

Mentorship in the research setting

Joon-Wah Mak

Abstract: The research mentorship programme is unique in that it is a planned journey undertaken by the mentor and mentee, preferably with well-defined milestones along the journey. During the journey, familiar landmarks will be pointed out by the mentor. In path-finding situations the experience and wisdom of the mentor and the critical appraisal of both mentor and mentee will contribute to learning from the encounter. In most mentor-mentee partnerships, a formal acceptance to the relationship, well-defined landmarks measuring progress in the journey, regular appraisal of the skills developed and acquired, and phased, judicious modification in the individual roles of that relationship will be required. Although there is no consensus on the elements of mentorship, there are some strategies which can contribute to the success of the relationship. Critical success factors include convergence of the research area within the broad expertise of the research mentor. The research mentor should have a proven research track record and is committed to serve in that official capacity. The research mentoring process is dynamic and characteristics of both mentor and mentee contribute to the robustness of that relationship. The mentee would have identified some attributes of the mentor that are desirable and is willing to work hard to achieve, build on, and improve upon. In the research setting endpoint measurements of success will be based on recognition of the research standing of the mentee, measurable outcomes such as number of papers in top tier journals, citation indices, etc. consultancies attracted as well as invitations to deliver plenaries in scientific conferences, patents filed and research findings translated and applied, and other measures of research productivity. In the pursuit of research excellence the mentee would have imbibed values of professionalism and ethics in research and would have constantly kept in mind that to be successful, the mentee would be able to excel beyond his mentor and that the next generation of researchers will seek mentorship from him.

IeJSME 2012 : 6(1) 11-14

Keywords: Research mentors, endpoint measurements, successful mentorship

Introduction

In Greek mythology, Odysseus who left for the Trojan War entrusted his friend Mentor to look after his son Telemachus. This process of committing the young Telemachus to the care and guidance by the older Mentor is the origin of the term mentoring (Wikipedia, accessed on 11 July 2012). This trust that Odysseus had in Mentor was complete in the sense that the latter was given 'charge' of Telemachus. The mentorship we allude to in the context of faculty is much more limited in scope. This is an adult relationship where the participants in the relationship are given the free choice to accept or reject that commitment. Furthermore, the present understanding of mentoring has evolved to encompass other elements. However, Berk *et al.* do not feel that there is consensus on the operational meaning of the word 'mentoring'.¹ They subscribe to the view that the mentoring relationship is a continuum from informal to a formal long-term process. As there is no consensus on the operational definition of mentoring, there may be differences in deciding on the elements to be included in the process. Furthermore, while there are core elements applicable to all disciplines, there are specific areas of emphasis in the various fields, for example, in research.

There are specific requirements of the mentor and mentee for the relationship to be effective. It is expected that the relationship is a dynamic process and that as it develops, the emphasis on various elements of the mentorship should evolve to meet the specific circumstances and changing needs.

This discussion will primarily address mentorship in the research setting.

Mentoring Process

While there is as yet no consensus on the definition of mentoring, it is crucial to have an agreement on that understanding between mentor and mentee.

International Medical University, Bukit Jalil, 57000 Kuala Lumpur, MALAYSIA

Address for Correspondence:

Prof Mak Joon Wah, Vice-President (Research) and Dean, School of Postgraduate Studies & Research, International Medical University, 126, Jalan Jalil Perkasa 19, Bukit Jalil, 57000 Kuala Lumpur, MALAYSIA.

Email: joonwah_mak@imu.edu.my

It has been pointed out that in the academic setting the good mentor wields potent influence and that in research they can inspire, teach and create opportunities for mentees.²

The common characteristics in the mentor-mentee relationship, particularly in the academic setting can be summarised as those desirable attributes identified by the mentee to be acquired from the mentor through a formal relationship agreed to by the latter. The relationship is based on mutual agreement and acceptance of the commitment to ensure predefined measurable outcomes. In mutually agreed partnerships, the mentor has something to offer (academically; role modelling, professional development, guidance, etc.) that the mentee wants (i.e. initiated by mentee) to accept or acquire. The relationship must be acceptable, comfortable and beneficial to both parties. The acceptance to that relationship involves personal interaction and commitment. In general, a positive, measurable outcome is expected from this relationship.

