Coaching in Medical Education

A faculty handbook

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Letter from the editors

This handbook was inspired by a need for a repository of best practices and recommendations we lacked when we were creating our own coaching programs. We hope it will prove to be a useful addition to any educator’s coaching program toolkit. From envisioning goals for a new program, to planning logistics, preparing faculty and students, and evaluating the program, the authors of the handbook’s chapters have used their own coaching program expertise and understanding of the literature to create a practical resource that is generalizable to the broader community. We feel strongly that academic coaching has the power to transform students into self-actualized, adaptive learners and look forward to this handbook stimulating the implementation and improvement of many more programs.

Nicole M. Deiorio, MD
Maya Hammoud, MD, MBA
Preface

Coaching is emerging as an intriguing framework to provide professional development and assistance to learners in medical education. While long used in the business world, and more recently in physician circles, coaching is relatively new to the medical trainee world. Literature is still emerging regarding the best coaching practices that will lead to the best outcomes for our learners. To fill this gap, we offer this handbook. It is not designed to be an exhaustive literature review or conceptual treatise; rather, this handbook offers a practical framework for educators and administrators who are forming and optimizing coaching programs in their own schools.

Each chapter covers an operational aspect of coaching. References provide future reading. Case vignettes are interspersed in each chapter, and explicit take home points are highlighted. While evidence is cited when available, this handbook also relies on consensus and best practices from the many coaching programs represented in the American Medical Association Accelerating Change in Medical Education Consortium.

This handbook focuses most heavily on undergraduate medical education, though many of the principles discussed span the entire continuum of learners, through graduate medical education (GME) as well as continuing medical education. Specific coaching for faculty and physicians is beyond the scope of this handbook, but a chapter at the end of the book offers distinct advice on coaching GME trainees. GME educators and educators in many health professions will likely also find relevant information throughout the entire handbook.
Chapter 1: Introduction and definition of academic coaching

Nicole M. Deiorio, MD; Eric Skye, MD; Leslie Sheu, MD

Take home points

1. Coaching represents a new and significant opportunity in medical student education.
2. Coaching can be a powerful tool to assist learners in reflection and self-actualization.
3. The role of a coach must be clearly defined to extend the benefits of a coaching relationship beyond traditional mentoring and advising.

Defining academic coaching

Executive coaching is a rapidly growing field and resource in the business community, with a multitude of companies and professionals offering executive coaching services. Executive coaching has been defined in various ways but generally assumes a short-term relationship designed to improve an executive’s effectiveness. Contrast this to the relatively new emergence of academic coaching in the medical field and more specifically in medical education.1-3 Although the core definition from the executive coaching literature remains relevant, there is a need to further define academic coaching to consider the needs and goals of learners. Deiorio et. al. recently defined academic coaching as, “An academic coach is a person assigned to facilitate learners achieving their fullest potential. Coaches work with learners by evaluating performance via review of objective assessments, assisting the learner to identify needs and create a plan to achieve these, and helping the learner to be accountable. Coaches help learners improve their own self-monitoring, while modeling the idea that coaching will likely benefit them throughout their career.”4

Vignette

MJ is a 2nd year medical student who has developed a good relationship with her coach through the first year of medical school. After shadowing extensively and doing summer research in oncology, MJ has confirmed that she wants to go into Oncology and requests to switch coaches to a physician in her preferred field in order to better prepare for her future career.

Thought questions:

1. Once a student identifies a preferred specialty, is it in the student’s best interest to establish a new coaching relationship with a faculty in that field?
2. What is the advantage of continuing to have a coach if the learner needs to also have an adviser or mentor?

*The need to incorporate external feedback will continue throughout one’s career.
This definition allows us to differentiate a coaching relationship from the more traditional medical education relationships of advising and mentoring. Mentors are defined in various ways but traditionally embrace the concept that a mentor is of advanced academic rank and/or experience and acts as a guide and teacher who helps develop their mentee. Implicit in this definition is that the mentor has expertise and experience in the realm of need of the mentee and is sharing or passing this to their learner. Advisers are generally assigned to learners, have experience in the learner’s area of need and are generally expected to provide oversight, advice, answers, and guidance to the learner. In contrast, an academic coach may or may not have expertise in the realm of the self-identified need(s) in their learner but is skilled at helping the learner accurately reflect on their performance, their needs for growth, and gain insight into desired outcomes. Coaches also help learners create specific action-oriented plans to achieve their goals while providing a space for accountability and re-assessment of their needs.

Expertise of an academic coach

To understand the role of a coach in medical education it can help to further consider what is not traditionally considered under the purview of coaching. Many of these non-coaching needs are often appropriately managed in the advising and mentoring roles that faculty or peers may play.

Role of advisers

Advisers may have responsibilities such as assisting students in course scheduling or registration decisions, managing curricular obligations, deciding on specialty options, residency applications, and planning for research opportunities and other school or program specific needs. Advisers may often also be responsible for roles such as writing letters of recommendation, assisting in regular performance reviews and other academic requirements. Advisers may only have limited and/or learner-reported knowledge of the learner’s strengths, weaknesses, and assessment information.

Role of mentors

Mentor roles are often less formalized and are specific to a learner’s needs but are predicated on the mentor’s knowledge and expertise of a shared vocational field or desired experience. In this role, the mentor often is called upon to share experiences, provide advice and recommendations in order to help direct a learner’s plans. As a coach, there is little or no assumption of expertise in the field. Coaches will assist the learner in setting appropriate goals and developing action plans based on the learner’s priorities, however compared to the role of mentor there is judicious advice and recommendations provided compared to the guided discovery and actualization derived from coaching.

Role of coaches

When a professional athlete or a CEO obtains a coach there is no assumption that the coach will be a senior leader or expert in that field. Rather, coaches are frequently sought out for their skills in coaching in a specific realm and may have limited experience in the full scope of their client’s expertise. This is in contrast to what the authors have observed in many medical education coaching programs where coaches are frequently physicians sought out for their interest or skills in advising and mentoring learners. The decision to engage skilled physicians as coaches for medical learners is easily understood but has predictable consequences that we must consider.

It is natural for the medical learner to look to the physician coach as a mentor and/or potential adviser given they have reached a level of success in medicine that the learner desires to achieve. Coaching programs may be intentionally integrated into current advising and mentoring programs, which can
lead to expanded program goals which have the potential to create role tension and/or potential conflicts of interest. This should be carefully considered at the outset, and role responsibilities must be continually reinforced. For instance, coaches would generally be provided with a breadth of performance data on their students in order to assist the students in accurate reflection and goal setting, and students may divulge sensitive personal information in this confidential setting. An adviser, who may be in the learners’ field or a related field, would often have access to a more limited scope of information that is intended to allow for appropriate career guidance. In addition, coaches may not have appropriate experiences in curricular or specialty requirements without additional advising training. Coaches may also be exempted from formal evaluation of the learner in order to provide a safe and neutral space for students to identify personal needs and challenges and work with their coach toward setting specific goals and action plans. There is also a natural tendency for a learner to want to present themselves in the best possible light to an adviser who might impact their future career opportunities, yet this would undermine the opportunity for a coach to assist a student in managing meaningful change. These potential conflicts warrant specific policies and procedures around a coach’s role in a student’s formal education and evaluation to avoid these potential conflicts of interest.

Goals of a coaching program

The decision to establish a coaching program in addition to the other resources provided to a learner suggests there are outcomes or goals unmet by the currently available student programs. Just as athletes rely on their coaches to help perfect their form or musicians rely on coaches to perfect their pitch, so too can medical trainees benefit from coaches to help them reach their fullest potential as physicians. In our delivery system where understanding of diseases and their management is constantly evolving and physician roles are diverse, it is important for medical students to develop and foster habits of self-reflection and monitoring early to achieve individual professional goals. These emerging needs of our learners represent an important opportunity for the development of a coaching program for medical learners. Current medical education takes place in distinct blocks, where learners work with many different teachers across their training, often for short and distinct periods of time. Coaching allows for a consistent, longitudinal, and open relationship that is neither supervisory nor evaluative, but offers structured opportunities for students to discuss personalized, actionable goals and action plans as they progress through different phases of medical school. The feedback literature suggests that learners incorporate feedback best when a longitudinal relationship is formed with a trusted person and an “educational alliance” exists. Coaching is uniquely positioned to meet this framework as it can offer a safe, ongoing dialogue with a person who, due to the nature of the coaching commitment, is credible as having the learner’s best interests in mind. As coaching programs are increasingly introduced in medical education they may be additive to current student programs and designed to meet specific coaching goals. The individual goals of a coaching program at any given school may be different based on the institution’s needs.
Potential goals for a coaching program

- Providing students with a safe space for informed reflection on academic, personal and professional performance
- Ensuring student wellbeing
- Assisting students in setting and reaching goals that will lead to high levels of academic/professional achievement and personal satisfaction
- Encouraging students to establish habits of continuous reflection, goal setting and lifelong learning.

In review

In revisiting the vignette, we can see that a learner’s coach would need to have only a general awareness of the field of interest of that individual which most medical faculty are likely to possess. In contrast to an adviser or mentor who would be providing specialty-specific advice and direction related to specialty choice, a coach would continue to assist a learner in clarifying their self-identified needs and creating learner-directed plans to meet their goals. In this situation the coach may help the learner identify the need to find an adviser or mentor in their field of interest to further understand this career field and the pathway to matching in this specialty. The learner’s coach would also continue to be available to assist the learner in identifying and addressing personal and professional goals that are not specialty-specific.

MJ’s coach should be focused on the longitudinal self-identified needs of the learner and will likely have access to most if not all performance metrics from the student’s educational program. This will likely differ from the filtered or student-identified resources available to advisers and mentors provided to direct/advise students. In addition, the coach is not intentionally paired with a student in their field of mutual interest. This separation provides the student a unique confidential relationship that can address concerns that may not be comfortably disclosed to advisers or mentors in their anticipated field where advisers could potentially have conflicts of interest in the resident selection processes.

Conclusion

In the chapters that follow, the authors provide a practical framework for how to design, sustain, and optimize a coaching program and delve deeper into what a coaching session – and ultimately a coaching relationship – looks like. Finally, the authors share how to measure the success of a coaching program and use case studies like the one above to help illustrate key concepts. The authors hope that this practical guide to coaching in medical education will be useful to all, whether one is thinking of starting a new coaching program, hoping to refine an existing one, or preparing to take on a coaching role. The authors also hope that this resource can be used broadly by all medical educators to stimulate conversations about academic coaching and to influence individual practice to incorporate coaching principles when working with learners whenever appropriate.
References


Chapter 2: Building a coaching relationship with learners

Ronda Mourad, MD; Michele A. Favreau, PhD, MSED, MACM; Patricia Thomas, MD

Take home points

1. The coach-learner relationship should be based on rapport and trust, and this rapport and trust should be continuously enhanced.

2. Expectations should be clearly defined for both participants, with the learner setting the agenda and the goals and the coach focusing on maximizing strengths that are identified by the learner to help achieve goals.

