

TEACHERS' AND STUDENTS' PERCEPTIONS OF THE LEARNING ENVIRONMENT IN CLINICAL DEPARTMENTS AT THE SCHOOL OF MEDICINE, MUHIMBILI UNIVERSITY COLLEGE OF HEALTH SCIENCES

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Abstract

Background: The School of Medicine at Muhimbili is the main doctor-training institution in the country. It runs a five-year MD programme taking 200 students annually. As for many schools in low-income countries, the majority of teachers have no formal training in educational theory.

Objective: To describe the physical and psychosocial learning environment from teachers' and students' perspectives, describe the perceptions of teachers and students of each other, and propose ways of improving the learning environment.

Methods: Fourth year students of the 2005 graduating class and selected clinical teachers took part in a survey to document their perceptions of the school's learning environment, and the perceptions of teachers and students of each other. Structured questionnaires designed by the authors were used for recording the required information from teachers and from students for analysis.

Findings: The availability of ward patients suitable for clinical training was considered adequate by 84% of the students. However, less than 50% of students thought the wards, clinics, library and operating rooms provided a conducive learning environment. Only a third of the students said they used the Internet to access learning material. Two thirds of students said it was difficult to access teachers for consultation outside of scheduled classes. While 63% of students said teachers regularly showed them how to elicit physical signs on patients, a modest 58% of students perceived their teachers as professional role models. Only 13% of students felt that teachers avoided intimidating them during clinical teaching. Seventy one per cent of teachers provided feedback to students after clinical assessment, but only 21% of the teachers believed feedback to students should be directed towards identifying students' strengths and reinforcing them rather than seeking their weaknesses for correction.

Conclusion: The learning environment at the school has some strengths that should be amplified, and numerous weaknesses that need to be corrected in order to make the environment more conducive to teaching and learning.

Key words: Learning environment, student-teacher relationship, clinical training

Introduction

The School of Medicine at Muhimbili has been in existence for over forty years, and remains the only public and main centre for training doctors in Tanzania. Graduates of the school are involved in providing health care in the country and beyond. When the school traced its graduates to their workplaces all over the country in 2001/2002 a survey of the graduates and their employers produced interesting findings. It revealed, among other things, that former students of the school perceived an unhealthy and unfriendly relationship between teachers and students at the school, and perceived a need to improve that relationship for an optimal learning environment. The factors that influence the learning environment and therefore the quality of education in an institution of higher learning include the mission and objectives of the institution and how well they are

known and implemented by its stakeholders, the educational programme, student admission policies, student assessment and academic staff policies and development, to name but a few.

The World Federation for Medical Education (WFME), an international body that represents medical educators and medical education institutions, has formulated a set of nine broad areas to be considered in the assessment of medical schools. The first of these areas is physical resources, which include physical facilities, clinical training resources and information technology.⁽¹⁾ In a resource-constrained environment such as that prevailing at the School of Medicine at Muhimbili, it will prove difficult to attain even the basic quality standards, but it may still be useful to assess the school against the set standards to highlight areas that need improvement.

Documented learning environment areas for assessment as recommended by Robins et al⁽²⁾ included satisfaction with the overall learning environment, appropriate constructive feedback to students, whether the school offers a comfortable place for people of different race and gender to learn in, whether the educational programme promotes critical thinking, whether quality student education is a high priority for the teachers, and whether teachers are responsive to student concerns.

Roff et al⁽³⁾ in their criteria for assessment of learning environment stress encouragement of the student to participate in learning and ask questions when they want to, teachers providing constructive feedback, promoting a positive self perception in students and having a good support system for stressed students. The importance of creating a conducive environment for active learner participation in all aspects of the learning process cannot be overemphasized. This was a descriptive study of the physical and psychosocial learning environment at the Medical School at Muhimbili. The purpose of this paper is to highlight the strengths and weaknesses of the learning environment and suggest ways of making the environment more conducive to learning.

Methods and Subjects

The study involved the cohort of fourth year medical students of the class graduating in 2005 rotating in the main clinical departments: Internal Medicine, Surgery, Obstetrics/Gynaecology and Paediatrics and Child Health. The class had 119 students, but one group was away on the Community Health rotation, so the remaining 98 students (82%) were eligible for the study. The teacher component of the study involved 24 randomly selected teachers from department clusters.

