

ORIGINAL ARTICLE

Analyzing the teaching skills of interns to assess the quality of teaching.

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ABSTRACT

Background: In Pakistan, interns are often involved in teaching tasks. Interns are placed at the lowest level in the hierarchy of teachers and are often hired with little or no teaching experience and usually with no formal teacher training during the course of their undergraduate program.

Aim: To analyze the level of teaching skills of interns, so appropriate measures can be taken if required to improve the standard of teaching.

Methods: This cross-sectional study was conducted at University College of Dentistry, The University of Lahore from April to June 2017. The Medical Education Teaching Readiness Questionnaire (METRQ) was used to assess how different experiences contributed to respondent's knowledge, skills and attitudes of medical teaching. Fifty first year interns in dentistry were requested to fill out the questionnaire and the results were analyzed statistically using SPSS 21.

Results: Forty (80%) interns thought the acquisition of basic teaching skills such as planning 'what to teach' was extremely important, however they were not prepared well enough to teach. Observing their teachers was extremely helpful for skill development for 38 (76%) respondents while receiving feedback on their own teaching was helpful for only 1 (2%) respondent. Most of the parameters judged as teaching characteristics such as enthusiasm, motivation, competence etc. took a dip at the time of graduation. The same characteristics showed markedly better values after gaining some teaching experience during internship.

Conclusion: METRQ can act as an important tool to conduct needs assessment for designing teacher-training programs or for assessing the current status of individuals who are teaching in the health professions. Teacher training programs are the need of the hour so teaching quality and in turn the quality of education can be improved.

Keywords: *Aptitude, Cross sectional studies, Needs Assessment, Teacher training.*

Introduction: "Great teaching is defined as that which leads to improved student progress" (Coe, Aloisi, Higgins, & Major, 2014). It is important to understand that teaching is a dynamic and complex task, one that requires a blend of hard work, grip over core knowledge and enthusiasm if knowledge and skills are to be imparted effectively (Vaughn, Ph, & Baker, 2001). As the focus of teaching has now shifted from teacher centered to student-centered activities, the conventional method of on the job teacher training seems inadequate and outdated. In addition to being a lecturer which was considered to be a teacher's primary role, 11 other roles have been identified for a teacher (Harden & Crosby, 2000). In order to achieve

an optimal learning environment, multiples roles must be fulfilled simultaneously.

This study aims to analyze how various experiences in medical education contributed to the knowledge and skill development of interns as teachers.

Methods: This cross-sectional study was conducted at University College of Dentistry, The University of Lahore from April till June 2017. The sampling was purposive and 50 interns were requested to fill out the Medical Education Teaching Readiness Questionnaire – The Intern's Perspective (Henry, Haworth, & Hering, 2006). Sample size was calculated using OpenEpi with a 95% confidence interval. Only first year interns were included in the study and preference was given to interns from different medical colleges.

METRQ is a pre-validated and reliable questionnaire and it aims to analyze how experiences during medical college shaped the teaching skills of interns. It consists of 9 sections with a variety of response formats such as multiple-choice questions; fill in the blanks, 7-point likert scale options and yes/no responses. The questionnaire was used after taking proper permission from the authors.

Response rate was 100% as each intern was contacted individually and was requested to fill out the questionnaire

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under supervision in order to avoid any confusion or misunderstanding on part of the intern regarding any term or question in the questionnaire.

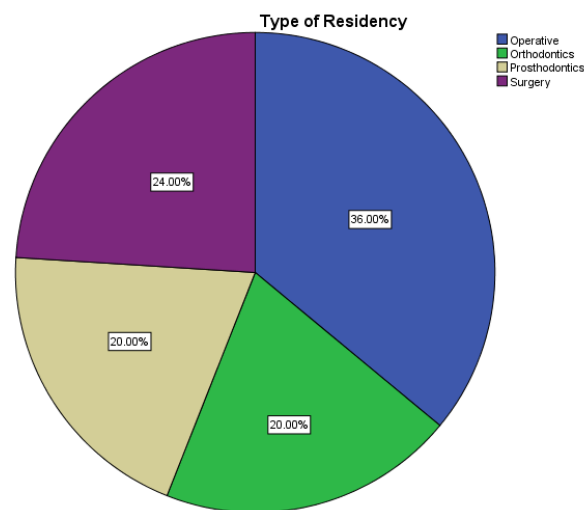
Data was analyzed using IBM SPSS Version 21 and all quantitative variables were presented as frequencies and percentages.