3. The coaching relationship requires unique communication skills on the part of the coach and attention to privacy and confidentiality.

This chapter will describe elements of a coaching program that engage the learner and build the coaching relationship. For coaching programs to achieve the goals of learner self-actualization and reflection discussed in Chapter 1, there needs to be intentional preparation of the coach and the learner, with clear expectations for the role of each participant.

Preparing the coach

As discussed in Chapter 1, the nature of coaching is distinctively different from the advising or mentoring relationships familiar to most faculty who volunteer as coaches. Coach training usually takes the form of faculty development workshops, which should be planned for and begun prior to the launch of the program. These faculty development programs typically contain common themes, discussions that highlight the distinctiveness of the coaching relationship, exercises in active listening, positive psychology and understanding one’s own biases, and practice with the tools and communication skills that facilitate the coaching process. Successful programs

Vignette

Sarah is a newly matriculated medical student. First in her family to pursue a medical career, she feels very self-directed, since she had to explore on her own “what it takes to get into medical school.” Sarah earned her B.Sc. degree in a large university following a pre-med curriculum, in which the predominant pedagogy was lecture and single-best-answer assessment. During her senior year she completed a project with a small group, but didn’t like the experience, since work was not equally shared. Sarah volunteered at a local hospital as receptionist in the ICU family waiting area and, working with her pre-professional program, she shadowed a surgeon. At orientation week in medical school, Sarah sees that the first two days are spent in activities with four other students and a faculty coach, who will be coaching her through four years of curriculum. She wonders whether this is a good use of her time and what she will get out of this.

Thought questions:

1. What preparation is needed for this student to optimally engage in the coaching relationship?

2. What are appropriate program activities to engage this learner in the coaching process?
often continue these programs longitudinally and develop a learning community of coaches who support each other in the work of coaching as long as they are involved in the program.

**Engagement of the learner**

For the learner, orientation to the coaching process is a critical first step. The coaching program may be introduced in an informational session that highlights the goal of the coaching program, and how this may both resemble and differ from learners’ earlier experiences with coaching (as in athletics), advising (as in undergraduate academics) or mentoring.

Ideally there is also a written agreement that serves as the foundational framework for the coaching relationship that is available to all participants, learners, and coaches. This written agreement is sometimes called a “Coaching Contract,” although this can be controversial since a contractual relationship may be incongruous with the student-centeredness of the coaching relationship and may actually disincentivize the learner’s participation. If the coaching program is the structure of an educational program’s advising system, for instance, and is mandatory for student participation, then requiring a contract signature may be perceived as disingenuous. On the other hand, the coaching program will only work if there are explicit shared expectations of engagement by both the learner and the coach. A contract may be most appropriate for an optional program, since these programs often require additional time from the learner. An example of the agreement used for a portfolio coaching program is presented in Appendix 1.
The coaching agreement begins with principles of coaching and then defines and codifies mutual responsibilities, expectations and boundaries. It is critical for the coach and learner from the first session onward to commit to these key principles to guide the relationship. Examples of these principles are presented below.

**Principles of the coaching relationship (adapted from Moore et al. *Coaching Psychology Manual*, Chapter 9, 2016)¹**

<table>
<thead>
<tr>
<th>Coach</th>
<th>Learner</th>
<th>Shared goals for the coach and learner</th>
</tr>
</thead>
<tbody>
<tr>
<td>I will…</td>
<td>I am ready to…</td>
<td>I will…</td>
</tr>
<tr>
<td>• Ask provocative questions and encourage my learner to arrive at his/her own answers whenever possible.</td>
<td>• Take responsibility to make and sustain changes.</td>
<td>• Be punctual.</td>
</tr>
<tr>
<td>• Encourage realistic expectations and goals.</td>
<td>• Become more self-aware.</td>
<td>• Maintain confidentiality.</td>
</tr>
<tr>
<td>• Assist my learner to identify and fully engage in his/her strengths.</td>
<td>• Listen to suggestions and try new and different approaches.</td>
<td>• Be open and honest.</td>
</tr>
<tr>
<td>• Acknowledge when an issue is outside my skill set and recommend other resources.</td>
<td>• Share personal information that is relevant to my performance.</td>
<td>• Be responsive to phone and electronic communication within an agreed upon timeframe.</td>
</tr>
</tbody>
</table>

• Be aware that setbacks are normal on the path to change and necessary in order to establish new mindsets and behaviors.
• Commit to upholding the terms of this agreement.
Learners especially will appreciate specifics regarding the logistics of the program, which can also be detailed in the agreement, as noted below.

**Structure of a coaching agreement**

- Statement of goals of the coaching program
- Time requirements for participating, e.g. length and frequency of meetings
- Duration of the program
- Expectations for setting the agenda for the meetings and work/assignments in between meetings
- Confidentiality of information and types of information to which coaches will have access (In some academic programs, weekly reports on student progress are forwarded; this would be unusual in professional coaching programs.)
- Communication procedures in between meetings, e.g., maximum time to respond to phone messages or e-mails; whether personal cell phone usage/texting is appropriate

**Learner reflection**

A second step in the engagement of the learner is a reflection exercise, which helps the learner to identify his/her strengths. Often a tool is used in this reflection that can be modified depending on the goal of the coaching program. For instance, a leadership development program might use a tool that specifically asks one to assess particular leadership behaviors and skills, whereas a coaching program intended to enhance professional development and wellness might use an instrument that queries broader goals and values of the individual. The results of this reflection can then be used to establish rapport with the coach and in setting strength-based action plans for future goal setting by the learner. An example of one instrument, the “Values in Action Inventory of Strengths,” can be accessed at [http://www.viacharacter.org/www/](http://www.viacharacter.org/www/).

A modification of this instrument is used by the Massachusetts General Hospital Internal Medicine Professional Development Coaching Program. The process of moving from identifying one’s strengths to setting an action plan is discussed in more detail in Chapter 3.

**Outlining expectations, responsibilities and boundaries**

**For the coach**

As noted in Chapter 1, the coach’s role is distinct from that of a mentor or career adviser where the faculty member typically serves as an expert who advises the learner on their strengths and potential deficits. In the coaching relationship, the learner is the expert on his/her own values, strengths, motivators and challenges; hence the learner sets the agenda and drives the goal-setting process based on intrinsic motivators. The coach is most effective by serving as a vehicle to guide the learner to set and achieve goals through affirmations, questions that evoke self-discovery and reflection, and application of positive psychology tools. The expectation from the coach is to remain an approachable, active listener with a mindful presence. The coach establishes a safe space for the learner to reflect, so it is paramount that the coach is
not serving simultaneously in a position of evaluating the learner. The coach should attempt to meet the learner at his/her stage of readiness and refrain from judgment or evaluation. Allowing the learner to lead the agenda empowers them to become experts in problem-solving and strategic planning, eventually building self-efficacy, a sense of mastery, and an internal locus of control. Establishing and building upon trust and rapport with the learner will allow a safe space for the learner to reflect and communicate openly about his/her motivators and goals. This relationship is grounded in confidentiality which would only be disrupted if the learner is felt to be at risk of harming self or others. It is essential that the coach refer the learner for professional assistance or specialist expertise when a health concern is identified.

For the learner

The learner’s understanding of his/her role is paramount to the success of a coaching program. The learner must have a clear understanding that s/he is expected to drive the agenda of the coaching sessions. The coaching relationship allows the learner to take on a proactive role by driving the goal-setting process, rather than a passive or reactive role. For this relationship to thrive, the learner is encouraged to remain open to self-discovery, reflection, and the possibilities of change and growth during and between coaching sessions. Honest communication with the coach about the learner’s strengths, successes, areas of struggle, stressors, and motivators will facilitate the growth process. Another expectation of the learner is to remain organized and accountable for tracking the progress and work that is being done towards the goals.

Communication

Effective communication is essential to creating and sustaining an effective coaching relationship. The scope of effective communication includes how, what, when and where to communicate in order to facilitate the self-actualization of the learner.

How: It is necessary for the coach to guide the communication with the learner in a respectful and non-threatening manner in order to identify learner strengths and align those with opportunities for learner success.

What: The goal of the coaching encounter is for coaches to facilitate learners to generate their own solutions through supportive, discovery-based approaches. The primary responsibilities of the coach are to ask appropriate questions of the learner in order to help the learner create a plan for success.

When: The frequency of coaching sessions can be co-determined by the coach and learner or by the program, but these coaching sessions need to be scheduled at consistent intervals across the coaching timeframe. Co-creating processes and rationale for scheduling extra coaching sessions and/or rescheduling missed coaching sessions is recommended. Response times to phone, electronic or other methods of communication should be agreed upon at the beginning of the relationship and written into the coaching agreement.

Where: Coaching sessions should take place in a relaxed, comfortable, and confidential environment devoid of extraneous distractions.

Privacy/information sharing/avoiding conflicts of interest

In order to mitigate the risks of conflicts of interest developing, it can be an advantage to create a purposeful mismatch between the faculty member’s expertise with the learner’s intended career focus. Mismatching the faculty member with learners outside their professional field of interest lessens the risk of the faculty
member reverting into an adviser or mentor role. Furthermore, learners need a safe space to reflect and communicate freely about insecurities, vulnerabilities, challenges, or struggles, without fear of retribution or a negative impact on their future career. However, a career alignment of learner and coach could increase perceived legitimacy of the coach in students’ eyes. Coaches are not expected to be advocates or evaluators of the learner since this may hinder the learner’s self-actualization and self-efficacy. This may lead to procedures precluding the coach from writing a letter of recommendation, for example. Care must be taken to meet Liaison Committee on Medical Education standards for separation of advising and evaluation. When possible, the learner and coach should avoid working together in a clinical or other course where assessment occurs. If it is unavoidable, the school should address this potential conflict at the start of the rotation by explicitly outlining the procedure for ensuring a coach does not directly assess the student or contribute to the student’s grade, such as by manipulating site placement or using coach assessment data as formative only. The goal of coaching is to guide learners to develop and grow an internal locus of control and mastery of new skillsets which include conflict resolution. If the coach is expected to advocate for the learner, this could not only create a conflict of interest but also has the potential to stifle the learner’s growth process and self-efficacy.

In review

In the case of Sarah, our learner in the vignette, we can see that her program could do several things to optimize student buy-in at the outset: provide faculty development (orient coaches to the coaching process, pertinent communication skills practice, and discussion of approaches with different learners) and student development, such as an orientation outlining the details, process and expectations for the coaching. Initial activities could include meeting with her coach in a small group discussion, participating in self-assessment exercises with the four other students in her coach’s learning group, and writing a personal learning plan for her first month of medical school.

Conclusion

The essential elements for the launch of a coaching program include preparation of the coach for the unique role of the coach, engagement of the learner in the coaching process, setting clear expectations for both participants, and the adroit use of communication skills to build the coaching relationship and advance the achievement of the learner’s strength-based goals. Since trust is critical to the coaching relationship, privacy, confidentiality, and potential conflicts of interest must be continually assessed.
References


Chapter 3: Conducting a coaching session

Christine Thatcher, EdD; Melinda Sanders, MD; Mary Casey Jacob, PhD, ABPP

Take home points

1. Meeting preparation ensures that time together is considered value added for both the student and the coach.
2. Students must have an active role in agenda setting.
3. Coaches provide guidance toward goal setting by exploring student interests and needs, as well as a regular check-in toward achieving these goals.
4. Coaches form a relationship with their students through building trust, open communication, and respect.

