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Role of Mentors in Undergraduate and Postgraduate Training

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Abstract

A career in academic medicine may take years to develop, as the skills it requires are often not taught at an early stage. Having a committed mentor is always a privilege and valuable to the students in medicine. Given the wide variety of mentoring relationships, they are broadly classified as formal and informal according to the way in which the relationship is formed. Mentoring relationships usually evolve in stages to ensure competencies are met before the mentees progress to the next part of their mentoring process. “Mentoring up” is a concept that empowers mentees to be active participants in their mentoring relationships. Also, the mentoring needs vary depending on the stage of professional development. Mentors have 7 roles to perform in this relationship. Despite the advantages, the mentoring process faces the challenges like unrealistic expectations from the mentees, lack of training and time constraint among the clinician educators, and so on. The challenges can be overcome by building structured mentorship programs, by organizing the faculty development programs, use of virtual platforms to facilitate the meeting and providing the academic recognition/financial incentives to the mentors providing the exemplary service.

Keywords: mentoring, medical education, respect, communication, technology, social media

1. Introduction

Mentorship is being defined as “a dynamic, reciprocal relationship in a work environment between an advanced career incumbent (mentor) and a beginner (protégé), aimed at the development of both” [1]. The first use of the term mentor was in the eighth century BC when Homer wrote his legend of the Trojan War. Odysseus, the King of Ithaca, left his infant son, Telemachus, and his wife, Penelope, under the care of his teacher, mentor. He was responsible not only for educating his son but also for helping to develop his character and for providing him with the knowledge with which he could build his wisdom and decisions [2]. Therefore, the word “mentor” came from mentor’s name. In the present day, or a noun defined as: “An experienced and trusted adviser” [3]. As per the Standing Committee on Postgraduate Medical Education (SCOPME) in the United Kingdom, mentoring is a process whereby an experienced, highly regarded, empathic person, guides another individual in the development and helps in re-examining their ideas, learning, and personal and professional development [4].

A career in academic medicine may take years to develop, as the skills it requires are often not taught at an early stage [5]. Having a committed mentor is always a privilege and valuable to students in health care professional education [6]. Mutual trust, faith and respect while working towards a shared vision/goal is the main driving force of a mentoring relationship. According to the Vygotsky sociocultural theory, effective learning happens through interactive processes of discussion, negotiation and sharing [7]. Mentors not only promote mentees' academic development, performance, satisfaction, and success, but they also can help them cope with the conflicting demands of career development and private life [8]. In today's complex academic environments, a successful faculty career requires mentoring in multiple domains.

Mentoring relationships evolve in stages to ensure particular competencies are met before mentees progress to the next part of their mentoring process. There are four phases of mentorship:

1. **Phase I (preparatory phase):** Here, mentees define their short-and long-term development objectives, evaluate their capabilities and understand their aspirations. With a goal in their mind, ideally, a mentee should select a mentor. But mostly, the mentor is allotted by the institution.
2. **Phase II (negotiating phase):** Here, there is rapport building between the mentee and the mentor. At this stage, both the mentee and the mentor are uncertain about the future, but their attitude is usually upbeat. The mentor must explore the value base of the mentee and their goals in life to make this relation effective.
3. **Phase III (enabling growth/contracting phase):** A formal structure is given to discuss the expected outcomes of this relationship. They will also define areas to be left out of such discussions. The most important part is building mutual trust and ensuring confidentiality. Mentee-mentor duo may also develop a checklist to document their progress and to get reassurance whether they are moving on the desired path for mutual benefit or not.
4. **Phase IV (coming to closure):** The mentor-mentee duo assesses the value of partnership, identify areas of growth and learning and celebrate the achievement of learning outcomes [4].

2. Types of mentorships

Formal and informal.

Informal mentoring refers to the self-selection of mentors and mentees, particularly noting that the mentee typically initiates it.

Formal mentoring is a relationship in which a designated mentor and mentee are assigned to one another as part of an organizationally supported program [9].

3. Form of mentorship

- a. **Dyadic mentoring:** A traditional mentoring model with a one-to-one relationship between mentor and mentee has influenced mentorship progress. It is

relatively disadvantageous to some women because it emphasizes the challenge, competition and independence and highlights technical and informational conversation over psychosocial issues [10].

- b. **Multiple mentoring:** Here, the mentee is mentored by several mentors simultaneously, noting that each mentor facilitates the development of a particular area. It provides an opportunity to have mentors who are in line with values and behaviors typically associated with females but also behaviors typically associated with males—equalizing or hierarchical relationships, collaboration and independence, encouragement and challenge.
- c. **Mutual mentoring** is a specific type of multiple mentoring in which mentoring partnerships can be developed with a variety of individuals, including peers, near-peers, senior faculty, administrators, students and librarians [11].
- d. **Apprenticeship:** It is when the mentee observes and emulates the skills of the mentor. In the apprenticeship model, the student initially becomes familiar with common medical problems, legitimately participates peripherally, performs under supervision and finally perform independently.
- e. **Team mentoring:** Standardizes the concept of several mentors into a formal committee, just as in multiple mentoring.

