

Designing and Piloting a Professionalism Curriculum for Undergraduate Medical Students at the Faculty of Medicine, Suez Canal University

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Abstract

Background: Professionalism is constituting those attitudes and behaviors that place the patient's interest above those of the physician. The teaching of professionalism to medical students, and interns, and throughout continuous professional development has recently come under fire. The teaching of professionalism to medical students, and interns, and continuous professional development have recently been emphasized. These calls are the consequence of public complaints about the performance of medical physicians in areas within their direct authority. **Aim:** Developing and piloting a course in professionalism spanning vertically across 6 years in the medical curriculum for undergraduates at the Faculty of Medicine, Suez Canal University (FOMSCU) to prepare students for future careers to improve health outcomes. **Material and Methods:** a quasi-experimental pre-test/post-test, where qualitative and quantitative data collection tools were used to assess general needs and the needs of the target learners. Semi-structured interviews, focus groups, "Learners' Attitude of Medical Professionalism Scale (LAMPS)", self-assessment questionnaire, course evaluation questionnaire, and course experience questionnaire (CEQ) were used. **Results:** Our study revealed a higher perception of professionalism in first-year students in our results indicating the effectiveness of our educational intervention. The overall satisfaction level of first-year medical students was 2.5 (out of 4) which characterizes the students as generally 'satisfied'. **Conclusion:** Students were generally satisfied with the introduced professionalism course. There is a need to integrate professionalism into the curriculum for undergraduate medical students to focus on professionalism issues across the curriculum and to adapt to changing physician needs.

Keywords: professionalism, needs assessment, LAMPS, CEQ

Background

Since it is crucial to providing the greatest quality of patient care, professionalism is a core competency for all healthcare practitioners and a topic of significant interest in academia⁽¹⁾. The value of professionalism to medical students reflects a dedica-

tion to developing reliable professional abilities and attitudes that will increase public confidence in the medical profession⁽²⁾. The ability to establish relationships with patients, promote the satisfaction of patients, and improve one's general well-being are all impacted by professionalism⁽³⁾. Few researchers have as-

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sessed the efficacy of pedagogical techniques in teaching professionalism, even though medical schools have started to develop formal curricula connected to professionalism⁽⁴⁾. The American Board of Internal Medicine (ABIM), has proposed a framework that specifies the qualities of medical professionalism and is composed of six professional domains: altruism, accountability, excellence, duty, honor, and integrity, as well as respect for others⁽⁵⁾. To teach professionalism, additional efforts must be made to impart non-cognitive skills in addition to an explicit core curriculum that covers the entire spectrum of medical education. In this process, reputable role models are crucial⁽⁶⁾. Three approaches can be used to teach professionalism: Using specific content directly, encouraging learners to participate in experiential learning, or combining the first two approaches are all viable options. Any of the approaches should have consistent, long-lasting instruction⁽⁷⁾. The cognitive foundation of professionalism should be explicitly taught at the beginning of the lesson before the learner engages in practical learning to absorb it⁽⁸⁾. There are several tactics available to improve teaching professionalism. Establishing a humanistic culture first sends the message that the goal of teaching professionalism is sincere. Second, the curriculum should be useful and pertinent; students will acquire professionalism more readily if it is presented in the context of their field of study (e.g., surgery trainees should learn about professionalism issues related to surgical practice). Third, students should take part in activities that test and develop communication abilities (e.g., breaking bad, sad, or unexpected news to patients)⁽⁹⁾. Aspects of professionalism, like communication abilities and ethics, can be learned through didactic instruction. Students must have the