This chapter will assist preparation for effective coaching sessions by providing information on how to structure the session, document the session, provide feedback to the student, and describe creating an action plan. Successful coaching may serve to motivate and inspire the learner, as well as energize the coach through the process of forming this new relationship and observing the growth of the student.

The coach’s role

As stated in Chapter 2, being clear about the goals of coaching and being ready to develop a non-judgmental and student-focused relationship is key to successful coaching. Coaches serve as guides for students toward academic, professional, research or even personal goals. The role of coach is to open the conversation, to provide space for the student to think about self-improvement and direction, and to guide the student to learning about themselves and what they may be capable of. Active listening is a key component to successful coaching.

Preparation is an important factor for success for each meeting. There will be preparation for both the coach and the student. The coach should be aware of curricular pressures, such as the next examination period, time of year in the curriculum, and upcoming transitions, such as summer research, board prep, and the transition to the clerkships. The coach should also review notes from the last meeting and review any contract or action plan previously created and agreed to. The student should be prepared by contributing to the agenda, being reflective on their goals and progress toward those goals, and bring concerns or challenges to discuss.

Vignette

Dr. Frey has been invited to be a coach at his institution, provided documents describing his role, and attended a meeting of new coaches for orientation. He has received his list of students, and is wondering how to best approach his first meeting. He decides that it would make sense to just jump in and schedule a first meeting with one of his students. The meeting falls flat because he really doesn’t understand the role of coaching and why he and the student have been paired together. The conversation was light and introductory, but both walked away wondering what the value of this relationship will be.

Thought questions:

1. What is the next step? How should Dr. Frey follow-up on this meeting?
2. How should Dr. Frey engage the learner?
The environment should be carefully considered for each coaching session. Part of the role of the coach is to provide a safe environment for each meeting. The space should be private enough for confidential conversations and free of distraction. The coach should also consider the language used. Starr describes collaborative coaching as a way for two people to create change together. Often, a coach will use non-directive language to ask, probe, and increase the student’s awareness of their own goals and how they learn best. At other times, directive language may be useful to provide advice, share experiences or impart information.

Meeting preparation

A good start is essential to establishing a relationship that both the student and the coach will see as value-added. As described in Chapter 2, a coaching agreement or contract can help to break the ice, leading the initial discussion beyond how things are going. If done well, the contract lays out the expectations of the relationship, provides leading questions, an opportunity to discuss personal and professional boundaries, and can set goals and timelines for check-ins. If nothing else, it helps open the door to the conversation of why the coach and the learner have been placed into this relationship together.

Knowledge of the curriculum: Students will expect their coaches to have some knowledge of their curriculum and what is expected of them. It is important for the coaches to learn about the curriculum and expectations of the program and to be able to describe the developmental progress of the student through the curriculum. Coaches can start with reviewing what is required for each year through course descriptions and other materials that may be available, such as a course catalog. They can also review the graduation competencies to see where the student will ultimately be at the end of the program. The more background information a coach reviews, the easier it will be when the student comes to discuss their progress.

Goals and objectives of the coaching program: Each institution will have programmatic goals, and it is important to understand where coaches fit into this vision. Will they assess students’ progress directly, or indirectly? Will they help them to form goals toward the completion of projects or deadlines? Are they their advocate, and if so, what does that mean? How will they help them navigate toward their professional careers?

Review of student progress: Coaches may be asked to monitor academic performance as part of their role. Some programs may require they provide direct feedback to students from observations in a clinical setting. Once coaches have a general understanding of the scope of knowledge as a coach and what is expected of them, they can then gather the essential information before each meeting.

Meeting structure

The next step in meeting preparation is to plan the appropriate structure. This section provides suggestions for the initial meeting as well as ongoing meetings with students.

Initial meeting: The coach has the responsibility to set the agenda for the initial meeting, as most incoming students have had no previous experience with academic coaching. Chapter 2 provides guidance including the use of a coaching contract, setting expectations, and clearly defining the parameters of the coaching relationship. This first meeting will set the tone for future meetings and provides opportunity for the coach and student to begin the conversation about goal setting. This time should be used to open the door to communication, getting to know each other, and begin building the trust that is so essential to a strong
Ongoing meetings: The agenda for the ongoing meetings should be driven by the student. It is important for students to feel ownership of their own progress toward goals and a responsibility to the relationship. The types of sessions may vary as described below but the following elements should be included in each meeting:

- A review of the last session including goals
- An update on what has occurred since the last session
- Summary of the session
- Action plans toward short and long-term goals

Meeting content

The goal of each meeting will vary with program, developmental progress, and the needs of the learner. These meetings may revolve around goal setting, reflection, planning, and individual needs. Each coach should decide on what will work in any given situation.

Discovery and goal setting: A student may want the opportunity to meet with a coach to explore a specific issue, such as developing a plan toward a research project or to prepare for boards. Or, the purpose may be much broader or long-range, such as becoming a successful intern and what that would require. Such a meeting would include:

- Discovering how the student tackled such a project in the past. What worked and what was problematic? How does the student feel about the project? Is the student ready to make a change? Discuss the student’s comfort zone, and suggest ways for the student to move beyond this. Discuss persistence and strategies for success. Based on these insights, an action plan may be implemented including SMART goals. SMART goals are Specific, Measurable, Achievable, Relevant, and Time-related.
- Action plan: A formal action plan provides structure and accountability. It may not always be necessary to develop a formal action plan, but this tool can be very useful in helping students attain both short and long-term goals. The action plan provides a structure for the student to develop steps toward completing a goal, a timeline, success measures, required resources, possible barriers to success, and a place to record final results. This is a tool for the coach and student to use to continuously revisit, check alignment. An example is provided in Appendix 2.
- Assuring the student has actively reflected on how these short-term achievements are part of a larger picture. It may be helpful to discuss smaller milestones, while keeping a larger, valuable aspiration as a motivating factor and ultimate goal.

Academic progress: At certain institutions, the academic coach follows their student’s performance in their coursework with the opportunity to review interim grades, narrative evaluations from faculty, and in some cases peer evaluations. Preparation before this meeting is essential and will allow the conversation to focus on reflection and action steps toward improvement. During these sessions, the coach helps the student to reflect on areas to improve and explore areas of difficulty. The coach may also provide resource information to assist the student in moving toward improvement. The coach should also take advantage of opportunities to celebrate successes.

Career planning: Many schools use the AAMC’s Careers in Medicine (CiM) Curriculum as the foundation for career planning. Often coaches will be asked to
discuss career goals. It is best to be prepared, but also know who to refer students to for more information. Career planning sessions should include the exploration of student interests, experiences, skills and attitudes paired with review of academic status if available. The CiM is useful in helping the student identify his or her strengths and weaknesses as related to specialties or practice settings, as well as exploring the types of experiences that are most exciting and rewarding. The coach may then help the student use those insights to set short-term goals and next steps which may expand his or her exposure to different fields or begin to focus on a specific specialty or pathway.

Open-ended needs assessment session: Such a meeting may occur at any point in the coaching relationship and may not be specifically directed to a specific project, an academic progress review or career planning. If initiated by the student, the coach might open with “What brought you in today?” If the meeting is a regularly scheduled session that is not devoted to any of the other topics, the coach might open with “What have we not covered?” Conversation starters should be open-ended and in the form of a question. Coaches should then spend the majority of the time actively listening. The key is to prompt self-reflection and to help the student learn from their experiences to move forward.

Feedback

Being able to give useful feedback and being able to receive and process feedback are important skills, but not ones that come easily to some. One of the coach’s roles will be to help students develop these skills. An important place for coaches to start is to ask themselves or trusted colleagues if they are skilled at giving or receiving feedback. Depending on the responses received, coaches may want to start by seeking mentoring from others in this area so that they can be role-models.

According to Wiggins,² effective and helpful feedback is:

| Goal-referenced | Targeting outcomes the feedback recipient values or knows is necessary |
| Tangible and transparent | Behavioral and if possible, evidence-based |
| Actionable | Neutral facts that are goal-related allow the feedback recipient to have ideas about what to do differently |
| User-friendly | One or two points that are not overly technical and are developmentally appropriate given the student’s current skill level |
| Timely | Generally, the sooner feedback is given, the better. This might mean sometimes communicating with students between meetings. It is also a rationale for helping them become skilled at giving and receiving peer feedback which can occur in real time |
| Ongoing | Following up on how a student is progressing toward goal achievement and how feedback is being utilized (this also allows coaches to modify how to give feedback to a particular student, as they observe their own effectiveness) |
| Consistent | Peer coaches need to be on the same page about what students are expected to achieve |
As a check on the effectiveness of the feedback, per Wiggins, the coach may ask “given this feedback, do you have some ideas about how to improve?”

When talking with students about peer to peer feedback, the coach may approach this conversation with a number of factors in mind. For example, it is important to know the goal of the feedback and what was asked. It is also helpful if both the evaluations written by the student as well as those written about the student are available.

For peer evaluations written by the student: It should also be clarified with the student what their intent was, and provide guidance on phrasing of feedback. Examples of effective feedback are a great way to approach improvement strategies.

For peer evaluations about the student written by their peers: The coach should help the student reflect on the message in this feedback. This is a great opportunity to discuss self-assessment, improvement, and reflection. Chapter 4 is a great resource to support guided self-assessment.

Students may talk with their coach about feeling overwhelmed with the amount of feedback they are asked to give about courses, faculty effectiveness and to peers. In some cases, this leads them to not complete evaluations (if not required) or to do them in a perfunctory way. The coach can help them develop skills of giving effective feedback and to see the importance of this life-long skill.

Documentation

Record keeping: The institution will clarify for the coach what the record keeping responsibilities are and where those records should reside. The Family Educational Rights and Privacy Act (FERPA) gives students over the age of 18 the right to review all material in their educational files. The coach may be tempted to keep private notes that the student does not have access to, but that is not wise for several reasons. If the coach is at a public institution, such notes are generally subject to Freedom of Information requests. More importantly, since one of the coach’s roles is to help a student develop the skills of giving and receiving feedback, coaches must also be able to formulate their thoughts about a student’s progress in a way that will assist them to grow and develop. Not keeping private notes forces the coach to provide thoughtful documentation that keeps in mind all the potential readers of that information.

Notwithstanding the caution against private notes, coaches may find it very useful to maintain a journal of sorts to note what occurred in meetings with the student and what they find when they access the student’s academic records. Ideally, they would do so in an open way that allows them to show the student what they have noted so students will know what they will be providing formal documentation about. It is good practice to discuss what will be formally documented.
### What should be documented?

