) between the races for 6 characteristics. These were Approachability, Good sense of humour, Caring nature/Empathy, Inspirational/Motivational, Willing to learn/ Being open to change and Respect for students/Make students feel important.

There was no significant difference in scores ($p > 0.05$) between the races for 7 characteristics. These were

Knowledge of subject, Enthusiasm regarding teaching and subject, Communication skills, Past Publication/Research, Pleasant Personality, Constructive criticism and Patience/Calmness

Malay students perceived that communication skills (Mean=4.4) as the most important quality of a teacher, followed by Enthusiasm regarding subject (Mean=4.2), Approachability (Mean=4.1), pleasant personality

(Mean=4.1) and Being inspirational/motivational (Mean=3.9). The least preferred quality was past publication/research. (Mean=3.4)

Chinese students selected approachability as the most important quality of a teacher (Mean=4.4), followed by Enthusiasm regarding subject (Mean=4.3), communication skills (Mean=4.3), pleasant personality (Mean=4.1) and being inspirational/motivational. (Mean=4.3). The least preferred quality was again Past publications/research (Mean=3.0) but it was notable that constructive criticism (Mean=3.9) also got a rating less than 4 on the Likert scale.

Indian students perceived that Enthusiasm regarding teaching and subject (Mean=4.6), Communication skills

(Mean=4.6), Approachability (Mean=4.6), Caring nature/empathy (Mean=4.6) and being Inspirational/motivational (Mean=4.6) as the most important qualities they expect in an efficient teacher. Again, the least favourable quality was past publications/research (Mean=3.0).

Students of other ethnicities thought that Communication skills (Mean=4.8) as the most important quality of a teacher. This was followed by Approachability (Mean=4.7), Knowledge of subject (Mean=4.7), Enthusiasm about teaching and subject (Mean=4.7) and willing to learn/ Being open to change (Mean=4.7). They rated Sense of humour (Mean= 3.9) and Past publications/research (Mean=3.4) as the least important qualities of an efficient teacher.

Table 7. *Effective Teacher Characteristics amongst students of different family income groups. (n=236).*

Independent variable	<RM5000 Mean (SD)	RM5000-RM7500 Mean (SD)	RM7500-RM10000 Mean (SD)	>RM10000 Mean (SD)	P value
Knowledge towards a subject	4.0 (1.5)	4.4 (1.0)	4.5 (1.1)	4.4 (0.9)	0.320
Enthusiasm regarding teaching and subject	4.0 (1.5)	4.9 (1.0)	4.5 (0.9)	4.5 (0.8)	0.111
Communicating skills	4.0 (1.4)	4.5 (0.9)	4.6 (0.7)	4.6 (0.8)	0.031
Approachability	4.1 (1.3)	4.5 (1.0)	4.6 (0.6)	4.6 (0.9)	0.256
Good sense of humour	3.6 (1.3)	4.0 (0.9)	4.3 (0.8)	3.8 (0.9)	0.009
Past Publication/Research	2.9 (1.1)	3.3 (1.2)	3.3 (1.1)	3.3 (1.1)	0.492
Caring nature/Empathy	3.8 (1.1)	4.4 (1.0)	4.4 (0.6)	4.3 (1.0)	0.034
Pleasant Personality	4.1 (1.2)	4.2 (0.9)	4.5 (0.7)	4.5 (0.9)	0.069
Inspirational/Motivational	4.0 (1.5)	4.3 (1.0)	4.6 (0.6)	4.4 (0.7)	0.017
Constructive Criticism	3.3 (1.4)	3.8 (1.1)	4.2 (0.9)	3.9 (1.0)	0.006
Patience/Calmness	4.0 (1.2)	4.2 (1.2)	4.4 (0.9)	4.4 (0.9)	0.278
Willing to learn/being open to change	4.1 (1.3)	4.1 (1.2)	4.3 (1.1)	4.5 (0.9)	0.115
Respect for students/Make students feel important	3.8 (1.4)	4.2 (1.2)	4.4 (0.8)	4.4 (1.0)	0.059

Note. 1=Strongly Disagree, 2=Disagree, 3=Uncertain, 4=Agree, 5=Strongly Agree

There is a significant difference of scores between the 4 monthly income groups for 5 characteristics. These were communicating skills, good sense of humour, caring nature/empathy, Inspirational/Motivational and constructive criticism.