chance to take part in activities that allow them to reflect on what they see and do and create a learning strategy to build their professionalism⁽¹⁰⁾. Students can improve future practice while integrating theory and their understandings from experience through reflection. Students may be encouraged to use reflection as a tool throughout their academic and professional careers as part of work-based learning by incorporating it into authentic, multi-professional health and social care experiences early on in the undergraduate course⁽¹¹⁾. Professionalism is not something that just happens by coincidence; teaching professionalism is linked to better medical outcomes, and accreditation bodies demand that professionalism be taught and evaluated. Additionally, this curriculum is required to support patient and public confidence in students' abilities to self-regulate their profession and to educate students for future autonomous medical careers working within our society and its expectations of physicians. The study aims to develop a course in professionalism spanning vertically across 6 years in the undergraduate curriculum at the Faculty of Medicine, Suez Canal University to prepare students for future careers to improve health outcomes. Thus, the study Objectives were to assess the needs of students and staff at the FOM-SCU concerning professionalism. Design a professionalism curriculum outline for undergraduate medical education in FOM-SCU including the most suitable instructional and assessment methods. Pilot the designed curriculum and evaluate the designed curriculum.

Subjects and Methods

The study design was a quasi-experimental pre-test/post-test. It was designed to evaluate course outcomes by

assessing the students' perception of medical professionalism and tutors' evaluation of students' behaviors before and after its piloting. An outline of the curriculum was proposed according to the general and target learner needs to introduce professionalism as a longitudinal course taught during the six years at FOMSCU. The development of the professionalism curriculum followed the six-step approach to curriculum development. The process was as follows:

1. *Problem identification and general needs assessment: data collection tools were used in this step:*

- *Semi-structured interviews with different stakeholders* (Dean, Vice Dean for Education, and Vice Dean for post-graduate studies)
- *Focus group discussion: addressed staff's definitions of professionalism, and examples of professional and un-professional behavior.*

2. *Needs assessment of targeted learners*

This step took place after the general needs assessment. A self-administered questionnaire was distributed to sixth-year students and house officers to assess the current situation of teaching professionalism their perception of professionalism and the teaching and assessment methods they recommend. The questionnaire is a pre-validated (LAMPS)⁽¹²⁾. The questionnaire provides a gap analysis to address the need for teaching professionalism in undergraduates.

3- *Development of goals and objectives*

The objectives comprised the cognitive, psychomotor, and affective domains and they were constructed based on the needs assessment according to the semi-structured and the focus group.

4- *Instructional methods*

This step was done according to the collected data of the needs assessment step. Instructional methods were chosen to enhance transfer and motivation. Assessment methods were aligned with both the objectives and the instructional methods. The curriculum was built to encourage students to actively participate in problem-solving sessions. To complete the course objectives, the students engaged in case-based learning, guided small group discussions, and reflection tasks. After formulating the objectives, instructional methods, and assessment tools of the curriculum outline, we evaluated the curriculum through expert opinions by course evaluation questionnaire.

5- *Piloting the curriculum*

In this stage, we piloted the designed curriculum in the Geriatrics block in a pre-clinical year (year 1) as it is better to present the curriculum to students early throughout medical education. The activities begin with an introductory interactive lecture discussing principles, commitments of professionalism, and healer roles and the professional. It was followed by small group discussions of case scenarios discussing unprofessional behaviors as we integrated some of the professionalism ILOs that were planned to be taught in year one (topic one: an introduction to professionalism) in three PBL sessions and a tutor guide for tutors in the brainstorming session was designed with the mini problem for students to apply their information in the debriefing session.

6- *Evaluating the curriculum*

Students' behaviors related to professionalism were evaluated in the PBL setting by the Class Tutor with Professional-

ism Evaluation Form adopted from the Faculty of Medicine, Toronto University⁽¹³⁾. We evaluated the curriculum through an assessment of the student's perception of professionalism before and after piloting the curriculum using LAMPS and assessing student satisfaction with the course after completing the course using CEQ⁽¹⁴⁾.

Ethical Consideration

Ethics approval was granted by the Ethics Committee in the Faculty of Medicine, Suz Canal University.