- The agreement/contract you develop for the coaching relationship
- Meetings with the students and the work completed in those meetings
- Educational and professional goals the student identifies, and progress toward them
- The coach’s reviews of the student’s educational portfolio
- Feedback given to the student
- Referrals made

### What should not be documented?

- Opinions and judgments
- Private information the student shares

### In review

After Dr. Frey’s first meeting with one of his students, he was concerned that neither of them really understood why they were placed together in this relationship. Likely, Dr. Frey’s student had similar thoughts. It will be important for Dr. Frey to follow-up soon with this student, and to be open and honest about his concerns. This will be an important step toward trust in the relationship, and a way for both to figure this out together. In preparation for this next meeting, Dr. Frey should clarify with experienced coaches or the director what his role will be and review any documentation provided by his program. If insufficient, Dr. Frey should let them know. Many programs are new and evolving. By being a team player Dr. Frey will likely help the program grow in effectiveness. He should start by asking the student questions, sharing experiences, and taking this opportunity to create a coaching agreement to solidify purpose. This new role Dr. Frey has taken on is an important one.
Conclusion

Through preparation, open communication, and trust, coaching can be a rewarding experience for both the student and the coach. This chapter is meant to be a helpful guide to making the most of meeting time together. Emphasis has been placed on the need to be prepared for meetings, to ask questions, to listen, and to guide. While there are a number of different meeting types, the common theme has been guidance toward goal setting. Goals can be short-term, or there may be many small goals or milestones leading to a much more complex aspiration. Action plans are useful, as are coaching agreements if used effectively. Ultimately, the student will benefit most by actively participating in sessions with the coach, leading the agenda, and reflecting on progress toward set goals.

References

Chapter 4: Role of informed self-assessment in coaching

Margaret Wolff, MD; Sally A. Santen, MD, PhD

Take home points

1. Unguided self-assessment is flawed and should be avoided.
2. Coaches should focus on developing self-directed learning skills in students.
3. The informed self-assessment framework can be used to teach self-directed learning skills.
4. For students who are performing poorly and are unaware of their deficiencies, the focus should initially be on the process of the task or skill and not the outcome.
5. Coaches should be mindful of student’s motivational needs when providing feedback.

Self-directed learning and self-assessment

A fundamental part of medical training is developing the skills necessary to become a self-directed learner in order to adapt with the continuously changing medical system. Self-directed learning (SDL) encompasses the process of individuals taking the initiative to identify knowledge gaps, generate learning goals, take action on learning goals and evaluate learning outcomes to ensure future learning preparedness. The goal of medical school then is to develop what Cutrer et al has referred to as the Master Adaptive Learner, an individual with both developing mastery of the field and adaptive expertise to allow them to continue learning throughout their career. This is a four-phased process rooted in self-regulated learning: planning, learning, assessing, and adjusting. Although many matriculating medical students possess emerging self-regulated learning tendencies with their high desire for learning, they often need support in managing their learning strategies such as time management and having a systematic approach as they transition to medical school. Further, studies demonstrate that even practicing physicians may not be prepared for future learning. Coaches are uniquely positioned to help learners develop and nurture self-directed learning skills to develop into Master Adaptive Learners.

Vignette

Joe is a first year medical student who is struggling with professionalism in his clinical skills course. He is consistently late to sessions, is disrespectful to staff, talks during patient panels, and dominates conversations in small groups. He has received a below average score for professionalism on his recent evaluation. His professor is meeting with him to review his performance. He is dismissive and says that he was scoring well on the quizzes and his peers seemed to like him.

Thought questions:

1. Is there an alternative approach to self-assessment?
2. What is the best way to approach a learner who is performing poorly but believes they are performing well?
One key step to becoming a self-directed learner is analysis of one’s current state of learning to identify gaps, or, in other words, to perform a self-assessment. Studies have repeatedly demonstrated throughout medical training and in other fields that unguided self-assessments are flawed.6–9 Individuals are unable to independently accurately identify their weaknesses and the majority of students believe they are “above average,” overestimating their performance. Thus, students often need support performing self-assessments, gathering and processing external feedback, and integrating this into subsequent learning plans.5,10,11 The informed self-assessment framework proposed by Eva et al. can serve as a guide to help coaches provide the scaffolding needed to promote the development of the master adaptive learner in medical students.12

Informed self-assessment: A framework for self-directed learning

The informed self-assessment framework consists of five dynamic components: seeking or receiving incoming sources of information, interpretation of information, response to information, filtering of information through internal and external conditions, and balancing of tensions arising from internal and external data.12 The first three components in this iterative process deal with how data that inform a learner’s self-assessment are accessed, interpreted, and utilized by the learner. The fourth component describes the filtering of information through various internal and external conditions and influences such as considering the relationship and credibility of the source of feedback. The fifth component addresses the balancing of tensions of internal view of self in contrast to the external data that might contradict or agree with the learner’s view of himself or herself.

Each learner will bring different levels of experience with them and will therefore have differing needs in terms of what components they need assistance with in the informed self-assessment process. However, given that medical school is a new experience with different expectations and players, most students will need to start at the beginning. In the next few paragraphs we will outline how coaches can facilitate the use the informed self-assessment framework.

Step 1: Identify sources of information

The majority of medical students have enjoyed academic success prior to medical school and are often performance oriented. They are used to receiving grades and trying to calibrate their performance to achieve the best grade possible. In other words, they are usually used to incorporating score performance into their self-assessments. The coach’s job will likely be to help them move beyond the test scores and look for other sources of information. This includes both formal sources embedded in the curriculum such as clerkship comments, standardized patient examinations as well as informal sources like real time feedback from supervisors and comments from peers.
Sources of feedback to consider:

| Course assessment (including any written feedback) | Faculty verbal feedback |
| Quiz and examination performance | Multisource feedback from peers, inter-professional colleagues |
| Peer performance on examinations (benchmarking data) | National Board Examinations |
| Performance on standardized patient assessments | Self-testing of content |

Some learners may require prompting to seek out some of the sources that are not automatically provided. In addition, not all the sources will be necessary for every student. For example, if a student is struggling with a course or clerkship they may need to seek out specific feedback from their course or clerkship director on how to improve whereas a student performing well will not need to seek out this feedback.

Step 2: Evaluate and interpret the feedback

An important part of the coaching role early in this process is to review some of the feedback with the student to help them determine credibility and quality. Not all feedback is created equal. As learners become more familiar with this process, the coach can ask them to review feedback independently prior to a coaching session. Initially when they are performing this independently, it can be useful to then review this with them when meeting to reinforce the process. In this step, they need to try to understand what the provider of feedback is saying about their performance.

Step 3: Balance tensions created by the information

After reviewing all available feedback and interpreting the information, there will likely be tensions created from this information that the student may need help balancing. The coach can help the learner become aware of their emotions and reactions to feedback and understand how that impacts their interpretation of the information. The coach does not need to be a therapist, but it may be necessary to help the student acknowledge that emotions play a role and help support them while they weigh competing internal and external data. For example, if a student is angry that they received a negative evaluation, they may discount this information. The coach’s role is to point them to the objective data and prompt them to reflect on the information. It is important that there are several responses to feedback: filter out parts of the feedback, ignore feedback, seek further corroboration of data, and accept and incorporate the feedback.
Step 4: Create an action plan

The most important role for a coach is the last step which is to help the student develop a systematic approach to responding to this information. Initially, a coach needs to closely guide a student through this step but it is important that they eventually learn to perform it autonomously. The coach can start by supporting the student in the creation of an action plan in the form of learning goals. These should be specific, actionable, and timed. In addition, the coach should help the student limit learning goals to an achievable number. For example, a coach can help the learner identify high quality learning resources to fill learning gaps. Finally, it is important to hold the learner accountable. For some learners, this may be simply following up with them at the next scheduled session or touching base via email. For other learners, it can be helpful for them to email an action plan after a meeting and regularly email at predetermined points.

A special case

The majority of learners will respond to this approach and with experience will begin to perform these steps without assistance. There is a special case though that bears mentioning as a coach will likely encounter this at some point during a coaching career. This is the learner who is unskilled and unaware of their lack of skills. These individuals often perceive that they are above average because they lack the necessary skills to identify their learning gaps even when comparing themselves to others. While many individuals exhibit some degree of illusory superiority and view themselves as above average compared to others for any given task, this is particularly problematic for those who are performing poorly. It is tempting to demonstrate to the student what poor performance looks like, thus assuming that the student will be able to improve. Unfortunately, students may not have a deep enough understanding to be able to incorporate appropriate learning goals by watching others or their own performance. Instead, with these students, the primary focus should be on helping the student to improve, thus creating a more accurate self-assessment. This can be done by providing opportunity to practice skills while giving encouragement and reinforcement by supplying step by step coaching and frequent feedback. It may also be helpful to focus initially on the process instead of the outcome. For example, if a student is struggling with a procedural skill such as endotracheal intubation, a coach can first focus on the process of intubation instead of focusing exclusively on the outcome of successful intubation. By doing this, a coach will be able to reinforce actions that are performed well, correct actions that need modification, and build the learner’s confidence by accomplishing discrete tasks.

The coach’s role

The coach’s role in the process of informed self-assessment and self-directed learning will evolve as the coaching relationship matures and the student becomes more adept with this process. Current work on effective feedback is focused on the “educational” relationship between feedback provider and learner. When the provider becomes a trusted source, the learner is more likely to incorporate feedback that is disconfirming with her own view of her performance. Thus, it is important to establish a relationship with the learner to gain trust. Initially, a coach may need to be directive and hold the learner’s hand through the process. Ultimately, though, the learner will be able to perform this process independently of the coach. Regardless of the level of guidance the coach is providing, it is essential that he/she be mindful of the learner’s underlying psychological needs if a learner is to achieve their full potential.
Specifically, self-determination theory suggests that an individual’s natural motivation to learn is driven by fulfilling three innate psychological needs: a sense of relatedness, a sense of autonomy, and a sense of competence. The coach’s job is to nurture the learner’s motivation by helping to fulfill these motivational needs while providing high quality change-oriented feedback. Change-oriented feedback focuses on behaviors that need to be modified in order to eventually achieve the learner’s goals.\textsuperscript{11,20}

To accomplish this, the feedback must be:

1. Empathic
2. Accompanied by choices of solutions to correct the problem
3. Based on clear and attainable objectives
4. Free from person-related statements
5. Paired with tips
6. Given in a considerate tone of voice.\textsuperscript{20}

In review

In revisiting the vignette, this student is unable to independently and accurately identify his weaknesses. Informed self-assessment is a framework for self-directed learning that teaches learners to elicit and incorporate various sources of feedback. This framework can be used by coaches and learners to more accurately approach assessment of performance.

For the learner who is performing poorly and is not aware of their poor performance, focus on helping them create a more accurate self-assessment. This can be done by providing ample opportunities for the learner to practice the skills in an environment where they will receive encouragement and feedback. Initially it can also be helpful to focus on the process and not the outcome.