A student questionnaire was developed by the authors to collect information on student perceptions of the learning

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environment at the school and students' perceptions of how teachers conduct themselves in teaching activities and in academic interaction with students. The questionnaire had ten items on the physical environment and ten items on teacher availability and conduct. The questionnaire contained questions that had a five point Likert scale where 1 and 2 represented "strongly disagree" and "disagree", respectively, while 4 and 5 represented "agree" and "strongly agree", respectively, with 3 representing a neutral position. In the analysis, 1 and 2 were taken together as disagreement while 4 and 5 were taken as agreement.

A teacher questionnaire, also developed by the authors contained eight items on student assessment and feedback to students. The questions required a "yes" or "no" response. The data was coded and analyzed using EPI Info 6 programme.

Results

Sixty-two (63% of 98 eligible) students completed the initial questionnaire. Most students (84%) said there was regular availability of suitable ward patients for clinical training, but the proportion was lower (34%) for clinic outpatients. Only 24% of students rated the ward environment as conducive to learning while 41% said the operating room offered a conducive learning environment. The proportion of students who said the college library contained adequate reading material was 25%. Only one third (34%) of students submitted that they used the Internet regularly to access learning material, and 72% of these found the accessed Internet material useful. Student views

on other aspects of the learning environment are shown in Table 1. In the assessment of teacher availability and accessibility 65% of students perceived that teachers were not readily accessible for consultation outside of scheduled class time. One third of students said it was common for scheduled classes to be missed, and only 39% of students said teachers generally came for classes punctually. Regarding how teachers conducted themselves, 63% of students said teachers regularly showed them how to elicit physical signs on patients. Just over half (56%) of students said teachers treated them respectfully, and a mere 13% said teachers avoided intimidating them.

Only 58% of students said they would regard their teachers as professional role models. Other aspects of student perceptions of teacher conduct are shown in Table 2. Individual teachers spent an average of two hours per week on each of lectures and clinical meetings while on each of bedside teaching and outpatient clinics each spent an average of four hours per week.

All departments gave a clinical examination at the end of rotation assessment. Multiple choice questions were used by two of the departments, while short answer questions and essay questions were used by three of the four departments in the end of rotation assessment, some departments using a combination of formats of assessment. As shown in Table 3, 58% of teachers gave feedback to students after written examinations while 71% provided feedback after clinical examinations. Three quarters of teachers believed feedback to students should be based on finding faults for correction while only 21% thought the approach should be seeking students' strengths and reinforcing them (Table 3).

Table 1. Students' assessment of the physical learning environment and availability of learning resources

Student perception	(No.)	Response		
		No %	UD* %	Yes %
The ward environment was conducive to learning	(62)	61	15	24
Gloves, lubricating jelly regularly available in wards	(53)	48	13	39
Ward patients for clinical training were regularly available	(61)	10	6	84
The OP [#] clinic environment was conducive to learning	(50)	44	12	44
Outpatients for clinical training were regularly available	(53)	51	15	34
The OR** environment was conducive to learning	(44)	30	29	41
Adequate reading material was available in library	(62)	57	18	25
Had regular access to a side-room lab	(62)	45	0	55
Searched the Internet for learning material	(62)	66	0	34
Material accessed from Internet was useful	(25)	8	20	72

*Undecided [#] Outpatient ** Operating room

Table 2. Students' views on availability and conduct of teachers

Teacher availability	(n)	No (%)	UD*	Yes (%)
Easy to access teachers outside scheduled class hours	(62)	65	12	23
Uncommon for scheduled sessions to be missed (1 in 4 or more)	(61)	34	0	66
Teachers were generally punctual for scheduled classes	(62)	50	11	39
Teachers regularly showed how to elicit physical signs	(62)	32	5	63
Conduct of Teachers				
Teachers avoided intimidating students	(61)	23	21	56
Students treated respectfully by teachers	(61)	64	23	13
Teachers reacted constructively to students' answers	(61)	18	20	62
Teachers deliberately attempted to lower tension in group	(62)	53	18	29
Generally teachers had positive attitude	(62)	23	35	42
Most teachers in dept regarded as professional role models	(57)	28	14	58