There was no significant difference of scores ($p > 0.05$) between the 4 monthly income groups for 8 characteristics. These were Knowledge towards a subject, Enthusiasm regarding teaching and subject, Approachability, Past Publication/Research, Pleasant Personality, Patience/Calmness, Willing to learn/being open to change and Respect for students/Make students feel important.

Students whose families earned less than RM 5000 a month consistently rated each quality less than what their other peers did. While students whose families earned RM 7500 to RM 10000 a month rated almost each quality the highest.

Students with a monthly family income of less than RM 5000 perceived that Approachability (Mean=4.1), Pleasant personality (Mean=4.1) and Willingness to learn/ Being open to change (Mean=4.1) were the most important qualities of an efficient teacher. The least favoured quality was Past

publications/research (Mean=2.9)

Students with a monthly family income of RM 5000-RM 7500 perceived that enthusiasm regarding teaching and subject (Mean=4.9) to be the most important quality, followed by communicating skills (Mean 4.5) and approachability (Mean= 4.5). The least important quality for these students was again past publications/research (Mean=3.3).

Students with a monthly family income of RM7500-RM10000 perceived that being inspirational/motivational, communicating skills and approachability were of similar importance (Mean=4.6) as the next most preferred qualities. The least important quality for them was unsurprisingly Past publications/research (Mean= 3.3).

Students with a monthly family of more than RM 10000 perceived that communicating skills (Mean=4.6) was the most important quality of a teacher followed by Enthusiasm regarding teaching and subject, willing to learn/open to change and pleasant personality (Mean=4.5) as the next most important. The least favourable was again past publications/research (Mean=3.3).

Table 8. Effective Teacher Characteristics amongst students from different areas of residence. (n=236).

Independent Variable	Rural Mean (SD)	Urban Mean (SD)	P value
Knowledge towards a subject	4.0 (1.1)	4.5 (1.0)	0.024
Enthusiasm regarding teaching and subject	4.1 (1.2)	4.6 (0.9)	0.002
Communicating skills	4.1 (1.0)	4.6 (0.8)	0.007
Approachability	4.3 (1.0)	4.6 (0.8)	0.096
Good sense of humour	3.7 (1.1)	4.0 (0.9)	0.172
Past Publication/Research	3.2 (1.1)	3.1 (1.1)	0.616
Caring nature/Empathy	3.7 (1.2)	4.4 (0.9)	<0.001
Pleasant Personality	3.9 (1.1)	4.4 (0.7)	<0.001
Inspirational/Motivational	3.9 (1.2)	4.5 (0.8)	<0.001
Constructive Criticism	3.7 (1.2)	4.0 (1.0)	0.177
Patience/Calmness	4.1 (1.2)	4.4 (0.9)	0.104
Willing to learn/being open to change	4.0 (1.2)	4.3 (1.1)	0.040
Respect for students/Make students feel important	3.7 (1.3)	4.3 (0.9)	0.002

Note: 1=Strongly Disagree, 2=Disagree, 3=Uncertain, 4=Agree, 5=Strongly Agree

There is a significant difference of scores ($p < 0.05$) between the 4 monthly income groups for 8 characteristics: Knowledge towards a subject, Enthusiasm regarding teaching and subject, communicating skills, Caring nature/Empathy, Pleasant Personality, Inspirational/Motivational, Willing to learn/being open to change, and Respect for students/Make students feel important.

There was no significant difference of scores ($p > 0.05$) between the 4 monthly income groups for 5 characteristics: Approachability, Good sense of humour, Past Publication/Research, Constructive Criticism, and Patience/Calmness.

Students who live in an urban setting consistently scored every quality higher than their counterparts who live in rural areas other than past publication/Research which scored (Mean: 3.1) in urban and (mean: 3.2) in rural but in overall past publication /research was rated of least importance by both rural and urban for an effective teacher.

Students who live in an urban setting perceived that communicating skills enthusiasm regarding teaching and subject and approachability (Mean=4.6) were the most attractive quality for them. Students who live in a rural setting rated approachability (Mean=4.3) is the most important quality for them.

4. Discussion

The aim of this study was to quantify student evaluated teacher effectiveness in order to increase efficacy of student learning. We hypothesised that the perception of an effective teacher differs according to age, year of study, gender, race, household income and area of residence. By conducting this research, we understood the medical students' perspective on an effective MBBS lecturer Melaka Manipal Medical College (MMMC).