4. Mentoring models

- **Classic model:** Formal approach, well planned with a specific setting, one-on-one mentoring and a more experienced mentor and less experienced mentee from the same field.
- **Shadowing:** Not a proper form of mentoring; it is based on the observation of skilled professionals.
- **Trans model:** Mentor works outside of the mentee's area of focus: for example, clinical research paired with a basic scientist. Fosters multidisciplinary and multi-departmental collaborations.
- **Networking model:** Less intense than traditional styles; less dependence on an individual mentor. It offers a broader range of perspectives.
- **Reverse mentoring:** Both the parties act in the capacity of mentor and mentee. The process recognizes that there are skills gaps and opportunities to learn on both sides of a mentoring relationship. Flipping the traditional format on its head can be very beneficial for both parties. It brings different employee generations closer together.
- **Group mentoring:** This style of mentoring involves one mentor working with several mentees in a group. Suitable in organizations with a lack of senior leaders. Delivery is either virtual or face to face and possess the advantage of rotating between mentors.

- **Spot (situational) mentoring:** It is a more casual approach, specific and focused. Seek out a senior leader as mentor and have one-off mentoring ‘spot’ meetings.
- **Peer mentoring:** It is collaborative and mutually beneficial as the relationship is formed among the mentors’ peers or colleagues. Here mentees are inclined towards sharing their difficulties and questions with peers who are at an equal or similar level of knowledge and seniority [12].
- **Speed mentoring:** It allows groups of mentors and mentees to meet for a focused period with no expectation for ongoing mentoring follow-up [13].
- **Virtual mentoring:** It refers to digital platforms that facilitate communication between a mentee and a mentor, including emails, social media, short message service (SMS), app-mediated connections and computer platforms.
- It carries a few potential risks, which include miscommunication, slower development of the mentoring relationship, trust and confidence [14].

5. Changes in the culture of mentoring

Apprenticeship approach	Reflective-explorative approach
Instruction/instructor	Coaching/facilitator/partner
Hierarchy	Collaboration/mutual partnership
Individualistic focus (“I and my class”)/teaching development	Systemic focus (“I and my school”)/school development
A classical form of mentoring (mentor-mentee)	Variety of forms (peer/team/e-mentoring, etc.)
Mentoring before or after student-teaching sessions/classes	Mentoring during student-teaching sessions/classes (co-planning/co-teaching)
Face-to-face mentoring	Professional learning communities
Modeling (learning by role model)	Dialogical learning

“Mentoring up” is a concept that empowers mentees to be active participants in their mentoring relationships by shifting the emphasis from the mentors’ responsibilities in the mentor-mentee relationship to equal emphasis on the mentees’ contributions.

Mentoring is usually accomplished through its sub role functions of “teaching, socializing, providing opportunity, sponsoring, coaching, guiding, protecting, advising and counselling, encouraging, inspiring, challenging, role modelling, supporting, and befriending” [15, 16].

6.7 Roles of mentor

Teacher: Qualified doctors act as mentors by facilitating clinical skills sessions, bedside teaching and simulation. Mentoring can increase confidence and self-perceived preparedness for starting an independent practice as a doctor and reduce

the performance gap. Also, positive mentoring can have a significant influence on speciality choices. The mentor knows well that education is not just the imparting of facts. Instead, the ultimate goal of education is to form character and attributes relevant to medicine.

Sponsor: Mentor introduces the fellow to a new social world.

Advisor: Mentor supplies the missing experience—as they have been there and successfully doing that. The fellow (mentee) does not need someone to pave the road but needs help in becoming a better navigator. The mentor helps the fellow to craft their solution—to become self-reliant.

Agent: The mentor removes obstacles, but only after the fellow has made a convincing attempt, and the mentor is careful to avoid spoon-feeding.

Role model: Values are best transmitted through deeds, not words—a how, not a what and role models are so important in medicine so that they are emulated by the mentees/students.

Coach: A professional coach motivates the players to win. The primary aim is to nurture a development-supporting professional self-understanding, looking at mentees as unique individuals and mentor as a coach raises the bar and sets high standards.

Confidante: A person with whom one shares a secret or private matter, trusting them not to repeat it to others. The mentor earns the fellow's trust through constancy, reliability, integrity and congruity [17].

7. Styles of mentoring

'Letting go' style: Mentor gets into the conversation by giving time to let things develop.

'Active listening' style: Mentor gets into the conversation by asking questions when things are unclear.

'Advisory' style: The mentor gets into the conversation by giving suggestions for good problem-solving.