* Undecided

Table 3. Use of modes of assessment (end of rotation) and feedback to students

Testing mode (n=24)	Yes (%)	No (%)
Multiple choice questions	16 (67)	8 (33)
Short answer questions	19 (79)	5 (21)
Essays	21 (86)	3 (14)
Clinical examination	24 (100)	0 (0)
Feedback (FB) to students		
Given after written examination	14 (58)	10 (42)
Given after clinical examination	17 (71)	7 (29)
FB based on identifying student faults for correction	18 (75)	6 (25)
FB based on identifying student strengths for encouragement	5 (21)	19 (79)

Discussion

The process of training doctors at Muhimbili faces new challenges as student intake has quadrupled over the last ten years with a minimal increase in training resources. Most teachers at Muhimbili have no formal training in education - they are simply assigned to teach in their respective fields of specialization because they are professionals in those fields.

The current study has shown that the majority of interviewed clinical students perceived adequate availability of ward patients for learning purposes but there was a shortage of such patients in the outpatient clinics. The wards, operating rooms and library were deemed by students to be in need of improvement. While a minority of students used the Internet to access learning materials, the majority of those who did found the resources useful. For many of the required improvements the bottom line is increased funding for improvement of infrastructure. Others, however, such as the low use of the Internet, despite the facilities being quite good, requires a mere attitudinal and practice change on the part of students. Similarly, many of the concerns raised by students on how teachers interact with them call for change in teachers' attitudes.

The findings of the study suggest that there was a low level of teacher commitment to teaching as exemplified by the ease with which scheduled classes were missed and low teacher punctuality to class. It was encouraging to note that two thirds of students said that teachers regularly demonstrated physical signs to them, but ideally this should be the response of all students. The students' responses on teachers' attitudes generally reflect a perceived unease in the relationship. When just over half of students say they perceive their teachers as professional role models, and when most students say they do not perceive attempts by their teachers to avoid intimidating them during academic interaction, teachers should take deliberate steps to regain the confidence, respect and admiration of their students. A cordial teacher-student relationship and a relaxed atmosphere are necessary ingredients for a healthy learning environment. It has been shown that there is a strong correlation between clinical teachers' attitudes and the nature of interactions with students, and the conduciveness of the learning environment.⁽⁴⁻⁶⁾ A relaxed and friendly atmosphere is required for students to be actively engaged in the learning process, and teachers should know they don't need to be threatening to be challenging.⁽⁷⁾

The number of hours spent by teachers per week on teaching activities was relatively small, suggesting the quality of the contact can and should be improved, and indeed, that the quantity could easily be increased to provide students with more exposure to learning situations.

While 58% and 71% of interviewed teachers said they provided feedback to students after written and clinical examinations respectively, close scrutiny would probably reveal that the feedback was suboptimal in quality. Indeed, feedback should always be provided, as it is integral to learning. It is not the same as student assessment; it should be given in a friendly and relaxed atmosphere. In essence it involves observation of student performance followed by transmitting back information to the learner for the purpose of improving future performance.⁽⁸⁾

The language used in providing feedback should be positive, beginning with what was done well and encouraging the learner to build on it, before moving on to what could have been done better.

The natural tendency, even when one has been specifically asked to talk about the positive first, is to rush to the negative! Teachers should know that people learn better when they are relaxed than when they are made tense and nervous by criticism and intimidation. The finding that most interviewed teachers believed in an approach that seeks out students' weaknesses and shortcomings for correction rather than their strengths to build upon is unfortunate and against the principles of adult learning and healthy human interaction. Teachers, especially those training future doctors, should be made abundantly aware of the power of appreciative inquiry as popularized by various workers.^(9,10) It is important to remember that the teacher is a very powerful variable in the learning environment, whose actions, attitude, interest and enthusiasm influence the learners⁽¹⁰⁾

Conclusion

Medical education is a rapidly growing field. Quality training of doctors requires an increase in the funding to improve infrastructure to optimize the physical environment. Teachers should undergo training to acquire knowledge and skills required for facilitation of adult learning. Teachers and students need to take deliberate steps to cultivate a good relationship with each other and create a relaxed atmosphere conducive to learning.

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