Some of the specific elements of mentoring included in the Guidelines by the Association of Counsellor Education and Supervision (ACES) Committee for Research Mentorship³ can be grouped into the following categories:

- (a) Attributes and skills (supervision, leadership, guidance, role modelling), research output (grant application, publications, scientific communications), and
- (b) Professional development (career advice, facilitating work, challenging critical thinking, nurturing autonomy to prevent dependence, communications and engagement with other researchers and all stakeholders, networking).

Meaning of Mentoring in the Research Setting

It is defined here that research may be in the clinical, laboratory or field setting. There are similarities and differences from academic mentorship but the underlying

requirement would be role modelling in the relationship which is expected to be much more encompassing than mere supervision. Essential ingredients that contribute to a successful experience in mentorship are willingness and commitment of all stakeholders to the process. It must be seen and accepted as necessary for the growth and development of the individual, faculty and institution. In the mentor-mentee relationship, other than the willingness of both parties to be committed to the process, the individual characteristics of the mentor and mentee can influence the outcomes.

Characteristics of Mentor and Mentees

Common desirable characteristics have been identified in the ACES 2009 guidelines³ and in the study by Berk *et al.*¹

Mentors should be effective researchers themselves with ability to conceptualize and formulate new, appropriate research questions, identify resources, formulate the design and appreciate the importance of the outcomes. They must not only subscribe to, but also maintain the highest ethical and professional standards in the research process, and promote research integrity. In agreeing to the mentor-mentee relationship the mentor commits to that relationship, and interacts regularly with the mentee to provide professional support, guidance and evaluation of the latter. In the communication with the mentee the mentor should understand any cultural difference, and know when to allow measured, phased, autonomy to the mentee. It is likely that along the process the mentor and mentee may recognize limitations to the relationship which were not obvious initially and take sincere efforts to consult others or refer to other resources, with the understanding that these are discussed openly and are mutually agreeable.

Mentees are expected to meet regularly and interact appropriately with their mentors. They need to be ethical researchers who must not only communicate their needs to their mentors but also strive to be effective learners.

Communication Skills

Communication between mentor and mentee underpins the interaction that is essential for an effective relationship. The importance of communication in the mentor-mentee relationship cannot be over-emphasized. Conflicts in this relationship can occur through inadequate interaction, poor planning for expected outcomes, not recognising that the relationship is dynamic and that needs change as the relationship develops, and that inadequate and inappropriate communication can evoke undesirable outcomes.

The importance of effective communication not only in the healthcare setting but also for research has been previously emphasized; it was pointed out that even in the clinical setting it is essential to communicate research findings, write articles and present findings to the public and legislature.⁴ It was also stressed that beyond recognising the need for good communication skills healthcare professionals need to evaluate their abilities and strive to acquire this skill.

Factors affecting effective mentoring

Advice on choice of mentors for the clinician or clinician/scientist is also applicable in the mentor-mentee setting for research.⁵ The potential mentee must first identify and choose the area of research/study carefully after studying all the requirements associated with the discipline. The next step is to obtain through a thorough web-based search and other faculty resources, the past and current standing in research of the potential mentor. It will be important to arrange for a meeting with the prospective mentor to assess compatibility in that relationship and to discuss on the areas of research, funding opportunities, and mentor experience in the specific area.

Choice of mentors is in most instances more effective if it is mentee driven; there is need for agreement of who you want to have as a mentor; bitter lessons can be fatal.

Single versus multiple mentorships must be discussed and agreed to either at the beginning or as the

relationship progresses. It must be stressed that this must be mutually agreed to and a good mentor will recognise that in some situations no single mentor has all the necessary skills that are needed as the relationship matures. In fact, under normal circumstances it would be the mentor who recognising his or her own limitations initiates this. It must be emphasised that this is not the same as appointing another co-supervisor of a research project.

It is also recognised that other than formal mentorship, an informal relationship with some elements of the formal mentorship can evolve through various situations. Meeting colleagues and discussing problems encountered in academic work and research, informal seeking of advice, discussing career plans as in annual KPI evaluations can be considered as elements in the informal mentoring process.