'Prescribing' style: The mentor takes responsibility for solving the mentee's problems.

'Cooperative' style: Getting into the conversation by striving for a joint vision [18].

A truly great mentor has the dexterity to switch between the different styles when appropriate [19].

8. Role of mentee

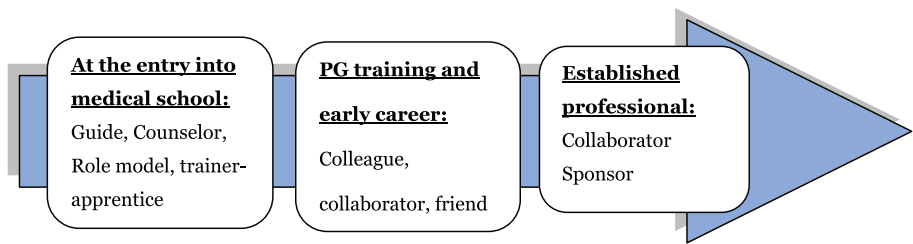
The driver of relationship: He identifies the skills, knowledge and/or goals they want to achieve and communicates them to their mentor.

Development planner: Mentee works with his/her mentor on deficiencies and seeks resources for learning by identifying people and information.

Contributor: He looks for opportunities to give back to their mentor.

Life-long learner: The standards of the Liaison Committee on Medical Education (LCME) require the educational program must include instructional opportunities for active learning and independent study to foster the skills necessary for lifelong learning. By enrolling in the mentoring program, the mentee will gain the traits of life-long learner [20].

9. Mentoring needs at different stages of professional development



10. Do’s and don’ts for mentees

Sl. no.	Do’s	Dont’s
1	Listen actively	Criticize or argue
2	Take initiative	Be passive
3	Openly and honestly share thoughts with the mentor	Have a hidden agenda
4	Be open to feedback and self-assess	Place blame on others
5	Respect your mentor’s time	Ask for advice at the last minute
6	Show your gratitude	Compete with the mentor
7	Follow through on tasks	Overcommit
8	Have a positive attitude and enthusiasm	Stay in the relationship, out of obligation
9	Be respectful and polite	Burn bridges
10	Take risks	Stay in the comfort zone
11	Actively seek out different perspectives	Have a closed mind

Technology tools for mentoring: Advances in technology have provided many different tools that can be used in mentoring programs to improve connection and communication. From mobile technologies like Apps to video conferencing, scheduling of the meetings and mentoring software [21, 22].

Some examples of virtual mentoring platforms: Zoom, Skype, Trello, Slack, Blue Jeans, Twitter, Facebook, WeChat, WhatsApp, QQ, LINE, KAKAO talk, etc. [23].

The link for the above virtual platforms is given in the following table:

Sl. no.	Platform	Weblink
1	Zoom	https://zoom.us/
2	Microsoft teams	https://www.microsoft.com/en-in/microsoft-teams/download-app
3	Skype	https://www.skype.com/en/
4	Whatsapp	https://www.whatsapp.com/
5	Trello	https://trello.com/en
6	Slack	https://slack.com/intl/en-in/apps
7	Bluejeans	https://www.bluejeans.com/
8	Twitter	https://twitter.com/?lang=en

Sl. no.	Platform	Weblink
9	Facebook	https://www.facebook.com/
10	Wechat	https://www.wechat.com/
11	Google meet	https://apps.google.com/intl/en/meet/
12	Google classroom	https://edu.google.com/intl/ALL_in/products/classroom/
13	Tencent QQ	https://qq.en.uptodown.com/android
14	LINE	https://line.me/en/
15	Kakaotalk	https://www.kakaocorp.com/page/service/service/KakaoTalk?lang=en
16	GotoWebinar	https://www.goto.com/webinar
17	Gotomeeting	https://www.goto.com/meeting
18	Webex	https://www.webex.com/

11. Key elements to consider when choosing a mentor

Attraction: The mentee must be attracted to their mentor, so that they will emulate them.

Affect: The mentor should be positive, supportive and encouraging, displaying respect for the mentee.

Action: The mentor must be willing to invest time and energy into the mentee through guidance, teaching and counseling.