Results:

Demographics: Interns from four clinical disciplines; Operative, Surgery, Prosthodontics and Orthodontics, were part of the research. (Figure 1)

Results of different components of the questionnaire are

Figure 1: Distribution of interns according to clinical disciplines



reported as follows:

Teaching Functions: The first three items of the questionnaire were essentially warm up questions and they dealt with teaching functions. Item 1 and 2 were intended to prompt residents to recall current teaching activities through a general estimation of their experiences. Forty eight percent (24) of the respondents said that they spent around 11- 20 hours teaching students in the past month and most of them were either responsible for teaching students' clinical skills and procedures or were involved in teaching students how to conduct patient evaluation. In response to Item 3, that inquired "when learning to teach occurred the most," 54% (27) respondents said, 'during internship'.

Attitudes about Teaching: As an attitudinal measure, respondents were prompted to indicate their level of agreement about having a particular skill. 80% (40) indicated that planning what to teach was extremely important and so was evaluating students. 74% percent (37) and 72% percent (36) respondents respectively said the presentation of material and provision of feedback was also very important.

Teaching Preparedness: Item 4B prompted recall on the level of preparedness to teach in certain areas and indicated the respondent's view of his/her abilities to teach at that time.

In simple terms, this item aimed to assess teacher preparedness: whether the interns felt prepared to teach or not. Majority of the interns indicated that they were not prepared when it came to planning what to teach (88%), presenting relevant material

Table 1: Activities that were helpful in promoting the intern's development as a teacher

	Not at all Helpful	Slightly Helpful	Moderately Helpful	Extremely Helpful	Not done
Received instruction about how to teach		5(10%)	13(26%)	24(48%)	8(16%)
Read printed materials about how to teach	1(2%)	10(20%)	15(30%)	16(32%)	8(16%)
Reviewed the material to be taught		2(4%)	11(22%)	35(70%)	2(4%)
Observed my teachers teach		2(4%)	8(16%)	38(76%)	2(4%)
Taught with students s		2(4%)	17(34%)	28(56%)	3(6%)
Reflected on teaching experiences		4(8%)	13(26%)	30(60%)	3(6%)
Received feedback on teaching skills	10(20%)	6(12%)	6(12%)	1(2%)	27 (54%)
Was encouraged to assume teaching role	1(2%)	7(14%)	12(24%)	28(56%)	2(4%)
Had teaching responsibilities		2(4%)	15(30%)	27(54%)	6(12%)

Table 2: How respondents viewed themselves as teachers in the first year of medical school?

Bored	Enthusiastic	Neutral	20 (40%)	23 (46%)	7 (14%)
Competent	Ineffective	Neutral	21 (42%)	18 (36%)	11 (22%)
Confident	Fearful	Neutral	21 (42%)	21 (42%)	8 (16%)
Disorganized	Organized	Neutral	17 (34%)	28 (56%)	5 (10%)
Frustrated	Fulfilled	Neutral	16 (32%)	25 (50%)	9 (18%)
Motivated	Unmotivated	Neutral	29 (58%)	12 (24%)	9 (18%)
Had teaching responsibilities		2(4%)	15(30%)	27(54%)	6(12%)

Table 3: How respondents viewed themselves at teachers at graduation?

Bored	Enthusiastic	Neutral	25 (50%)	9 (18%)	16 (32%)
Competent	Ineffective	Neutral	6 (12%)	26 (52%)	18 (36%)
Confident	Fearful	Neutral	26 (52%)	11 (22%)	10 (20%)
Disorganized	Organized	Neutral	33 (66%)	6 (12%)	11 (22%)
Frustrated	Fulfilled	Neutral	24 (48%)	6 (12%)	20 (40%)
Motivated	Unmotivated	Neutral	17 (34%)	27 (54%)	6 (12%)

Table 4: How respondents viewed themselves at teachers during internship?

Bored	Enthusiastic	Neutral	6 (12%)	39 (78%)	5 (10%)
Competent	Ineffective	Neutral	43 (86%)	5 (10%)	2 (4%)
Confident	Fearful	Neutral	37 (74%)	5 (10%)	8 (16%)
Disorganized	Organized	Neutral	2 (4%)	47 (94%)	1 (2%)
Frustrated	Fulfilled	Neutral	6 (12%)	35 (70%)	9 (18%)
Motivated	Unmotivated	Neutral	34 (68%)	19 (20%)	6 (12%)

(86%) and evaluating students (78%). In addition, only 52% were moderately prepared to provide students feedback.

Ways of Learning: Item 5 provided a list of activities that aimed to prompt the respondents to rate each item for its helpfulness. It aimed to assess which teaching or learning activities were helpful in their development as teachers (Table 1). Thirty-Eight (76%) respondents found observing their teachers to be extremely helpful for the development of their own teaching skills and 35 (70%) said the same for reviewing the material to be taught.

