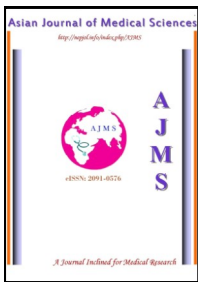


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Mentoring for Medical Undergraduates - Feedback from Mentees (Need For Training of Mentors)

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Abstract

Objective: The need for mentoring of undergraduate medical students has been well perceived and several medical institutions have started the practice of setting up mentoring programs. Program evaluation is essential in establishing an effective mentoring program. With students being the core of the program, their expectations from the program needs due consideration to analyze the outcome efficacy of the program. This study was done as part of program evaluation to analyze the opinion of mentees on impact of mentoring and on mentee-mentor relationship. The aim was to use the input of this feedback to improve the conduction of the program for the next batch of students.

Material & Methods: A mentoring program was started for 150 1stM.B.B.S students . After one year a feedback questionnaire with 15 likert type items and 4 open ended questions was given. The questions were pertaining to process , outcome of program and mentor-mentee relationships. Two of the open ended questions were based on concept of negative mentoring. 125 students gave feedback voluntarily.

Results: 85% of mentees agreed upon the need for mentoring for all students. Majority felt that mentoring had only helped in academics and not in improving behavior. More than 50% agreed that mentors should be involved in personal aspects besides academics. Responses to open ended questions has well expressed their expectations from mentors and perceived lacunae . There was a clear perception on the need for quality in mentoring. Their responses has also given us a list of causes for discordant mentor-mentee relationship, majority of which can be rectified by training mentors.

Conclusion: Feedback from students after implementing a mentoring program can be considered very essential for effective mentoring. The feedback has exposed the need to have good mentors who can build a satisfying trustworthy mentoring relationship. Training for mentors can be an effective solution and should be a part of the mentoring program early during the planning phase.

Key Words: medical students; mentoring; feedback; mentee- mentor relationship program evaluation

1. Introduction

Mentorship is in essence a form of influence, and mentors are individuals we want to look up to and emulate. Many schools of thought consistently comment that professionals with strong mentors are more productive and have a greater satisfaction in carrier and personal life.^{1,2}

Students entering medical profession not only find themselves facing a curriculum crammed with information but also exposed to stressful and new surroundings resulting in psychological damage and low

self-esteem. Students entering their first year of M.B.B.S face greater difficulties when compared to second MBBS.³⁻⁵

The career wise and psychosocial turmoil faced by students has been well recognized and mentoring practices have come into vogue as a coping strategy. Medical Council Of India (MCI) has recommended mentoring cells in medical institution but very few guidelines have been provided.⁶ Program evaluation steps like needs assessment, process evaluation and outcome evaluation will go a long way in establishing effective mentoring. Special consideration needs to be given to the expectations of students for whom the program is being set up. Despite the fact that formal mentoring

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programmes have been acknowledged to be of great importance, there are not many papers published which give satisfying details on the various elements of such a programme.⁷

Mentoring program was initiated in our institute in an effort to help the first year students cope with burden of entering new environment. After one year of the program feedback from students was obtained as a part of program evaluation to find the impact of the program on the students. This study is a report of the opinion of the students regarding the process, outcome and mentor-mentee relationship during the program. The purpose of the study was to use the input of this feedback to improve the conduction of the program for the next batch of students.

2. Material and Methods

Planning: This study was done in Vydehi Institute of Medical Sciences affiliated to the Rajiv Gandhi University of Medical Sciences, Bangalore, India. A Mentoring program was planned and implemented for the first time for 2009-2010 batch of students. The program was then conducted over a period of 10 months which is the duration of first year of M.B.B.S as per our curriculum. The total number of students admitted in our institute for M.B.B.S per year is 150 and all were compulsorily included in the program. Student population was 60% females and 40% males. Most of the Students were from South Indian states Karnataka, Tamil Nadu, AndhraPradesh and Kerala. 6 students were from North India and 4 were Non residential Indians. The program was initiated with the support and well wishes of management. The study was done as a part of program evaluation at the end of the year after the actual process of planning, implementation and conduction of mentoring. The study was approved by our Institutional review board (IRB).

An Initial phase of planning and implementation of the mentoring program was done by selected members including the Advisor of our institute, Principal, Head of department of Psychiatry and a few faculty members. During the planning it was decided:

To start the mentoring with all first year M.B.B.S. students (150 students)

All teaching staff of Anatomy, Physiology and Biochemistry except heads of departments to be included as mentors(HOD's were excluded to avoid bias towards their mentees during

internal marks etc).