Results

The ideal approach to teaching professionalism in the undergraduate curriculum

To identify the ideal approach for developing an explicit professionalism curriculum, semi-structured interviews were conducted, as focus group discussions with a convenient sample of medical staff (N= 15). The following 4 themes and subthemes emerged from the discussion: 1) Adherence to value. 2) Good clinical care. 3) The doctor-patient relationship. 4) Holistic construct

Needs assessment of target learners

The descriptive statistics of the five factors of the LAMPS reveal that the students' perception of respect and Altruisms factors were high with mean= (1.57 and 2.087, respectively). However, the students had less perception for factors 1, 2 & and 3 (duty, excellence, and honor) with mean = (2.29, 2.38, and 2.226). Comparison of professionalism perception of the sixth-year students and the house-officers in the study (LAMPS) using one-way ANOVA revealed that there were 2 statistically significant differences ($p < 0.01$) between the different study groups for factor 3 (Honor/Integrity) and factor 4 (Altruism). Most students agree with most of

the teaching methods suggested by staff with the highest preference for role modeling and problem-based exercises and the lowest percentage for readings. Most of the students agree with the suggested assessment methods for the curriculum in favor of Mini-CEX and OSCE and the lowest percentage for written exams. The students gave respect and integrity high priority in teaching professionalism while giving altruism and accountability the lowest priority. Respect and integrity had the lowest means among the behaviors to emphasize through their undergraduates' curriculum, while Altruism and Accountability had the highest means among the behaviors. The students' ranking priorities of the previous behaviors correlate positively with the emphasis of the faculty on these behaviors except respect, accountability, empathy, and integrity.

Course evaluation after piloting the course

Table 1 shows the difference between the professionalism perception of the students before and after the piloting of the professionalism course as the mean scores of items before piloting the course vary between 3.4 to 1.34. The highest scoring items 'Excellence /Autonomy' domain, while the lowest ones mostly belong to "Respect to others". Table 2: shows the results of the questions about the five domains of professionalism. It shows that the lowest mean score was for pre-test in the "Respect" domain (1.668) and the highest was for the "Excellence" domain (2.418), while the lowest mean score was for post-test in the "Honor" domain (1.325) while the highest was for "Altruism" domain (2.51). The table also shows that there was a statistically significant difference between the students' mean scores of the pre-post-tests for the four of the five domains of professionalism at $p < 0.05$.

Table 1: Students rated scores of the LAMPS items in pre and post-test

	n	(pre-test)	(post-test)
1. Duty/ Accountability			
1. Admits wrong diagnosis before a patient	120	3.22 ± 1.615	1.7417±1.368
2. Leaves before handing over patients to the next colleague on duty	120	1.57 ± 1.074	1.3083±.807
3. Actively participates in orientation for new residents	120	1.60 ±.938	1.1417±.539
4. Encourages patients to contribute to decision-making	120	1.95 ±.878	1.3417±.704
5. Discusses patient's cases with colleagues in a crowded elevator	120	1.97 ± 1.159	1.3583±.658
6. Call the insurance company to follow up on a valid patient claim	120	2.60 ±.911	1.5500±.968
7. Declines an invitation to an infection control committee meeting	120	1.88 ± 1.234	1.3833±.801
2. Excellence/Autonomy			
8. Reflects on clinical cases to discover his/her unmet learning needs	120	2.50 ±.830	1.6250±.961
9. Attends patients' questions to explain their illness in a busy clinic	120	3.17 ± 1.324	1.7250±1.249
10. Searches for the best evidence available in-patient care	120	1.62 ± 1.116	1.1833±.607
11. Collaborates with colleagues to draft new hospital guidelines	120	1.97 ± 1.057	1.3167±.647
12. Invests part of his/her income on attending medical conferences	120	1.78 ±.983	1.2333±.631
13. Makes a deal with a pharmacy company to sponsor his/her conference	120	3.47 ± 1.100	1.1750±1.095
3-Honor			
14. Gives wrong information to a patient to protect a colleague	120	1.53 ± 1.115	1.1750±.617
15. Issues a false sick leave for a kid of a friend to study at home	120	1.71 ± 1.148	1.1250±.400
16. Changes actual data in his/her research based on the supervisor's advice	120	2.22 ± 1.000	1.3833±.779
17. Hides information about the fatal diagnosis to avoid patient disturbance	120	2.59 ± 1.240	1.4167±.903
18. Introduces medical students as doctors to patients	120	2.49 ± 1.360	1.525 ± 1.099
4-Altruism			
19. Declines sport club to respond to an emergency call	120	2.19 ± 1.324	2.7333±.923
20. Frequently skips clinical teaching to prepare for a conference	120	2.07 ±.945	1.2750±.685
21. Cancels a family appointment for an urgent patient's need	120	1.75 ± 1.125	2.5750±.816
22. Does not witness against employer hospital in favor of a patient before the court	120	1.97 ± 1.267	1.2667±.752
23. Turns down a home visit to a disabled patient due to a busy clinic	120	2.01 ± 1.63	1.1193±.773
5-Respect			
24. Respect the roles of all members of the healthcare team in the department	120	1.34 ± 1.000	1.1167±.637
25. Consider the patient background when explaining their clinical illness	120	1.62 ±.908	1.1917±.652
26. Keeps patients waiting in his/her clinic without apology	120	1.85 ± 1.465	1.1750±.806
27. Gives priority to some patients based on social status or nationality	120	1.81 ± 1.117	1.1917±.677
28. Criticizes a prescription written by a colleague in front of patients	120	1.72 ± 1.403	1.1417±.639