Conclusion

The informed self-assessment framework can be utilized by coaches to help learners become self-directed learners. As learners progress through this process they will learn to perform this process independently. Coaches can facilitate this by walking them through the process and being mindful of self-determination theory. Through this process, coaches can help students along the journey to become Master Adaptive Learners.
References


Chapter 5: Coaching, diversity and change
Michele A. Favreau, PhD, MS Ed, MACM; Jennifer Meka, PhD, MS Ed

Take home points
1. Diverse learners comprise categories of learners whose rights are legally defined and protected.
2. Micro-inequities can pose unique challenges when coaching diverse learners to self-actualization.
3. Using a strengths-based approach to coaching is an effective methodology for all learners to facilitate change and achieve academic, professional, and personal success.
4. A critical role for coaches is the ability to determine when coaching is not sufficient to support a learner’s success.
5. Diversity training is recommended for all coaches.

The role of diversity in coaching
While all learners bring a diverse set of personal attributes and lived experiences to the educational encounter, the term “diversity” has overriding cultural and legal implications. Diversity is a broad notion that encompasses the social and legal dimensions of race, religion, age, gender, sexual orientation, disability and other facets of personal identity. Effective coaching acknowledges these aspects of a learner’s identity and, in partnership with the learner, mindfully integrates these elements of identity into positive

Vignette
Dr. Garcia is coaching two different students who have brought up recent challenges.

David is a first year medical student. He has been identified as having a learning disability and receives extra time as an accommodation on his assessments. The first year Foundations course involves weekly individual and group quizzes. David has expressed concern because he is able to receive accommodations for his individual assessment but not for the group assessment. He has been told that, because this is a group effort, giving him extra time would be unfair to the rest of the groups.

In the meantime, her second-year student, Shohreh, has also expressed concerns to Dr. Garcia. Much of the second year curriculum at this institution is spent working in small groups. As the only female in her group, Shohreh has noticed that her male classmates dominate the conversation and talk over her when she tries to contribute to the conversation. She feels that, when she is able to make a comment or suggestion, these are quickly dismissed by her male classmates. She notices that the male small group facilitator does not attempt to change the small group conversation dynamic and appears to enjoy bantering with the other male members of her small group.

Thought questions:
1. What are David’s legal rights to accommodations as a learning disabled student? What is Dr. Garcia’s responsibility in this situation?
2. What is a strengths-based approach that Dr. Garcia can use to identify and problem-solve Shohreh’s issue?
3. To whom should David’s and Shohreh’s concerns be directed?
strategies for success. It is necessary to understand that both the learner’s and the coach’s personal identities are each built upon a core set of values and beliefs that influences each one’s attitudes and behaviors. However, these values and beliefs are oftentimes unspoken and might not be readily apparent to either the learner or the coach. For coaches then, engaging in a trusting and productive coaching relationship involves identifying, acknowledging and understanding “deeply held beliefs, priorities, agendas, filters and assumptions” held by both the learner and the coach.¹ Thus, coaching is an evolving relationship of discovery for both the learner and the coach. It is this process of discovery that enhances the potential to deepen and enrich the coaching relationship and facilitates the self-actualization of the learner.

Micro-inequities² are conscious and subconscious patterns of behaviors which devalue another’s performance and/or contributions. Because micro-inequities emanate from an individual’s and/or institution’s own core values and beliefs, these micro-inequities are oftentimes directed at individuals/groups perceived to be different. Systemic micro-inequities can also occur in organizations where the organizational culture values the contributions of certain individuals/groups over others. Micro-inequities can prove to be an ongoing challenge for diverse learners, and a consistent topic for coaching encounters.

A learner’s lived experiences constitute experiential diversity, which is also a key feature of an individual’s identity. While this type of diversity is fundamental to an individual’s identity formation, it likewise informs his/her perspective on learning. Coaching involves accessing and validating the learner’s lived experiences in a non-judgmental fashion and using these as a platform to facilitate the learner’s self-actualization.

**Strengths-based coaching techniques to facilitate change**

**Appreciative inquiry (AI)**

Appreciative inquiry (AI) is a problem-solving framework that can be used by learners over and over to address personal and academic learning issues. It is an effective tool for preparing learners for change through encouragement and support.³ This positive, strengths-based approach to coaching works well for all populations, but particularly for diverse groups. It promotes diversity as a strength and integrates those diverse elements of a learner’s identity directly into plans, strategies, and solutions for success. AI focuses on having the learners take action based on their strengths and address those circumstances that are under their control rather than engaging in a deficit-oriented gap analysis. AI can be a useful format for identifying and addressing micro and systemic inequities. This provides a positive format for the learner to take risks and reset goals and expectations due to unexpected outcomes. For diverse learners, taking risks within a monolithic, hierarchy-driven culture such as medicine can pose significant challenges. By using AI, coaches can guide learners to identify their strengths and utilize them to problem-solve and reset while maintaining a positive mindset.

**Motivational interviewing (MI)**

Effective coaching within the MI framework includes a bottom-up approach in which the coach mindfully guides the learner to make his/her own decisions. The following are MI strategies for promoting autonomous motivation.⁴

**Engaging**: Create a non-judgmental, safe space in order to communicate and share
needs. For the coach, this involves recognizing and validating the learner’s needs in a respectful manner, regardless of one’s own values or beliefs. Creating this environment is exceptionally important for diverse learners whose needs might directly conflict with the values and beliefs of the coach and/or whose needs might not be readily understood by the coach. Coaching with empathy, open-ended inquiry, and reflection are key features of MI.

**Focusing:** Explore the differences between the learner’s goals and his/her current behaviors. For diverse learners, this is an opportunity to surface unspoken values and beliefs. For coaches, using a tool to document and help analyze the learner’s perceptions and decisions is a useful exercise. This can create a shared understanding of learners’ perceptions and provide a foundation for both the coach and learner from which strategize and promote change.

**Evoking:** Motivation rulers are useful tools for guiding the learners in their exploration of change. These rulers provide a tangible communication tool for the coach and learner to probe the learner’s perceptions and responses and gain a deeper understanding of the motivators and obstacles that influence the learner’s vision for change. For diverse learners, this is another opportunity to gain insight into unspoken values and beliefs that can serve as motivators and/or resistors to change.

**Planning:** Coaching for self-efficacy involves guiding the learner to engage in mastery exercises, which are activities an individual is able to accomplish on his/her own. These types of activities can be useful in reinforcing successful attitudes and behaviors. The coach also needs to guide the learner to set realistic goals and identify potential challenges in order to plan for success. For diverse learners, identifying visible and invisible barriers to success (such as micro- and systemic inequities) is essential to formulating realistic and actionable goals as part of a plan for success.

**Coaching for academic success**

Academic success can be influenced by many factors. Diverse ways of knowing and being can directly influence a learner’s path to success. Coaches and learners need to be informed about organizational and legal statutes and policies that exist to protect diverse learners and help to guide goal-setting and learning strategy development. Coaches should be aware of university support services for diverse learners such as the disability services office, the office for cultural diversity and inclusion, the Affirmative Action and Equal Opportunity (AAEO)/Title IX office, and student health services, among others.

Learners with learning disabilities have often experienced challenges or failure in their academic progress. Helping these learners regain confidence and develop skills for positive self-talk can be an important step in the coaching process and an essential step to facilitate the learner’s success. For learners who struggle and require more significant advising and resources, coaches need to be trained to recognize when learners have challenges that are beyond their own level of comfort and competence and direct the learner to the appropriate supports and resources. This could change the status of the coaching relationship depending on the needs, circumstances, and best interests of the learner. Working with the learner to maintain accountability helps the learner to monitor his/her performance and progress. As part of the self-directed learning process, it is important to create defined intervals for review and revision of goals and objectives, discuss successes, challenges and responses to challenges, as well as reflect...
Coaching for personal and professional success

Learners do not exist solely in an academic environment. They have additional roles and responsibilities within other domains of their lives that are equally significant. Issues occurring in these other domains can and oftentimes do influence behaviors and attitudes within the academic domain. Coaching involves an understanding and valuing of the whole learner, which includes recognizing how different aspects of the learner’s life might inform his/her academic performance. This is particularly relevant for diverse learners whose lived experiences can be very impactful in different ways from other learners and even from the lived experiences of the coaches.

### Cultural Social Intelligence Framework
(Adapted from Law et al. 2008)

<table>
<thead>
<tr>
<th>Personal competence:</th>
<th>Self-awareness, self acceptance, self-value, self-management</th>
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<tbody>
<tr>
<td>Social competence:</td>
<td>Empathy, management of relationships, ability to collaborate</td>
</tr>
<tr>
<td>Cultural competence:</td>
<td>Questions assumptions, respect for other cultures, manages organizational culture</td>
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<tr>
<td>Professional competence:</td>
<td>Giving, receiving and seeking authentic feedback from others</td>
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</tbody>
</table>
The roadmap to self-actualization for diverse learners can be more circuitous. Employing the principles of the Cultural Social Intelligence Framework, (CSI) above, which is an aspect of the Universal Integrated Framework can help coaches gain a better understanding of all learners, especially diverse learners. For coaches, ongoing mini-assessments of one’s own competence in each of the CSI domains can lead to greater self-awareness and a deeper understanding of the learner. For learners, examining interpersonal competence can likewise promote an increased understanding of one’s own viewpoints, emotions and behaviors and elucidate how those might inhibit or enhance a plan for success. Introspection can also assist learners to better understand different attitudes, behaviors and perspectives, thus facilitating learners to generate more realistic goals, plans and strategies to promote their success. Assessing competence in the CSI domains also provides the opportunity for the coach and learner to represent diversity as a strength and an essential asset for achieving success.

Determining when coaching is not enough

Coaching learners towards self-determination and self-actualization is an effortful and sometimes stressful endeavor with unforeseen obstacles. The trusting relationship between the coach and learner provides a solid platform for examining obstacles and avoiding unnecessary detours. If, however, there are psychological, physical, or emotional issues that are interfering with the learner’s ability to generate realistic goals and make autonomous decisions, then perhaps the coaching relationship is not adequate by itself to support the learner’s success. In these instances, the coach and learner need to reassess the role of their coaching relationship. This involves both the coach and the learner determining if the coaching relationship is an accelerant or an obstacle to the learner’s success and/or if other resources are more appropriate to continue to promote the learner’s success.

Adapting the coaching relationship to difficult coaching situations

Questions for coaches to determine whether to continue the coaching relationship (Adapted from Buckley and Buckley 2006 in Nash, 2013)

<table>
<thead>
<tr>
<th>Question</th>
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<tr>
<td>Is the issue separate from the coaching situation or does the coaching</td>
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<td>situation foster the issue?</td>
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<td>Is the issue temporary or likely to resolve itself in a few weeks?</td>
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<tr>
<td>How self-aware is the learner?</td>
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<tr>
<td>Does the learner have a realistic plan to deal or cope with this issue?</td>
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<tr>
<td>Is the issue something that may directly impact the coach?</td>
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It is important for coaches to work within their level of competence and have the self-awareness to recognize when an issue extends beyond the goals of the coaching relationship. When an issue is identified outside the boundaries of coaching, the coach should provide the learner with a menu of resources to address the issue.