To allot 10 to 12 students for each mentor.

To have mentor and mentee of the same gender.

A standard proforma for baseline data like name, age, gender, address and if with guardian or with parents or hostelite or paying guest, was to be filled by all students.

The proforma also included a few questions like language problems, extracurricular interests and first time hostelite, whether joined the course by management quota or by state common entrance test, siblings in the same profession.

A blue book (an 80 pages blue covered long book with institution logo) to be maintained as portfolio for each student.

Each mentor to conduct at least mentoring 2 sessions per month for each student at their convenience.

Monthly or once in two months a mentors meeting to be conducted to discuss issues.

Implementation: Thirteen teaching faculty members were selected as mentors and were called for a meeting. The list of 11-12 students for each mentor was given and the basic requirements decided during planning phase were explained to the mentors. There was no specific training for mentors and the actual conduction of mentoring sessions was left to the discretion of the mentors. During the 10 month period, meetings with all mentors were held once every 2 months. The main focus during these meetings were to share the marks obtained in the assessment exams and noting down the attendance and behavior of low performers. Very little focus was on health and other issues.

Feedback from Mentors: At the end of the program it was decided to get the opinion from mentors regarding the effect of program on students. An informal focus group discussion was conducted in our medical education unit room. All mentors were invited and 9 of the 13 participated. The discussion was moderated by our psychiatrist. Three mentors responded positively, expressing that the program was definitely beneficial to students, while four were unsure of what was truly expected from them. Two were of the opinion that

mentoring was a waste of time and effort. Following the mentors' feedback there was a general lack of enthusiasm among the mentors which lead to a dilemma regarding the worthiness of the program. As a step forward it was then decided to have a feedback from students also and then reach a consensus.

Feedback from Mentees: A feedback questionnaire with both close and open ended questions was formed. Reliability was tested using SPSS -16 package with a cronbach's alpha 0.95. For validation of questionnaire the questions were distributed among faculty members and item analysis using upper and lower thirds was also done. Initially 19 close ended and 6 open ended questions were present and after validation, 15 close ended questions on a 5 point likert scale and a four open ended questions were included in the questionnaire for the study (Annexure).

The close ended items were mainly on the process of mentoring and outcome of mentoring program including academic performance, impact on behavior, confidentiality, timing of sessions and group mentoring. Of the 4 open ended questions 2 were related to understanding of mentoring and the other 2 were on the opinion of students on mentor mentee relationships. The last 2 questions "List aspects of your mentor which was not correct" and "reasons for lack of cooperation of Students with mentors" were based on the concept of negative mentoring.

The questionnaire was given to the students on their return from vacation after their first year university exam results. It was announced that filling of feedback questionnaire was not compulsory and those submitting it would be considered as consenting to participate in the study. It was also announced that they had the option of revealing or not revealing their identity. 125 students out of 150 voluntarily participated and gave the feedback of which most were without identity.

3. Results

Analysis Of Close Ended Questions: The items in the Likert scale questionnaire included questions for process evaluation and outcome evaluation. The options for each item on the 5 point Likert scale were 'strongly agree, agree, neutral, disagree, strongly disagree' with 5 points for strongly agree and 1 for strongly disagree.

For analysis weighted mean and standard deviation were calculated. The percentage of those who had scored for strongly agreed and agreed was also calculated.

The responses for the likert scale are presented in Table 1 and are categorized as general results, process evaluation results (items 3-11 table-1) and outcome evaluation results (items 12-15).

General Results (questions 1&2):

Need for Mentoring: 85% of students felt that mentoring is needed for all students. 24% of them agreed to the idea of having students assessed by some screening test and only those who are in need to undergo mentoring.

Process Evaluation Results (questions 4-11):

Involvement and Confidentiality (questions 4-6): 55% of students wanted mentors to be closely involved in their personal activities besides academics and remaining 45 % wanted mentors to be involved in their academic activities only. The need for confidentiality was appreciated by all and even though 82% students were not worried about mentors revealing secrets to their parents, the majority(75%) of them did not want the mentors to interact with parents or guardians