The most important quality of teacher as perceived by students in this study was communicating skills, enthusiasm regarding teaching and subject, and approachability. Next up was pleasant personality, inspirational/motivational and knowledge of subject. According to Paul J. Meyer,

communication – the human connection – is the key to personal and career success. The research done by S. Singh, and N. Verma [15], established that “Knowledge of subject” is the most favourable quality of an efficient teacher. However, based on the results of our study, communicating skills, enthusiasm regarding teaching subject and approachability were found to be more attractive qualities to the students. Past studies have also shown that Knowledgeability and communication skills are the two most important qualities for a medical teacher. Every doctor is expected to deliver teaching whether to medical students, allied health professionals, or postgraduate doctor. Hence, it is one if the best quality that our future doctors can obtained from the teachers. Moreover, there is an expectation to show formal training in teaching methods. A passionate teacher will be an asset to any medical department could be the postgraduates or undergraduates too. This coupled with the personal satisfaction of being an effective teacher, it also can be said as the motivation to become a better medical educator. This was also concluded by the authors of Effective Medical Teaching Skills. [16]

Next, we also found that pleasant personality, inspirational/motivational and enthusiasm regarding teaching and subject, knowledge towards a subject, caring nature/empathy, patience/calmness, willing to learn/being open to change, respect for students/make students feel important and good sense of humour were attractive qualities of a good teacher based on students' perceptive. All these characteristic has a similar score thus a formal ranking is not appropriate.

Past Publications/Research and constructive criticism were the least favourable qualities for the students. This was consistent among all age groups, races, genders, monthly income, and area of residence and year of study. This information was consistent with research done by S. Singh et al [15] who also found out that past publications/ research was not very important to the students. But this contradicts a study by Abdulrahman A Al-Mohaimeed [14] which did say that being lenient/ not strict is not a attractive quality of a teacher.

When segregating the results according to gender, we saw that female students rated each quality significantly higher than the male students. This shows that female students expect more from a teacher than male students. This is consistent with findings by W. C Mau *et al* [17] and Z. R Mello [18]. But it contradicts more recent findings by António M. Diniz *et al* [19] who found that male students have higher academic expectations than female students.

When the scores are categorised according to age group, each age group tended to rank the qualities in the same order of importance and there was no significant difference of opinion between the three age groups.

A p value of more than 0.05 for most qualities showed that there was no significant difference of opinion between students of different years of study. When scores were categorised according to year of study, students of years 3 and 4 scored each quality in a similar fashion, but it was interesting to note that students of year 5 scored each quality significantly lower than their peers of other years of study. But it's also difficult to determine the significance of this result because of the low sample of year 5 students. (n=4). This finding of no significance is consistent with the

When scores were arranged according to race of student, we found out that there were significant differences in opinion between the races for Approachability, Good sense of humour, Caring nature/Empathy, Inspirational/Motivational, Willing to learn/ Being open to change and Respect for students/Make students feel important. Past research done by S. Singh. Htoo Htoo Kyaw Soe *et al.* [20], also showed that there was no significant difference between races. The most important quality for Malay students was communication skills. The most attractive quality for Chinese students was Approachability while for Indian students it was Enthusiasm regarding teaching and subject. For students of other ethnicities. Communication skills was the most attractive characteristic. Another significant result was that Chinese students scored constructive criticism lower than their peers who all scored this quality more than 4.0.

When the scores were categorised according to monthly household income, it was revealed that that students of families who earned less than RM 5000 a month had rated all the qualities significantly less than their other peers. This could indicate that students of families with lower household income expect less from their teachers than their peers. Other than that there was a significant difference in which qualities were most important to students of families of different income classes.

Students with a monthly family income of less than RM 5000 perceived that Approachability, Pleasant personality and Willingness to learn/ Being open to change were the most important qualities of an efficient teacher. Students with a monthly family income of RM 5000-RM 7500 perceived that Communicating skills was the most important quality. Students with a monthly family income of RM7500-RM10000 perceived that being inspirational/motivational was the most important quality for a teacher while Students with a monthly family of more than RM 10000 perceived that

communicating skills was the most important quality of a teacher. A study by Jonathan Eng [21] showed that children from high income households expect more from society, and this may be what is reflected in our results.