Teaching Instruction: Item 6 asked the students to recall any practice teaching they engaged in during their senior year. Eighteen percent of the respondents had absolutely no teaching experience while only 26% said they engaged in more than 10 teaching sessions in senior year. Majority of the respondents co-facilitated between 1 and 6 times. While half of the respondents wanted greater teaching opportunities, the other half was satisfied with the same or even fewer teaching opportunities.

Out of all respondents who had engaged in teaching activities during senior year, only 54% received feedback, which only a small proportion found to be helpful

Item 7 was applicable to respondents who had a formal program on learning-to-teach. All respondents skipped this section, as not even a single intern had been a part of any formal program, which taught them how to teach.

Teaching Characteristics: Item 8 was based on teaching characteristics of the respondents and they were expected to mark on a continuum where they viewed themselves as teachers. Most of the parameters judged as teaching characteristics such as enthusiasm, motivation, competence etc. took a dip at the time of graduation. The same characteristics showed markedly better values after gaining some teaching experience during internship (Tables 2, 3 and 4).

Discussion: The responses to initial warm up questions legitimize that all interns who were included in this research were actively involved in teaching activities and hence gave appropriate and significant responses. As indicated by the respondents themselves, as interns, they understood the importance of basic activities such as planning what to teach, presenting material, provision of feedback and evaluation of students. However, they were not adequately prepared for it. At best, most of them were only moderately prepared to provide students feedback. The section on teaching instruction also showed lack of interest on part of the interns as only half of them indicated they would've liked to have more teaching opportunities in their senior year. This lack of interest was further indicated in "Teaching Characteristics" section as most of the respondents viewed themselves as

bored, ineffective, disorganized, frustrated and un-motivated at the time of graduation.

Enthusiasm, effectiveness, fulfillment and motivation drastically improved amidst internship and this change may be attributed to experience gained while working as an intern. However, for a profession as serious as health, the classroom should not be utilized as a platform for acquiring or developing basic and essential teaching skills.

Half of the respondents stated that the feedback that was provided to them on their teaching during senior year was not helpful. The absence of effective feedback shows the presence of a vicious cycle – one that the interns were a part of before they graduated due to lack of trained teachers and the same one that future students will become a part of when they undergo teaching by the same interns who themselves have little or not teaching experience. Experience plays a vital role in developing a teacher's attitude and it is a teacher's attitude that can greatly affect a student's attitude towards learning (Bhargava & Dr. Pathy, 2014). It is unfair to expose the students to interns who have limited teaching experience themselves due to the absence of formal teacher training programs at the undergraduate level as confirmed by 0% response rate to Item 7. This can have far reaching consequences because quality education can never be achieved without quality teaching as teaching does not refer to a simple transfer of knowledge rather it refers to a process which entails the facilitation of learning (Chaudhary, Kumar Mahato, Bhatia, & Chaudhary, 2015).

The process of developing certain skill sets in teachers can be expedited by means of teacher training programs hence it is important to devise specialized faculty development programs, which are targeted towards teacher training. In an attempt to improve the quality of teaching and in turn the quality of education, Teacher Education Programs such as Transition to teaching program can be studied and something along similar lines can be developed for teachers involved in health care professions (Program, Teacher, & Maker, 2015). Just as teaching is a complex task, learning how to teach is not easy either. The knowledge and skill sets required for effective teaching cannot be acquired by reading or studying alone. These skill sets are developed as a result of proper mentoring, good opportunities to practice along with proper support and feedback (Foley, Amber Benedict, Lynn Holdheide Mary Brownell, 2016).

In order to train individuals, it is important to assess their aptitude and assign them roles accordingly. METRQ can act as an important tool to conduct needs assessment for designing teacher-training programs or for assessing the current status of individuals who are teaching in the health professions. The

“Ways of Learning” section can provide insight into which activities help individuals the most in developing their skills as a teacher hence it can be used to profile interns and assign them to be a part of relevant teacher training program.

In order to set apart effective teachers from non-effective ones, it is important to subject them to periodic reviews as well in addition to the initial profiling (Harden & Crosby, 2000). The purpose of this review should be to provide the interns with constructive feedback in order to enhance their skill and help them develop expertise.

In this time and age of information overload and rapidly changing curricula, it is important to train teachers who can take on the challenges being faced by medical education and can contribute towards producing health care professionals who are active contributing members of the society. The only way to achieve this is to design proper faculty development programs and education preparation programs. WFME guidelines for quality assurance also highlight teacher training, development, support and appraisal as a basic standard that must be fulfilled by a medical college (B 5.2.5).

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