Table- 1: Likert Scale Analysis Report

S. NO	Question	weighted mean	Weighted standard deviation	% of strongly agreed and agreed
1	Mentoring should be done for all students	4.3810	0.7222	85
2	Mentoring only for students who are in need	1.7619	0.4259	24
3	meeting with mentors should be flexible	4.2857	1.0302	88
4	Mentors should involve in personal events of mentees besides academic activities	3.0190	0.9500	55
5	fear of mentor giving away secrets to parents	1.8571	0.7095	18
6	Mentors should interact with parents regularly	1.7143	0.4518	25
7	mentor to be of own choice	3.8571	0.8330	73
8	a mentor of the same gender	3.0476	1.0455	53
9	different mentor for each year if it is continued	1.3810	0.4856	33
10	mentoring with friends who share confidences	3.2857	1.3851	57
11	have closest friend with mentee during mentoring sessions	1.7619	0.4259	29
12	not gained much by the program	1.7043	0.4518	22
13	Helped to improve academic performance	3.9524	0.7854	69
14	has helped understand the value of teachers	3.1429	0.7095	57
15	The mentoring program has helped improve behavior	2.3810	0.8438	28

Choice of Mentor (questions 7-9): 73% of students preferred the mentor to be of their own choice but the preference of same gender showed an almost equally divided response with 53% preferring mentors of the same gender. Also most of them preferred the same mentor throughout their course with only 33 % showing the need to change in mentors.

Shared Mentoring (questions 10,11): 57% students felt that they would like to have mentoring sessions in groups along with their friends. However only 29 % were

willing to have their closest friend with them during mentoring.

Table-2: What does mentoring mean according to you? total 70 responses (number of similar responses is given within brackets)

- Solve difficulties(15)
 - Getting guidance (20)
 - Knowing the right ways regarding the profession and getting tips on how to study the subject (2)
 - Building confidence with the student(7)
 - Find out problems and give solutions and develop personality (5)
 - Way of confiding about problems (1)
 - Extra lecture(1)
 - Is like counselling for students (5)
 - Keeping track/check of students performance. (3)
- Discussing about weakness and problems that hinder from better performance(4)
 - Just like a conversation on academic performance (1)
 - Guiding an individual in every possible way and with a desire to achieve satisfaction (1)
 - Help us get an idea on what we are going to face and help us to adopt quicker to the course(1)
 - Help to cope with stress(4)

Table-3: Characteristics of a good mentor - total 103 responses

- Teacher should be Interested in the student(5)
- Should know to guide properly (11)
- Has to interact with students at least once a week (5)
- Understanding, optimistic , enthusiastic, encouraging (16)
- Listen, understand, give solution, build confidence (14)
- Should be patient, should not judge student by previous performance (11)
- Privacy, friendly manner of interacting (3)
- Commanding at times(1)
- Should not have different attitude towards students who are not good at academics(2)
- Should never discourage(2)
- Should help the person out of stress(5)
- Should not force the student to tell something(3)
- Should know how to interact (2)
- Mentor has to come down to students level and think of his problem rather than mentoring as a teacher, person who boosts our confidence and encourages to do well(1)
- Should be friendly, supportive, encouraging, able to keep secret (6)
- Positive attitude, colloquial with a healthy report, understand each students level and treat appropriately (1)
- Approachable , loyal, non judgemental(4)
- Soft spoken, honest, positive opinions(2)
- Helpful and kind, trustworthy(3)
- Good at heart(no partiality)(1)
- Knowledgeable(4)
- Should be able to understand what motives I have in life(1)

Table-4: Aspects of your mentor which was not correct -total 80 responses

- Scolding, Not serious, Not caring(3)
- Demoralizing a student saying he/she is going to fail, (3)
- Not asking the problems faced by the individual(2)
- Impatient(4)
- Misunderstanding the student without knowing the actual reason(2)
- Not solving problems(5)
- Doing for the sake of duty(2)
- Need to be more motivating(4)
- Forcing principles, being harsh(3)
- Should not be overbearing(2)
- Time shortage, focus only on marks, not standing up for student.(8)
- Should be more efficient (13)
- Not friendly/warm to make us open up (4)
- Only addressing marks(10)
- Not giving good suggestions (9)
- Inappropriate statements like just because your father has money you think you can behave like this(1)
- Unnecessary chatting(4)
- Mentoring for only failed students is not correct(1)

Table-5: Reasons for lack of cooperation of Students with their mentors - total 68 responses