Scale (1 strongly agree– 5 strongly disagree). Negative-worded items were coded reversely.

Data are presented as Mean± Std. Deviation.

Table 3 shows the mean scores for 8 items that assess student's attitudes toward the

professionalism course before and after piloting it. The mean scores of items var-

ied between 1.8 to 3.05. The highest score mainly deals with the item “*I feel included in the development of a professionalism assessment Program*”, while the lowest one belongs to understanding the definition of professionalism, while the mean scores of items vary between 4.99 to 1.016

in post-test, The highest scoring mainly deals with the item of “*Professionalism is not a relevant topic for students in pre-clinical years*”, while the lowest ones mostly belongs to “*I feel I can recognize professional and unprofessional behavior in my teachers*”.

Domain	Pretest Mean \pm SD	Post-test Mean \pm SD	t-test	p-value
Duty/Accountability	2.11 \pm .60103	1.404 \pm (.515)	10.078	0.00*
Excellence/Autonomy	2.418 \pm (.5526)	1.91 \pm (.395)	8.045	0.00*
Honor/Integrity	2.108 \pm (.64711)	1.325 \pm (.552)	9.962	0.00*
Altruism	2.400 \pm (.3438)	2.510 \pm .5797)	1.862	.065
Respect	1.6683 \pm (.867)	1.663 \pm .5028)	5.351	.000

	Pre-test	Post-test
1. Medical students should be expected to behave professionally	2.2101 \pm 1.48936	1.0250 \pm .20344
2. I understand the definition of professionalism	1.8067 \pm .95914	1.0500 \pm .40687
3. My behavior in school is social and shouldn't be evaluated	2.8739 \pm 1.09355	4.9500 \pm .40687
4. I feel included in the development of a professionalism assessment Program	3.0504 \pm 1.23404	1.0333 \pm .25711
5. There is a need for higher standards of professionalism in medical school	2.3613 \pm 1.46560	1.0333 \pm .36515
6. Professionalism is not a relevant topic for students in pre-clinical years	2.7395 \pm 1.31782	4.9917 \pm .09129
7. I already received feedback on my professional behavior	2.7143 \pm 1.18710	1.0333 \pm .28795
8. I feel I can recognize professional and unprofessional behavior in my teachers	2.4622 \pm 1.11834	1.0167 \pm .12856

Data are presented as Mean \pm Std. Deviation,
N.B. Scale (1 strongly agree– 5 strongly disagree)

Table 4 shows the results of the questions about five domains of professionalism: The table shows that the lowest mean score for the pre-test and post-test were in the "Excellence" domain (1.3100, 1.2267 respectively) and the highest were for "Altruism" domain (1.7583, 1.3833 respec-

tively). The table also shows that there was a statistically significant difference between the students' mean scores of the pre-and the post-tests for all the five domains of professionalism at $p < 0.05$. Table 5 shows statistically significant correlations between professionalism perception

after piloting the course (results of the post-test), self-assessment of students, and overall course satisfaction but only

tutor evaluation shows no statistically significant relation with the professionalism perception.