Effective coaching skills include knowledge of organizational resources that support all learners; however, even more important for coaches is the knowledge about the laws, policies, and protections in place at the local, state, and federal levels to support diverse learners. Facility with these regulations can help guide the learners to generate more realistic goals and actionable plans. Additionally, reviewing the ethical guidelines/policies for coaching at one’s organization helps clarify the coach’s role, boundaries, and expectations for both the learner and the coach.

For diverse learners, coaches need a working knowledge of the organizational and legal policies and statutes as they pertain to diverse populations. If the learner reports discrimination or sexual harassment, the coach is obliged to report these to the appropriate office/department. In these cases, it is equally important for the coach to let the learners know these types of claims must be reported and will most likely be investigated. While seemingly numerous, these policies/laws provide a roadmap for both the coach and learner to better assess potential issues related to diversity and serve as guides for generating solutions.

The following are coaching modalities that can be adapted to different coaching issues and situations. In each of the following models, coach needs to maintain trust, emotional equilibrium and confidentiality, regardless of the circumstances.

1. One-on-one coaching:
   When an issue arises, the coach and learner evaluate the impact of the issue and whether the coaching relationship should continue. This should be a transparent and ongoing discussion to make certain continuing the coaching relationship is in the learner’s best interest.

2. Coaching interventions:
   If the coach feels the learner is no longer able to make autonomous decisions, then it is appropriate to refer the learner to psychological support staff, even if the learner does not want it. (This should be clarified in the coaching agreement.) Referral to a mental health professional usually signals the end of the coaching agreement and the coach should refrain from contacting the learner. Once the psychological issues are resolved, the learner can work with a new coach.

3. Discontinuing the coaching relationship:
   If there are clear violations of legal and/or ethical statutes and/or the coaching agreement, then the coaching relationship should be immediately terminated. If the coach has doubt about whether to discontinue the coaching relationship based on less obvious issues or infractions, then, without breeching confidentiality, the coach should discuss the matter with a supervisor or coaching colleague and refer to the coaching guidelines provided by the organization. The decision to discontinue the coaching relationship should be directly communicated to the learner once the decision has been made.

**Diversity training for coaches**

Working with diverse learners requires an understanding of the learners’ needs as well as their legal, social, and organizational protections. Diversity training is recommended for all coaches. A list of available diversity training resources is included in Appendix 3.
In review

David’s concerns are valid. He has been identified as having a learning disability and is receiving accommodations of extra time on his assessments. Accommodations apply to all of David’s assessments. Failure to uniformly provide David with accommodations on all of his assessments could potentially result in a violation of David’s rights. As a part of diversity training, coaches should be made aware of the rights of learners with disabilities and the organizational resources and supports available to assist them. David’s coach should guide David to access those resources immediately and notify the learning specialist or disability services office of his situation.

Shohreh’s concerns are valid in her eyes as well and need to be acknowledged and explored by Shohreh with her coach. Using the Cultural Social Intelligence tool from the Universal Integrated Framework is a positive method for exploring Shohreh’s feelings and gaining insight into her perceptions and the issues that she is experiencing. Appreciative Inquiry is an effective strengths-based method to validate Shohreh’s perceptions of her situation and to assist her in setting realistic goals for resolving these issues. As a part of diversity training, coaches should be made aware of the organizational resources and supports to assist learners who feel they are experiencing micro-inequities. As part of the coaching session, Shohreh’s coach should provide these resources to her and encourage her to access them. Should Shohreh’s perceptions escalate to the point where she feels that she is experiencing discrimination, the coach should immediately refer her to the Department for the Equal Employment Opportunity Commission (EEOC) for review.

Conclusion

Diversity is a broad topic with cultural and legal implications for diverse learners. Academic coaches should receive diversity training to develop a basic understanding of the unique needs and protections for diverse learners. Diversity is a strength that coaches should represent as such when working with diverse learners. Useful methodologies that focus on building on learners’ strengths and engaging them in strengths-based problem-solving and goal-setting are Appreciative Inquiry and Motivational Interviewing. The Cultural Social Intelligence Framework is a tool for exploring learners’ perceptions and behaviors that can promote or prevent achieving success. Coaches and learners need to continuously evaluate the efficacy of the coaching relationship and work together to reconfigure it appropriately to ensure the learner’s success.
References


Chapter 6: Evaluating coaching programs
Elza Mylona, PhD, MBA; Richard Van Eck, PhD

Take home points
1. Program evaluation depends on the goals; the clearer they are, the more effective the program will be.
2. Evaluation models are powerful tools, but expertise in using them is critical.
3. Evaluation begins before, and continues after, the intervention itself.
4. Success criteria should be defined and stakeholders’ participation ensured before choosing evaluation measures.

Impact of coaching
Coaching has the potential to facilitate developmental changes for individuals and organizations. In business settings, coaching programs offer an accessible and cost-effective option because they can help executives adapt to new roles or environments on the job. Coaching is also considered one of the most powerful methods for developing soft skills. It may also be used as a remedy for poor performance or to help navigate extreme organizational changes. While there is evidence that coaching can be effective, there remains a need for more rigorous evaluation. This chapter will outline some of the key aspects of effective evaluation of coaching programs.

Program evaluation
Program evaluation is the systematic collection and analysis of information related to the design, implementation and outcomes of a program for the purpose of monitoring and improving its quality and effectiveness. Information is collected systematically and deliberately, following the same rigorous methods applied in other types of research.

Vignette
Vick Reardon has been hired as the dean for faculty development at a medical school. His dean has asked him to evaluate a coaching program where faculty who are great teachers are chosen to serve as coaches.

The dean wants to know if the program has produced meaningful outcomes to justify the stipends she pays to fund it. She wants documented, “evidence-based results.”

Vick finds little documentation about how the program was designed or what problem(s) it was intended to solve, let alone any data regarding its efficacy. An analysis of instructor rating forms completed by students each semester shows no statistically significant differences before or after the implementation of the program.

Thought questions:
If you were in Vick’s place, what would you tell the dean about:
1. The timing of the evaluation planning in relation to the program,
2. The quality of the program as designed and implemented, and
3. Whether it is possible to answer her evaluation question and, if so, what would be required?
to identify whether the program is effective and what contributes to the success of the program. Evaluations can be done for many purposes, including to demonstrate program effectiveness to funders, to improve the implementation and effectiveness of programs, to manage limited resources, to justify program funding, to satisfy ethical responsibility to clients, or to document program development and activities to help ensure successful replication. Regardless of the purpose, all program evaluations share six activities in common.

Table 1. Typical program evaluation activities

<table>
<thead>
<tr>
<th>Activity</th>
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<tbody>
<tr>
<td>Posing questions about the program</td>
</tr>
<tr>
<td>Setting standards for effectiveness</td>
</tr>
<tr>
<td>Designing the evaluation and selecting the participants</td>
</tr>
<tr>
<td>Collecting data</td>
</tr>
<tr>
<td>Analyzing data</td>
</tr>
<tr>
<td>Reporting results</td>
</tr>
</tbody>
</table>

### Posing evaluation questions

Program evaluation starts with one or more questions, sometimes simple and easy to answer but more often complex. A good place to start in developing evaluation questions is by asking questions such as, Why do we want to evaluate this program? How will we use the results? What are the evaluation goals of the stakeholders? What will tell us whether the program is performing as designed?

### Table 2. Common program evaluation questions

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent did the program achieve its goals and objectives?</td>
</tr>
<tr>
<td>For which individuals or groups was the program more effective?</td>
</tr>
<tr>
<td>What are the characteristics of the individuals or groups who participated?</td>
</tr>
<tr>
<td>How enduring were the effects?</td>
</tr>
<tr>
<td>Which features (activities, settings, management strategies) of the program were most effective?</td>
</tr>
<tr>
<td>To what extent are the program’s objectives and activities applicable to other settings/institutions?</td>
</tr>
<tr>
<td>What are the relationships between the cost and the effects of the program?</td>
</tr>
<tr>
<td>To what extent did changes in social, financial, political, etc., circumstances influence the program's support and outcomes?</td>
</tr>
</tbody>
</table>

### Setting standards for effectiveness

Program evaluations are concerned with evidence of program effectiveness. Programs are often measured against particular standards; the more specific the standards are, the easier they are to measure. Standards can be established by reviewing other comparable programs, reviewing the literature, or relying on the consensus of experts. The challenge is to identify standards that are credible as well as appropriate and possible to measure.
Designing the evaluation and selecting the participants

Ideally, program evaluation should be considered concurrently with design of the coaching intervention, as the one can influence the other. Standard evaluation designs include comparing one group’s performance over time (when all participants have received the same training) or comparing two groups at one or more times (when some participants receive a different program or no program at all). Some of the general questions to consider at this point may include the following: How many measurements should be made? When should the measurements be made? How should the groups or individuals be chosen?

Collecting data

The process of collecting and measuring information on variables of interest enables one to answer stated research questions, test hypotheses, and evaluate outcomes. Some general principles to consider include finding out what data are already being collected, keeping the evaluation questions front and center to ensure only the necessary data are collected, collecting data from more than one source for each question, and collecting a mix of quantitative and qualitative data. Quantitative data are useful for discovering the magnitude of a phenomenon (e.g., outcomes, barriers, facilitators). Qualitative are useful to better understand the phenomenon (e.g., who benefits most from a program, what additional support is needed to improve outcomes).

Analyzing data and reporting results

The method of analysis depends on the evaluation questions and the standards selected. It is important to consider both the practical significance (how much impact the change represents) as well as statistical significance (whether the change is detectable by statistical measures). A lack of statistical significance may indicate that outcome measures were too ambitious or the desired behavioral change may take longer to emerge. Conversely, some “nonsignificant” findings may end up being useful for understanding or modifying the program. Interpreting results and drawing conclusions from program evaluations can be challenging. The involvement of stakeholders in reviewing findings and preliminary conclusions prior to writing a formal report is highly recommended.

Common types of program evaluations

Most program evaluations focus on outcomes, goals, or processes, as discussed below.

Outcome-based evaluations

Outcome evaluation is the most commonly requested evaluation by accrediting bodies. It assesses whether the program is producing the desired change. It focuses on what changed for program participants and how much difference those changes in turn made for them and the institution. These types of questions are among the most difficult to answer because it is not always possible to isolate the results of a program from other factors. Careful specification and alignment of program goals, outcome measures, and evaluation instruments and procedures is required. Siegfried argues that we should distinguish between 1) the general measures of success that include areas such as goal attainment, satisfaction of the participants involved, affect change, well-being, and life satisfaction and 2) the specific measures (outcomes), which will depend on the coaching intervention.
proposed or the problem being addressed, such as improvement of clinical skills, more effective coping with stress, or improvement of academic performance and attainment of competencies. Outcome-based questions may include questions like these: Did the coaching program succeed in helping students transition to residency? Was the program more successful with certain groups of students or specialties than with others? What aspects of the program did participants find gave the greatest benefit?