- If the student is not interested in studies. (6)
- Hesitation to open up in front of teachers (4)
- Fear that mentors will reveal to other teachers and students in the class. (6)
- Age difference (1)
- Difference in opinion (4)
- Attitude of students towards their own growth (1)
- Timing feasibility(2)
- Lack of confidence on mentor(9)
- Not understanding the ability& limitations of student (4)
- Presumptions made by student about the mentor (8)
- Breach of confidentiality, lack of attention and follow up by mentor. (11)
- Rude, lack of trust (3)
- Unfriendly mentors (4)
- Shyness, thought that they can handle problems themselves (3)
- Pessimistic attitude of teachers (3)

Outcome Evaluation Results (questions 12-15): For the questions related to the outcome of mentoring an overall 78 % agreed to have gained by the program, of which 69% have given the feedback that the mentoring process has helped in improving their

academic performance. 57% are in agreement that the program has made them understand the value of teachers but only 28% felt that it had helped in improving their behavior.

Response for Open Ended Questions (Table 2 to 5): The responses to the 4 open ended questions on mentoring are shown in tables 2-5. The average response rate for the open ended questions was 64 percent. Analogous responses were given by several students.

The responses of the students for the first two questions on the meaning of mentoring and characters of a good mentor showed a fairly good understanding of the concept of mentoring. They responses also expressed high expectations from mentors using terms such as charisma, leadership and motivational skills, inspiration, competence and positive attitude, compassion, empathy, and willingness to share their personal experiences with the student.

The responses for the third and fourth questions asking the negative aspects were more interesting as they were more specific in nature. The main negative issues raised were that most mentors were concentrating only on marks, some mentors were overbearing, forceful and harsh. Lack in building up trust and fear that mentors will reveal their secrets to other teachers and students in the class made them hesitate to co-operate with mentors. Students were opposed to mentors commenting on the financial status of mentees.

Also some of the statements as quoted by the mentees “Demoralizing a student saying he/she is going to fail, Not asking the problems faced by the individual, Impatient, Misunderstanding the student without knowing the actual reason, Not friendly/warm to make us open up Not giving good suggestions, Inappropriate statements, Unnecessary chatting” indicated a lack of effective communication during mentoring.

4. Discussion

Mentoring is a symbiotic, dynamic, collaborative, reciprocal relationship focused on a mentee's personal and professional development.^{8,9}

This study was done as part of program evaluation of a newly started mentoring program for first year M.B.B.S students. The main objective was to analyse the expectations and opinion of students on the process, outcome of the program and on mentor-mentee

relationship. A feedback questionnaire was given to 150 students and 125 had given feedback voluntarily.

For a very general question on the need for mentoring more than 85% of mentees of this program felt that mentoring is needed for all students. This links well with the ‘Mattering theory of mentoring’, which states that students will succeed if they know that someone at the university cares about them.¹⁰

Regarding the structuring of mentoring process the expectations of students matched with the actual program except for 2 aspects, one was the choice and gender of mentor and the other was the wish to have group mentoring.

73% of students in this study wanted a mentor of their own choice, It would be reasonable to say that by the time students complete their first two years they get to know most of faculty members and may be able to choose their own mentor suiting their career goals. But for the Freshers beginning their training, a random mixing is a better way to get some experience in a mentoring relationship and exposure in helping to select the sort of mentor(s) they would like in future years. The probable explanation for the students in this study wishing for their own choice could be the simple reason that they had completed their first year and had their own ideas about the faculty.

On the gender issue 53% of mentees in this study wanted a mentor of same gender. Our assumption on this is that most of these students who wanted same gender could be females. Female role models appear to be more important for women than for men. One of the reasons given is that women mentees may feel some uneasiness in a mentoring relationship with males due to sexual apprehension and fears of public inquiry about the relationship¹¹ This is true particularly for socially conservative developing countries like India. A recent study ‘Matching by Race and Gender in Mentoring Relationships’ says Students who had a mentor of their own gender or race reported receiving more help, but matching by race or gender did not affect academic outcomes.¹²

With regards to group mentoring about 57% of mentees expressed their wish for group mentoring. A reporting of “A Study of Mentoring Groups in Three Programs” Prepared for The National Mentoring Partnership’s Public Policy Council states that mentoring done in a group helps the students to get along well with their

peers and enhances their behavioral skills. There is also a possibility of peer mentoring among the students as they get better acquainted with each other. The disadvantage of group mentoring is that mentors may not be able to ensure if all members in the group contribute equally in the discussions. More vocal students can overshadow introverted youth. Also members with behavioral problems can be disruptive and may need extra attention so that they do not negatively influence other members.¹³ Group mentoring sessions can be made possible provided the mentor is efficient to identify students who need individual mentoring and do so in a confidential manner without embarrassing the students involved. Thus this issue needs further assessment before planning for the coming years.