12. Desirable qualities/competencies required in a mentor

- Subject expertise: Recognized expertise in the field goes a long way in gaining the mentees respect and confidence
- Enthusiasm for sharing that expertise
- Approachable and pleasant personality
- Encouraging and open to new ideas
- Able to give constructive feedback
- Reflective listening and empathy
- Altruism
- Compassionate and genuine
- Person with interpersonal skills and networking abilities [24–26]

13. Models of mentoring

I. **The GROW model:** This coaching model designed by Sir John Whitmore. This coaching model can be used to structure mentoring conversations. The acronym “GROW” stands for

- **G**-Goal setting for the session as well as for the short and long term
- **R**-Reality checking to explore the current situation
- **O**-Options and alternative strategies, or course of actions
- **W**-What is to be done, when and by whom [27]

II. Five-factor mentoring model: It is meant for specific subject mentoring and includes the following:

- **Factor 1: Personal attributes** that are fundamental to the mentoring process includes the mentor need to be, (a) supportive, (b) attentive, (c) comfortable with talking about specific primary teaching practices, (d) instil positive attitudes and confidence in their mentees for teaching primary subjects, (e) assist the mentee to reflect more positively
- **Factor 2: System requirements**, which focus on aims for teaching the specific primary curriculum and school policies related to specific primary subject areas
- **Factor 3: Pedagogical knowledge**
- **Factor 4: Modeling**
- **Factor 5: Feedback** [28]

14. Benefits of mentorship program to the mentor

- Personal and professional development
- Development of communication and teaching skills
- Opportunity to build leadership skills
- Personal satisfaction
- Assistance on projects by the mentees
- Increased recognition
- Renewed interest in personal career, potential financial reward, and career advancement
- Giving back to the community
- Gaining insights and the different perspectives from future members of the profession

15. Benefits of mentoring for the mentee

- Provides assistance in defining the career goals, strategies and outcomes
- Develops a meaningful professional relationship with the mentor

- Increases professional network and connections
- Gains first-hand knowledge of workplace expectations
- Builds self-advocacy skills and confidence to be successful
- Access to potential internships and job opportunities [3]

16. Benefits to the institution

- Enhanced strategic planning based on the feedback
- Retention and recruitment of students and trainees
- Improved communication and organizational culture
- Widening access to medicine—forging links with under-represented communities to enable upward social mobility
- Accelerated training
- Professional development of employees
- Increased work performance and cost effectiveness

17. Factors influencing mentoring

- Goal and scope
- Mentor's behavior, skills and knowledge
- Mentoring structure/design/activities
- Commitment, gender and emotional intelligence
- Proactive personality, questioning and listening skills
- Reflection and 360° evaluation process
- Organizational closeness between both parties

18. Challenges to mentoring

- Unrealistic expectations from the mentees
- The administrative or infrastructural issues may remain unresolved at times and can have a negative effect on the relationship or might reduce the interest among both parties
- Time constraints and lack of training among the clinician-educators
- Unfair manipulation on the part of the mentor/mentee

- Exploitation by the mentor for personal gain and mentor may feel the mentee as his competitor.
- Incompatibility in personality/goals with mentee(s)
- Lack of incentives for successful mentorship
- Pressure to establish practice and excel academically, especially to the junior faculty
- Perceived (or real) competition
- Conflicts of interest, poor communication, lack of commitment
- Limited mentors with proven track record, especially work-life for women and URiM [29]

19. Strategies to overcome challenges

- **Orientation-cum-training programme for mentors:** In India, the University Grants Commission (UGC) has planned the orientation/induction programme of prescribed duration either MOOCs or online/offline/blended mode as approved by the concerned authority/body governing the higher education [30]
- To make the mentoring system efficient and transparent, a digital platform like the SWAYAM will help keep the database of mentees and their progress, a database of mentors, uploading learning resource material, assignments, etc.
- A peer-led structured academic mentoring program designed to provide educational assistance for new students
- **Comprehensive mentoring programs:** These are multi-faceted mentoring programs that offer academic, social and professional opportunities to traditionally underserved students
- Explained the reliability of the measurement tool used in determining outcomes and defined/assessed all operational definitions [31]
- **Collaborative problem solving:** The mentors to assist their mentees in identifying the root cause of the problem, thereby helping the peers to advance problem-solving skills [32]
- Seek feedback and strive for high-quality mentorship
- Build structured mentorship programs, provide funds and leadership presence, and celebrate mentor/mentee accomplishments
- Critically examine the value placed on high-quality mentorship in promotion and tenure policies
- Create structured virtual communities for mentorship
- Recognize exemplary mentorship with awards

20. Conclusions

Mentorship plays a critical role in the training and career development of physicians and scientists. It is increasingly recognized as a bidirectional process, benefiting both mentors and mentees. Despite the evidence of success, the current mentoring programs are facing real-time challenges like lack of formal training on mentoring and time constraint among the clinician-educators.

Some of the challenges can be overcome by organizing regular FDPs on mentoring and use of technology/virtual platforms to conduct meetings. Developing a culture of mentorship requires a strong commitment by leaders at all levels. The organization must frame the strategies for an effective mentorship program with regular feedback and evaluation. Also, the committed mentors need recognition and incentives from the organization.

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Conflict of interest

The authors declare no conflict of interest.

Acronyms and abbreviations

MOOCs	massive open online courses
URiM	underrepresented students in medicine
UGC	the University Grants Commission
FDP	faculty development program
SCOPME	the Standing Committee on Postgraduate Medical Education

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