Goal-based evaluations

These types of evaluation look at the extent to which the coaching program has met its predetermined goals or objectives. They do not evaluate whether the goals themselves are valid, nor whether the measures of effectiveness being used are effective. Goals-based evaluation questions include questions such as these: How were the goals of the program established? Was the process effective? If not, why? What is the status of the program’s progress toward achieving its goals? Will the goals be achieved based on the time line established? If not, why? Do the people involved in the program have adequate resources (time, training, facilities, and budget) to achieve the goals? How should priorities be changed to ensure completion of goals?

Process-based evaluations

Process-based evaluations focus on the program’s activities rather than its outcomes. Activities may include the types and quantities of services delivered, the beneficiaries of those services, the resources used to deliver the services, the practical problems encountered, and the ways such problems were resolved. Process evaluations are similar to the concept of implementation fidelity studies, in which one measures how well the intervention was implemented and allow others to replicate the programs in other settings and contexts. In this sense, many program evaluations will include some form of process-based evaluation. Process evaluation questions may include these: Was the coaching program successful? If so, how and why? What were the kinds of problems encountered in delivering the program? Was the program well managed? Were participants trained or educated to the right level for the program? Was there adequate support for the program?

Common evaluation models

One of the best ways to come to grips with the evaluation process is to become an expert with one or more models for evaluation. These models serve as heuristics to scaffold the evaluation in ways that make the process more manageable.

Kirkpatrick’s model

Kirkpatrick’s model has been widely used for conducting outcome evaluations of training programs. This model supports the gathering of data to assess four “levels” of program outcomes.
<table>
<thead>
<tr>
<th>Levels</th>
<th>Key features</th>
<th>Cautions and caveats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 1: Reaction/satisfaction</td>
<td>Evaluates how participants perceive the training.</td>
<td>Measures perception, not learning.</td>
</tr>
<tr>
<td>Level 2: Learning</td>
<td>Evaluates actual learning.</td>
<td>Should be measured before and after training.</td>
</tr>
<tr>
<td>Level 3: Behavior</td>
<td>Whether what was learned (L2) actually transfers to workplace.</td>
<td>May take weeks or months to manifest/assess.</td>
</tr>
<tr>
<td></td>
<td>Focus is on behavioral changes</td>
<td>Environmental pressures may prevent change.</td>
</tr>
<tr>
<td></td>
<td>Observations/interviews with employees/supervisors are common.</td>
<td></td>
</tr>
<tr>
<td>Level 4: Results</td>
<td>Impact of changed behavior on the organization.</td>
<td>Requires significant resources/long-term commitment.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Best reserved for mission-critical outcomes and long-term programs.</td>
</tr>
</tbody>
</table>
The logic model

This model represents a narrative or graphic depiction of real-life processes that communicate the underlying assumptions upon which a specific activity is expected to lead to a specific result. It describes logical linkages among program resources, activities, outputs, and audience and short, intermediate, and long-term outcomes. It can be very linear in its approach to planning and evaluation, which may oversimplify the complexity of training interventions.

Table 4. The logic model

<table>
<thead>
<tr>
<th>Component</th>
<th>Key features</th>
<th>Cautions and caveats</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inputs</td>
<td>Everything invested in the program (e.g., knowledge, skills, expertise, funding resources, time, facilities, equipment, technology).</td>
<td>Does not measure actual learning. Creating inventory of “inputs” helps stakeholders understand scope and commitment.</td>
</tr>
<tr>
<td>Activities</td>
<td>Explicit ordering of activities expected to take place.</td>
<td>Sequence should illustrate interdependency of activities.</td>
</tr>
<tr>
<td></td>
<td>Specific sequence of activities in the model.</td>
<td>Each activity requires its own measurement criteria.</td>
</tr>
<tr>
<td></td>
<td>Results of measurement used to make adjustments to activities or outputs.</td>
<td></td>
</tr>
<tr>
<td>Outputs</td>
<td>The things done as a result of the activities (e.g., develop curriculum or other resources, conduct training, recruit coaches, deliver workshops) and the activities of people impacted.</td>
<td>Every activity must have at least one output. One output may have more than one activity associated. One activity may have multiple outputs.</td>
</tr>
<tr>
<td>Outcomes</td>
<td>Outcomes answer this: “What happened as a result of the program?”</td>
<td>Short term = Kirkpatrick’s Level 2.</td>
</tr>
<tr>
<td></td>
<td>Short term (e.g., demonstration of knowledge, skills, attitudes, awareness, opinions, motivations).</td>
<td>Intermediate term = Kirkpatrick’s Level 3.</td>
</tr>
<tr>
<td></td>
<td>Intermediate term (e.g., changes in participant practice or behaviors exhibited by participants or institution, polices adopted by the institution).</td>
<td>Long term = Kirkpatrick’s Level 4.</td>
</tr>
<tr>
<td></td>
<td>Long term (e.g., changes in faculty compensation plan to support coaching, improved teamwork and collaboration).</td>
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</tbody>
</table>
In review

The scenario presented in the beginning, while perhaps extreme, is indicative of the major threats faced when designing and evaluating coaching programs.

Vick can tell the dean that evaluation planning should have been done at the same time as the planning of the program. Evaluation shapes implementation (e.g., documentation and data collection procedures, benchmarks for performance), and program needs determine evaluation methods (e.g., models, measurement). Without knowing the goals of the program and the measurement criteria envisioned, Vick and the dean cannot make definitive statements about program quality. Observation would suggest, however, that participants are not aware of criteria, that implementation fidelity is therefore weak, and that efficacy data have not been designed nor systematically collected. Furthermore, it is not currently possible to answer the dean’s evaluation question. Evaluation components will have to be recreated, measurement tools designed, implementation guidelines generated and applied, questions formulated, and an evaluation model selected and implemented over at least the next year.

Conclusion

While program evaluations may seem complicated, expensive, or even overwhelming, they are critical for improving programs. Evaluations can provide process data on the successes and challenges of early implementation or, for more mature programs, can provide outcome data on program participants. The information obtained can help to target program resources in the most cost-efficient way. The key is to understand the questions to be answered and adopt an appropriate, familiar model while conducting evaluation concurrently with program design. Then how well the program is being implemented (process) can be measured as well as its impact on the organization (outcomes or goals).
References


4. ACGME. Accreditation council for graduate medical education: glossary of terms. *Accreditation Council for Graduate Medical Education*. 2013. Available at: https://www.acgme.org/Portals/0/PDFs/ab_ACGMEglossary.pdf


Chapter 7: Creating, supporting and sustaining a coaching program
Sandrijn van Schaik, MD PhD; Sharon Obadia, DO, FNAOME

Take home points
1. A needs-based rationale for initiating a coaching program should be well articulated.
2. Stakeholder support should be assured and expected outcomes clarified.
3. A unique job description to recruit optimal faculty for the coaching program is needed along with effective faculty development.
4. Coaching program success should be celebrated and community-of-practice support nurtured.

Building a coaching program
Before initiating a new program, the rationale for the program and the stakeholders that stand to gain from the program need to be identified. There are several useful frameworks for program development; educators may be most familiar with the Kern model for curriculum development, which can be applied to the development of a coaching program. The first two steps in Kern’s model are problem identification and needs assessment. Problem identification outlines the exact gap or challenge that a coaching program is attempting to address. Although a consensus definition of academic coaching exists, each institution has unique areas that a coaching program might impact, leading to variations in the scope of the coaching job. What is the gap or challenge that the institution hopes to address with coaches? Who are the stakeholders? Does it seem feasible, based on the definition and scope of practice of coaches as outlined in prior chapters, that a coaching program will successfully address this issue? What types of outcome measures will the stakeholders request, and what changes do they expect as a result of the coaching program? The details of

Vignette
The Northeast Valley Medical School has recently obtained funding to begin its much-anticipated coaching program. A general call for applications to become a coach went out to the small, yet enthusiastic faculty. Dr. Patel, a microbiologist, promptly submitted his application. He has no formal coaching training, but has been teaching microbiology to medical students for 15 years. Within his teaching duties at the school, Dr. Patel is a small groups facilitator for the school’s problem-based learning curriculum and has been a faculty academic advisor to five first-year medical students each academic year for the past 13 years.

Thought questions:
1. Is Dr. Patel a viable candidate to become an effective coach?
2. What specific faculty development should be offered to Dr. Patel if he were to be selected as a coach?
3. How could Dr. Patel best be supported in a new coaching role?
assessment and evaluation are covered in the previous chapter, but it is important to have clear discussions about expectations upfront. Another advance conversation should be about financial support – which stakeholder(s) will pay for the coaching program? What is the budget? To determine the exact cost of a coaching program, a more detailed needs assessment is necessary. It should be made clear to stakeholders at the initiation that coaching requires faculty who commit their time, and without funding, a coaching program is not sustainable.

A needs assessment hones in on the exact skills and competencies required of coaches in the context of the institution. It also defines the resources needed to get the coaching program off the ground. Individual conversations, focus groups, and/or surveys can be used to conduct such a needs assessment. The essential questions are:

1. What tasks should coaches be performing in order to address the gap(s) or challenges identified, from the perspective of multiple stakeholders (students, faculty, staff, educational leadership)?
2. What personal attributes and/or skills are required of coaches in order to do this job well?
3. What resources already exist that could support a new coaching program?

This helps to identify who, if anyone, is currently performing portions of the tasks expected of the new coaches. In many medical schools, a coaching program replaces a more fragmented system of assessment, advising, and assistance with learning planning. Identifying such systems and the associated faculty serves several purposes. First and foremost, delineating how the new coaching program will interact with pre-existing systems is essential to avoid redundancy and inefficiency. Secondly, the experience and expertise of the faculty involved in existing systems may be useful for the development of coaches. In addition, these faculty members may be strong candidates for the new coaching program and/or can help identify others.

Determining the amount of financial support required is an important aspect of the needs assessment. Examples from other institutions can be useful, but remember that there may be significant variability in the scope of coaching responsibilities between different programs. Appendix 4 provides examples of several programs, and illustrates the variability in both scope and support among programs. Note that these examples are from comprehensive coaching programs that assign a coach to all students at an institution. Some programs assign coaches to a subset of students, for example students whose performance falls within the lower academic quartile at a school.

**Recruiting coaches**

The needs assessment outlined in section 1 is essential pre-work for recruitment of faculty to become coaches. It helps identify the required skills that will inform a job description for the coaching position. A job description should clearly describe the roles and responsibilities of a coach, but also delineate required versus desirable prior experiences and expertise. It is important to remember that coaching requires skills that are different from those needed for traditional mentoring and advising roles. Therefore, it is likely that few faculty will already have those unique coaching skills. This obviously has implications for faculty development, but also for recruitment. Requiring that successful applicants already have the essential coaching skill set will likely limit the pool at an institution greatly. Therefore, related skills and relevant experiences in which those skills were applied should be included in the review of applicants. For example, discussing
feedback with trainees tends to be a large component of the job of a coach, thus evidence of experiences with feedback may be an important qualification. Other examples of coaching-related characteristics include strong communication skills, experience with mentorship, understanding of learning plans, experience with goal setting, organizational skills, amongst others. There may be institution specific aspects to the coaching role that need attention, but again, if this is a new program, being too restrictive may limit the pool of qualified applicants.