The evaluation of outcome or effectiveness of the program in our study showed that 78% had gained in academics but only 28% were able to see a change in behavior due to mentoring. 55% also felt that mentoring should go beyond academics and marks. The review of medline literature on formal mentoring programs in 2006 states that there are no publications containing statements on the effectiveness of mentoring programs⁷ In our literature search for similar studies later than 2006 we were able to find one article where questionnaire feedback on outcomes was taken from mentees and the feedback was that 68% had strongly agreed for discussion of goals for academic development, 43% for involvement in professional activities within the institution and 29 % for professional activity outside institution. The expectations of students was not analysed in that study.¹⁴

To have better understanding of the efficacy of the program we used the questions- 'What are the aspects of your mentor which was not correct? and what are the reasons for lack of cooperation between mentor and students?'. These questions were based on the concept of negative mentoring which has been suggested to have better explanatory power in predicting protégé outcomes over and above positive mentoring¹⁵ The concept of negative mentoring was developed by Eby and colleagues who define it "as specific incidents that occur between mentors and protégés, mentors' characteristic manner of interacting with protégés, or mentors' characteristics that limit their ability to effectively provide guidance to protégés."^{16,17} This has worked out well in this study and the responses from

mentees has given us a list of causes for discordant mentor-mentee relationship. The main issues were confidentiality and communication .

Confidentiality is sacrosanct in the mentee-mentor relationship. Breach of confidentiality has the potential for irrevocably rupturing the mentee-mentor relationship. At a minimum, breaching confidentiality will cause considerable damage to the trust established between the mentor and mentee.¹⁸ Hence it comes as no surprise that 45% of students in this study are not ready to discuss beyond academics. But this issue remains contentious as many students (55%) also feel that mentoring should go beyond academics and marks. Here we can positively assume that a solution to this problem could be training mentors to identify the students who need that extra dimension of mentoring, training to identify the kinds of things that should be confidential, and to be up-front about what is acceptable and what is not.

The basis of a successful mentoring program is effective communication between mentor and mentee and many of us assume that this comes naturally. But in this study several comments by students have shown that there is a definite lack in communication. Pfund and her colleagues reported in a 2006 *Science* article that research mentors who have undergone mentor training communicate more effectively with their mentees and are more likely to engage mentees in discussions on topics such as diversity and student expectations.¹⁹

Several research works have acknowledged the need for training programs in order to help advisers. Undergraduates have reported having better experiences with trained mentors than with mentors who had not received training. Borns in an article in 'The Mentor' an academic advising journal in 2002 stated that "developing effective training opportunities for academic advisers is important for student satisfaction and persistence. and as a contributor to enhanced communication among faculty and staff."^{19,20}

Douglas, Christina A. in her work 'Formal mentoring programs in organizations: an annotated bibliography/ has cited several suggestions or guidelines for starting a mentoring program including the following: (1) articulation of goals and intended outcomes; (2) group meetings with participants in order to gather

information on expectations and build commitment for the program; (3) separate training sessions for mentors and protégés in order to clarify roles and objectives; and (4) follow-up activities, including meetings with participants and past participants, visible recognition of the program with rewards provided to participants and mentors by top management, and formal evaluation of the program.²¹ In the mentoring program in our institute there was no training sessions for mentors or for protégées and the lacunae has been rightly pointed out in the feedback.

5. Conclusion

Feedback as part of Program evaluation helps a lot in strengthening a mentoring program. From the feedback in this study we could conclude that the presence of a mentor alone does not completely fulfill the expectations of the students. Even though the structuring of the program is satisfactory the outcomes depend on the quality of the mentor-mentee relationship. The need of students to have efficient, trustworthy, better communicative mentors has been shown clearly in the feedback.

Training mentors is one effective way to prevent mentoring relationships oscillate on the edge between being effective and ineffective. Mentors being unsure of what is expected from them also strongly indicates a need for training. Thus training sessions for mentors should be made an important part of the mentoring program early during the planning phase. Also only those faculty members who volunteer for mentoring should be considered.

Limitations and Lessons Learnt: The main limitation was that only one batch of first year M.B.B.S students were involved in the mentoring program and the other limitations were including all preclinical faculty members without knowing their willingness to mentor and not having a structured feedback from mentors. The learning is that training sessions should be conducted for mentors and only willing faculty members should be selected as mentors for the next batch of students.