Table 4: Evaluation of students' professional attitudes in PBL sessions before and after piloting the course				
Domain	Pretest Mean \pm SD	Post-test Mean \pm SD	t-test	p-value
Duty	1.7317 \pm (.29505)	1.3600 \pm (.21940)	-10.906-	0.00*
Excellence	1.3100 \pm (.17935)	1.2267 \pm (.21991)	-3.081-	0.03*
Honor	1.4283 \pm (.18388)	1.3000 \pm (.14436)	-6.108	0.00*
Altruism	1.7583 \pm (.25091)	1.3833 \pm (.31744)	-10.214-	0.00
Respect	1.4229 \pm (.28030)	1.2354 \pm (.02584)	-4.945	0.00

(scale 1 meets professional criteria- 3 does not meet professional criteria)

* (Statistically significant at $p < 0.05$)

Discussion

In medical education and practice, medical professionalism is currently attracting a lot of attention⁽¹¹⁾. In this study, the development of a formal professionalism curriculum was introduced in a structured way, using Kern's six-step model for curriculum development⁽¹⁵⁾. The common themes and subthemes that emerged from the results were found to match some of the components of professionalism in literature, and elements were emphasized in the new millennium's expert-created medical professionalism⁽¹⁶⁾. In addressing the most suitable teaching and assessment methods, administrations and medical educators who participated in the study reported that a single assessment method would be insufficient for assessing the achievement of professionalism objectives and that a variety of methods should be used. The suggested teaching methods were audiovisual material, role play, clinical teaching including tutor feedback, workshops, interactive lectures, role modeling, problem-based learning and portfolios. The previous results were in accordance with the results of Goldie et

al.⁽¹⁷⁾ who conducted a study that investigated tutors' perspectives on the introduction of professionalism in the early years of Glasgow's learner-centered, PBL, integrated medical curriculum⁽¹⁸⁾, in which the staff in their study also suggested a combination of assessment tools which were multisource feedback, portfolio, OSCE, and written examinations. The results of the present study were also consistent with the results of Stephenson et al.⁽¹⁹⁾ who assessed the current efforts of curriculum reform to incorporate professionalism and showed that using different assessment methods over time rather than just the course evaluation delivers a more accurate picture of students' professional conduct. In this study, the needs of the targeted learners (students) were assessed by a self-administrated questionnaire that consisted of two parts: the first part was about the Learners' Attitude of Medical Professionalism Scale (LAMPS), and it assessed the current perception of the students on professionalism⁽¹²⁾. The second part of the questionnaire was used to assess students' perceptions of the suitable methods of teaching and assessing professionalism.

Table 5: Pearson Correlation between the student perception of professionalism, self-assessment, Tutor evaluation of students' behaviors, and Overall Satisfaction after piloting the course: (N= 120)					
		Satisfaction	Professionalism perception	Self-assessment	Tutor Evaluation
Satisfaction	Correlation [@]	1	-.189 [*]	-.014 ⁻	.041
	Sig. (2-tailed)		.038	.882	.654
Professionalism perception	Correlation [@]		1	.207 [*]	.005
	Sig. (2-tailed)			.024	.954
Self-assessment	Correlation [@]			1	-.055 ⁻
	Sig. (2-tailed)				.549
Tutor Evaluation	Correlation [@]				1
	Sig. (2-tailed)				

*. Correlation is significant at the 0.05 level (2-tailed). [@]: Pearson Correlation