When the scores were segregated according to area of residence, we found that students who live in an urban setting consistently scored each quality higher than their peers who live in rural setting. This difference in scores was confirmed to be significant using the p value. This could indicate that students who live in an urban setting demand more from their teachers. This might be a reason for the high stress levels reported by teachers working in urban areas, on a study by Victor Brian Goodman [11] and in a study by Lisa Gaikhorst *et al* [12].

5. Limitations

1. Our study was a single centre study, conducted only at Melaka Manipal Medical College.
2. Study population included only a small number of year 5 students.
3. Study population included only had a small number of Malay students.
4. Students making up the study population were from only one discipline: Medicine.
5. Participants of the study were only given 13 qualities of a teacher to score.
6. Our sample population was lower than the one calculated before the study.

6. Recommendation for Future Studies

1. Investigate on teacher perception on good qualities of a teacher and later compare it with students' opinion to see what the difference is. By carrying out this survey, teachers might able to know which aspect they should hold in order to be a better teacher.
2. A larger sample is needed as the research is only conducted within MMMC. We should try to widen our survey on other medical schools as their students might have a different opinion compare to the students in Melaka Manipal Medical College (MMMC).
3. Besides giving out multiple choice questions, students can also be asked to express their ideal qualities of a good teacher. This is because everyone has different perception on a good teacher.
4. ANNOVA is only valid when all the sample means are equal, it does not provide any significant difference. The Turkey HSD would be more preferable as a follow up to ANNOVA.
5. We could also try to seek whether how do all the good qualities hold by a teacher would make a change in the medical students' performance? The marks scored by all the students and their performance in the hospital could be used to compare with their perception on a

good teacher. Besides, we also can use to compare how the future doctor will be as in will it be better than the older generation or likewise.

personalized teaching service could be adapted.

7. Conclusion

To conclude, the evidence shows that Communication skills, Enthusiasm towards the subject and approachability are the most attractive qualities to medical students. Hence we would like to recommend prioritising the development of these qualities during training programmes for teachers.

As there were different expectations between male and female students in respect to the qualities expected from their teachers, we would also like to recommend the education of trainee teachers about these differences, so that a more

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Appendix

Questionnaire:

Qualities of An Effective Teacher: What Do Medical Students Think?

Name: _____

Dear participant,

Thank you for your interest in this survey concerning qualities of a good teacher. The purpose of this survey is to quantify student evaluated teacher effectiveness in order to increase efficacy of student learning.

Your participation is voluntary. You are free to withdraw your participation from the study at any time. All responses in the survey will be recorded anonymously.

As a participant, you will be asked to complete this survey. The survey takes approximately 3-5 minutes to complete.

The study involves no commercial interest, and data collected will be used only for study purposes. Thank you for your feedback. We really appreciate your time

CONSENT

I have read and I understand the provided information and have had the opportunity to ask questions. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving a reason and without cost. I understand that I will be given a copy of this consent form. I voluntarily agree to take part in this study.

Participant's signature _____

Date: ___/___/___

Please answer the following:

1. Gender
 - a. Male
 - b. Female
2. Age _____ years
3. Batch
 - a. 34
 - b. 35
 - c. 36
 - d. 37
 - e. 38
4. Ethnicity
 - a. Malay
 - b. Chinese
 - c. Indian
 - d. Sri Lankan
 - e. Others _____
5. Monthly household income
 - a. <RM5000
 - b. RM 5000-RM7500
 - c. RM7500-RM 10000

- d. >RM10000
- 6. Area of Residence
 - a. Urban
 - b. Rural

Based on your opinion, what do you think a teacher with good qualities should have? Please kindly tick on the empty box as given.

Note:

1=Strongly Disagree; 2= Disagree; 3= Uncertain; 4= Agree; 5= Strongly Agree					
Good qualities of a teacher	1	2	3	4	5
Knowledge towards a subject					
Enthusiasm regarding teaching and subject					
Communicating skills					
Approachability					
Good sense of humour					
Past Publication/Research					
Caring nature/Empathy					
Pleasant Personality					
Inspirational/Motivational					
Constructive Criticism					
Patience/Calmness					
Willing to Learn/ being open to change					
Respect for students/Make students feel important					

Students enthusiastically answering the questionnaire given to them:



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