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6. References

1. Ramanan R, Taylor WC, Davis RB, Phillips RS. Mentoring matters, mentoring and career preparation in internal medicine residency training. *J Gen Int Med* 2006;(21):340-5. <http://dx.doi.org/10.1111/j.1525-1497.2006.00346.x> PMID:16686809 PMCID:1484727
2. Paice ES, Heard, Moss. How important are the role models in making good doctors? *B M J* 2002;325:707-10. <http://dx.doi.org/10.1136/bmj.325.7366.707> PMID:12351368 PMCID:1124228
3. Ko SM, Kua EH, Fones CSL, Stress and the undergraduates. *Singapore Med J*1999; 40(10):627-30. PMID:10741189
4. Madhuri S, Kate, Ujjwala J, Kulkarni, Yashashri S, Deshmukh YA. Mentoring: The Need for Medical Undergraduates. *Asian Journal of Medical Sciences*2010;2(3):132-7.
5. Fátima, Martins CP, PassosAD, Figueiredo JF; Lourdes, et al. Group mentoring for junior medical students: perceptions of mentees and mentors. *Rev Bras Educ Med Rio de Janeiro*2009 Oct/Dec;33(4).
6. Medical council Of India: Notification, New Delhi,2009 Aug 3.
7. Barbara BF, Katja DH. Formal mentoring programmes for medical students and doctors - a review of the Medline literature. *Medical Teacher*2006;Vol28(3):p248-57. PMID:16753724
8. Ramanan RA, Phillips RS, Davis RB, Silen W, Reede JY. Mentoring in medicine: Keys to satisfaction. *Am J Med*. 2002;112:336-341. [http://dx.doi.org/10.1016/S0002-9343\(02\)01032-X](http://dx.doi.org/10.1016/S0002-9343(02)01032-X)
9. Zerzan, Judy T, Hess, Rachel, Schur, Ellen, et al. Making the Most of Mentors: A Guide for Mentees. *Academic Medicine*2009 Jan;84(1):p140-144. <http://dx.doi.org/10.1097/ACM.0b013e3181906e8f> PMID:19116494
10. Holly Newell. The Importance of Faculty Adviser Training Programs. *The Mentor: An Academic Advising journal*2003Jun2;5.
11. Budge, Stephanie. Peer mentoring in postsecondary education: implications for research and practice. *Journal of College Reading and Learning* 2006;37(1)
12. Blake S, Melissa BL, Faye JC, Muller BC. Matching by

- Race and Gender in Mentoring relationships: Keeping our Eyes on the Prize. *Journal of Social Issues*2011Sep;p 622-43. <http://dx.doi.org/10.1111/j.1540-4560.2011.01717.x>
13. Herrera C, Vang Z, Gale LY. 'A study of mentoring groups in three programs' prepared for The National Mentoring Partnership's Public Policy Council.
 14. Luanne ET, Maryellen EG, Robert JM. Functional Mentoring: A Practical Approach With Multilevel Outcomes. *Journal Of Continuing Education In The Health Professions*2008; 28(3):157-64. <http://dx.doi.org/10.1002/chp.178> PMID:18712800
 15. Eby LT, Butts M, Lockwood A, Simon SA. Protégés negative mentoring experiences: Construct development and nomological validation. *Personnel Psychology* June 2004;5(2):P 411-447. <http://dx.doi.org/10.1111/j.1744-6570.2004.tb02496.x>
 16. Barry B, Mary K F. Toward a Useful Theory of Mentoring : A Conceptual Analysis and Critique. *Administration and Society*2007; 39: 719.
 17. Eby LT, McManusSE, Simon SA, Russell JEA. The protégé's perspective regarding negative mentoring experiences: The development of a taxonomy. *Journal of Vocational Behavior*2000; 57(1):p1-21.
 18. Specific Challenges and Problem-Solving Strategies Institute for clinical research education: promoting Education and Research in Clinical and Translational Science.
 19. Pfund C, Maidl PC, Branchaw J, Miller L S, Handelsman J. Professional skills. The merits of training mentors *Science*. 2006 Jan 27;311(5760):p473-4.
 20. Renee FB. Creating an academic advising training program on your campus. *The Mentor An Academic Advising Journal* 2002 May6;4.
 21. Christina A D, 'Formal mentoring programs in organizations : an annotated bibliography. Available at URL <http://www.ccl.org/leadership/pdf/research/FormalMentoringPrograms.pdf>