These informal relationships do not constitute mentorship but could well develop into such a relationship if both parties agree. In some institutions, mentors may be assigned faculty staff as mentees. This will not be generally appreciated as it can create situations of unwilling mentorship. It is better if the relationship is mutually acceptable and formalised and the expected outcomes of the process documented. Other than the mentorship described above there will be occasions for peer and group mentorship depending on the level of mentorship required.

The success of the mentoring process is heavily dependent on the defined roles and the goals of mentorship. Ludwig & Stein addressed some of the issues that can arise and through focus group discussion, identified some of the desired mentor and mentee characteristics needed for successful mentorship.⁶

Mentorship Process in the Research Setting

The mentorship process in the research setting should be formalised and specific measurable outcomes should be inbuilt in the process. The mentor's and mentee's roles

should be defined and all stake holders must be aware of the best practices and guidelines of the university.

Best practices and guidelines

There are no hard and fast rules that govern mentorship in the research setting. It is important to differentiate between mentorship and research supervision. A research supervisor could play both roles as mentor and supervisor but not all supervisors want to provide or are comfortable with the extra responsibility of mentorship. In any formal programme in mentorship the mechanism for defining the roles of the mentor and mentee must be available. There must also be a robust mechanism for evaluation and when conflicts arise there must be a well-defined mechanism for arbitration and resolution.

Outcome Measures

Some measures of success have been suggested though not universally accepted. These relate to publications (number of publications in Tier Q1 Journals, Impact factor of Journals; H-Factor of Journals, citation index; etc.), patents filed and obtained, amount of external grants obtained, and time devoted to research are some measures suggested. Other measures include career-satisfaction, promotion, consultancies obtained, invitations to deliver plenaries, etc. which are more difficult to quantify.

As pointed out by others¹, current measurements of effectiveness of mentoring have weaknesses as they are programme specific, they evaluate importance or frequency of mentoring functions, but do not provide robust end-point measurements. They have however attempted to develop a questionnaire to assess mentorship effectiveness as well as some expected outcomes.

Institutions may have guidelines and code of conduct for the mentoring process but when it comes down to the basics, the determinants of successful mentoring involves common interests, shared goals and mutual respect between mentor-mentee.⁷

In the clinical research field, a case-control study found significant association between successful mentoring and research productivity when the following were in place: (a) the mentor-mentee pair had similar research interest, (b) there was feedback to mentors, (c) regular mentee research progress reports were prepared, (d) when there was ease in identifying a mentor, and (e) protected time for research training was available.⁸

Conclusion

The mentor-mentee process is normally a formal one in most academic settings as it is deemed to be valuable for staff development and productivity. While processes in this formal relationship are reflected in guidelines and best practices specific to the university, these are not uniform, especially in the assessment of the effectiveness of the process. In the research setting, ingredients for success are related to proper matching of mentors and mentees, acceptance and commitment to the process, defined roles, regular communications and feedback, mutual respect, defined and agreed outcomes, regular assessment of outcome measures and adequate institutional support.

REFERENCES

1. Berk RA, Berg A, Mortimer R, Walton-Moss B, Yeo TP. Measuring the effectiveness of faculty mentoring relationships. *Acad Med* 2005; 80: 66-71.
2. Baerlocher MO, O'Brien J, Newton M, Gautam T, Noble J. The mentor-mentee relationship in academic medicine. *European Journal of Internal Medicine* 2011; 22: e166-7.
3. Association of Counsellor Education and Supervision Committee for Research Mentorship, 2009. Guidelines for Research Mentorship in Counselling/Counsellor Education.
4. British Medical Association. *Communication skills education for doctors: an update*. Board of medical education, British Medical Association, November 2004, 50pp.
5. Leier CV, Auseon AJ, Binkley PF. Selecting a mentor: a guide for residents, fellows, and young physicians. *Am J Med* 2011; 124: 893-95.
6. Ludwig S, Stein REK. Anatomy of mentoring. Notes from the Association of Medical School Pediatric Department Chairs, Inc., 2008.
7. Bissell DM. Of mentors, mentoring, and extracellular matrix. *Hepatology* 2009; 50: 1330-8.
8. Cohen JG, Sherman AE, Kiet TK, Kapp DS, Osann K, Chen LM, O'Sullivan PS, Chan JK. Characteristics of success in mentoring and research productivity – a case-control study of academic careers. *Gynecologic Oncology* 2012; 125: 8-13.