LAMPS includes five factors and twenty-eight items. It was tested for reliability as well as validity⁽²⁰⁾. The current study findings revealed that among the five factors of the LAMPS, the students had a higher perception of "respect and Altruism" factors and a lower perception of "duty, excellence, and honor" and these results came in line with the work Al-Eraky et al⁽¹²⁾ who found that The domain of "Respect to others" received the highest scoring items, while the domain of "Honor/Integrity" received the lowest rating. The results of LAMPS provided an important baseline assessment of professionalism at our faculty and reflected a need for a more comprehensive and explicit teaching of professionalism. Our study revealed that students preferred role modeling and problem-based exercises as teaching methods while they gave lower ratings to simulated experiences. These results were congruent with the results obtained from a study conducted at the School of Medicine, University of Washington⁽²¹⁾ to determine and investigate how students interact with and respond to formal professionalism instructional tactics, which showed more inclination towards role modeling and less preference to the use of lectures. Regarding

the assessment methods, most of the students agreed with the assessment methods suggested for the curriculum. They were in favor of Mini-CEX and OSCE, while the lowest agreement was with written exams to assess professionalism. Our findings are similar to the results of a systematic review which showed a higher preference for observed clinical encounters, and multisource feedback⁽²²⁾. Our results could be attributed to the high degree of validity and reliability of these assessment methods. Our study revealed that students' ranking of priorities of the professionalism attributes correlates positively with the emphasis of the faculty on these attributes. In general, pupils place less importance on qualities that teachers do not place a lot of emphasis on. These findings are consistent with those of a study on students' perceptions of professionalism done at the University of Ottawa⁽²³⁾, which revealed that the qualities faculty members placed the least emphasis on received the lowest rankings from students. In the current study, students evaluated their attitudes toward the curriculum and assessment of medical professionalism both before and after a pilot professionalism course. Based on the formal needs assessment and our experi-

ence, students evaluated eight attitudes that indicated openness to learning about professionalism. The results were consistent with those of Horlick et al. (2006), who developed a curriculum based on a needs assessment of the targeted learners followed by three student-facilitated case-based workshops at the New York University School of Medicine and discovered that some student attitudes improved immediately after the first workshop. The mean responses of students regarding these attitudes increased after the course's piloting⁽²²⁾, this indicated that the educational intervention leads to increasing the self-awareness and self-reflection of students. The overall satisfaction level of first-year medical students was moderate which means that the students as generally 'satisfied', which means that the course had clear goals and standards for the course. They also had opportunities to interact and learn together with other medical students and were satisfied with their teaching and assessment methods. This can be explained by the suitability of the PBL sessions at FOM-SCU as a good environment for professionalism education in preclinical years. The previous results were inconsistent with the results of a survey conducted in Korea and examined how happy undergraduate medical students were with their training in medical professionalism⁽²³⁾. The students in that study were dissatisfied with their professionalism education. The Appropriate Workload Scale showed a high percentage of agreement that the workload was appropriate, while in the assessment scale, the majority of the students strongly disagreed/disagreed that the course depended on memorization only. In the generic skill scale, most of the students strongly agreed/ agreed that the

course developed their basic skills for primary medicine: "Self-development, "Logical and critical thinking skills, Problem-solving skills, communication skills, and teamwork". These results were inconsistent with the results obtained from a survey conducted in Korea which showed that most of the students strongly disagreed/ disagreed that the course developed their basic skills for training in primary medicine⁽²⁴⁾. In the current study, relations were found between professionalism perception after piloting the course, self-assessment of students, and overall course satisfaction which indicates that the students are confident that the course was useful and important to them.

Conclusion

Being a good doctor is primarily about being professionally trained in medicine. The public expects professionals from doctors. Some contend that enhancing medical professionalism can only happen through changes in how it is taught and evaluated in response to recent criticism surrounding unprofessional behavior in practice. There is a need to integrate professionalism into the curriculum for undergraduate medical students to focus on professionalism issues across the curriculum and to adapt to changing physician needs. Further research is needed to investigate the impact of such teaching on the students after graduation.

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