Recruitment efforts should not only consider individuals, but also the community of coaches that individual coaches contribute to. Diversity should be a goal. Having a diverse group of coaches is needed to support a diverse student body. Depending on the exact goals of the coaching program and institutional needs and characteristics, diversity across departments, training sites, clinical versus non-clinical faculty, academic rank, etc. may also be needed.

It is important to connect with and engage leadership from various departments and programs in the recruitment process. Emphasizing the importance of the coach role, the innovative nature of the program and quoting successes from other institutions are all strategies to elevate the status of the coaching program and ensure that strong candidates apply to the program. An overabundance of applicants would be a sign of success in this regard, although it creates the difficult task of applicant selection.

So how are the best coaches selected? There is probably not one perfect approach, but strategies to consider include standardized behavioral interviews, use of case scenarios, and multiple group interviews. Standardized interview questions limit bias, and ensure that each candidate is evaluated on the same criteria. Using one or two case scenarios help in obtaining a sense of a candidate’s real life response to certain situations; good examples describe challenging situations that coaches might encounter with students, such as discussing disconfirming feedback. Group interviews can also decrease bias, and multiple interviews by different people may create deeper insights into a candidate’s strengths and weaknesses. Consider creating a selection committee that not only includes educational leadership, but also faculty and staff who will work directly with coaches. Recruiting coaches typically means recruiting faculty from within an institution, and often candidates are known to people on the selection committee. Despite our recommendations to use strategies that minimize bias, it is advisable to take all insider information regarding lapses in professionalism and respectful communication and teamwork seriously. Success in the coaching role is strongly dependent on solid communication skills, and, while not part of the definition, role modeling is almost an inherent part of being a coach. Hence, any red flags in a prospective coach’s file require careful investigation.

Most programs hire their coaches in one or multiple cohorts and aim to maintain faculty in the coaching role for several years. But, once the coaching program is established there will be inevitable turnover, as well as short and longer term absences that create gaps that needs to be filled. Some programs build in a reserve by training more coaches than needed or create a back-up system by wait-listing faculty from the initial pool of candidates for future openings. An alternative solution is to have other coaches temporarily assume responsibility for students assigned to a coach needing a leave of absence. Whichever system is put in place, it is advisable to think of this ahead of time and create a mechanism for the smooth and consistent on-boarding of new coaches.
Faculty development

A clear problem identification and needs assessment as outlined in the first section of this chapter, followed by delineation of required skills as discussed in the second section, will lay the foundation for the next step: setting goals and objectives for faculty development.

Once coaches are identified, an additional, more specific needs assessment may be useful, to assist with determining what the prospective coaches need most and which educational strategies might work best. To maximize the chances of success for a new program, it is important to make sure that all coaches have a shared understanding of their role and the goals of the program. Make sure to clarify definitions, explain how coaching is different from mentoring and advising, and be explicit about expectations.

In considering faculty development modalities, it is helpful to separate content knowledge from skills, especially if time for in-person faculty development work is limited. Content knowledge, such as policies, guidelines, curricular content students engage with, etc. tends to be amenable to self-regulated learning strategies. Whether delivered as reading materials or on-line modules, the coaches can explore the content in their own time at their own pace. Skill building and application of knowledge is often best accomplished in small group settings through workshops, case discussions, role-plays or other experiential learning activities. Simulated student scenarios are one such experiential learning strategy with which a few coaching programs have had great success as it allows for practice of skills, as well as direct observation and feedback. Most coaching programs utilize a combination of strategies.

The list of required knowledge and skills may be long, and there is inevitably a need to prioritize. It may be tempting to try to do a lot of faculty development up front in an orientation, but there is benefit to spaced learning and allowing time for deliberate practice. In addition, coaches may identify areas for further improvement as they encounter challenging situations and gain experience in their coaching role. Ongoing needs assessment through surveys and focus groups, as well as informal and formal feedback from the coaches themselves and from their learners can help establish goals and objectives for ongoing faculty development. An on-line repository for reading materials and on-line modules, videos etc. can be extremely useful to support coach faculty development, and, depending on the platform used, can also serve as an on-line forum to share experiences, ask questions, and suggest ideas.

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Program Goals  Coach Recruitment  Coach Development  Coach Feedback
Coaching and supporting coaches: Models for improvement and communities of practice

Ideally, a coach models the behaviors that are expected of the students. This includes evaluation of assessment data, reflection, goal setting, and seeking input from others or their own coach. Asking coaches to create their own individualized development plan with SMART goals is one way to have them authentically experience what is expected of the students. SMART goals are Specific, Measurable, Achievable, Relevant, and Time-related. This activity also stimulates self-improvement and encourages further professional development. An educator’s portfolio can be embedded in such an individual development plan, which is especially useful if the institution uses the educator’s portfolio for academic promotions. Portfolios and individual development plans are most useful if coaching is a part of the process, thus determining who will coach the coach is important. Peer-to-peer mentoring may be a good approach, but some level of oversight and support for the struggling coach is likely required from leadership. In addition, the coaching role may provide opportunities for scholarship that can be explored in the goal setting/strategic planning part of a portfolio or development plan.

Certainly, peer-to-peer mentoring can be extremely valuable and in particular, for a new coaching program, it can facilitate opportunities for coaches to learn from each other, which can expedite their development of coaching expertise. Such opportunities can help create a community of practice, defined as “a group of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly.” Strategies to support the formation of such a community of practice include regular meetings in which coaches interact with each other, structured peer observation and feedback programs, and on-line communities through an electronic learning environment or other platform that allows for exchange of ideas and resources.

Community building can further be enhanced with a collective celebration of accomplishments and sharing of success stories, for example during an annual reception or other celebratory gathering. This also creates an opportunity for coaches to learn of program outcomes and any proposed changes in direction, and provide input and program evaluation to grow the program further. Stakeholders who support the program should be invited to this event to keep them apprised of the success of the program and share in the celebration.
In review

Dr. Patel brings experience and strengths as a small groups facilitator of self-directed learners, providing feedback, and academic advising. These strengths may be readily transferrable to a new coaching role for Dr. Patel, and his background as a basic scientist is likely an asset as well. However, whether he is a good fit depends on the exact goals of the coaching program, and the community of coaches the institution is trying to establish. This should be established through the processes of problem identification and needs assessment.

Dr. Patel would likely benefit from a variety of faculty development offerings including those focused on content (for example, how coaching differs from traditional advising and mentoring) and those focusing on skill building (for example, workshops with role-plays to practice discussing feedback). The specific faculty development offerings best suited to Dr. Patel's needs depend on the exact tasks expected of him as a coach, his prior knowledge, and existing skill set. These are best elucidated through a targeted needs assessment, which should also address what modalities best fit his needs and schedule.

Since this is a new program, establishing a community of practice for the coaching program would be a great approach to ongoing support for Dr. Patel. Such a community of practice can be established by ensuring that Dr. Patel has opportunities to interact with other coaches, for example through scheduled interactive coaches' meetings, peer observation of his coaching with direct feedback, and/or an on-line community to share ideas.

Conclusion

Creating a coaching program starts with a problem definition: outlining what problem the coaching program is addressing for the various stakeholders at an institution. This helps define the skills coaches require to be successful, and this, in turn, helps identify suitable candidates for the job. Since for most institutions, coaching programs are new, faculty development to further skills will be needed and should be based on a targeted needs assessment. Creating a community of practice with a forum for peer-to-peer mentoring and feedback as well as a venue to celebrate the coaching program helps with ongoing growth, quality improvement, and sustainability.
References


Chapter 8: Coaching in graduate medical education

Kevin Parks, MD; Jennifer Miller, MD; Amy Westcott, MD, MHPE

Take home points

1. Coaching is appropriate in graduate medical education due to the goals of training and needs of the population.
2. Support from program leadership, facility and residents is required.
3. Time for coaching needs to be protected.
4. Good coaching may prevent burnout.
5. Recognizing residents’ propensity toward negative self-talk, a coach should focus on the positive, creating an environment of empowerment and resiliency.

From bunch-ball soccer to Olympic competition, athletes have coaches. In sports, it is a clear concept of what a coach is, and what a coach is not. A coach is someone who takes another from where they are to where they want to be. Traditionally, physicians in training have benefited from a model more like mentoring and advising than that of coaching. The pairs meet, but often with no schedule, no agenda, and no specific goals. Ultimately residents and faculty gain very little from these relationships, and often residents would choose other faculty members more aligned with their career interests, or research goals to serve as mentors. As has been outlined in previous chapters, coaching differs from this method in a variety of ways. This chapter will serve to outline some of the important aspects of coaching during graduate medical education (GME), residency and fellowship training.

Differences in coaching in GME

The mean age for matriculation into medical school has remained steady at 24-25 since 2013. It stands to reason that these students would make the transition to residency at age 28-29. Four years older, these individuals are more likely to endure life’s stressors typical of the age. Considering marriage, the illness of a family member, the purchase of a home, and (perhaps already purposely delayed) children, are all major life events that can be faced during GME. The stage of life for the majority of residents is different than those of medical students. Not only are things at

Vignette

Dr. Kevin is the faculty member assigned to coach a first year resident who has moved from out of state. He just got married and comes to Dr. Kevin to discuss physician wellness as an intern.

Thought questions:

1. What type of questions would you ask this resident to help him create a wellness plan for himself?
2. What resources exist at your institution to help residents with wellness?
home different, but the expectations and stress from work environment are very different. No longer are the stresses of work theoretical. Many residents will be face-to-face with end of life issues with family members for the first time, and all will be feel the pressure of making meaningful decisions in the lives of others. No one can escape this important and meaningful process to becoming a well-rounded physician.

Benefits of coaching

Even though medicine self-selects individuals who are driven, self-critical, and competitive, many residents perceive themselves as underperforming. While coaching is not a suitable replacement for evaluation and remediation of underperforming residents, this constellation of focus on the negative and inability to recognize one’s own successes leads to feeling like an intellectual fraud. This is also known as imposter syndrome.4,5 A coach can aid a resident in better self-evaluations, helping them to see their own strengths. A coach should focus on the positive, creating an environment of empowerment and resiliency.

This type of environment is key to preventing burnout, improving performance within residency, and contributing to overall improvements within the residency program. Physician burnout continues to receive more attention in both the lay media and scientific publications. While complete prevention may be difficult, residency programs have it in their own best interest to keep their residents psychologically grounded, while simultaneously addressing burnout’s association with sub-optimal patient care.6 Coaching provides a strategy to address these concerns.7,8 Coaching meetings serve as a periodic sign post, checking in with the successes throughout the training calendar. It allows those who focus on the negative and ignore the good to reflect to recognize the successes of their previously stated goals and re-connect with a faculty member in a non-threatening environment. This skill will benefit the young physician for the rest of their career.9 Programs that do this well, that create an environment and culture of resident growth and lifelong success, will find themselves benefiting from residents with positive energy and graduates who speak highly and promote the residency. It is to the benefit of residents, patients, and the program to create a strong coaching program.

Often overlooked are the many benefits to the coach in this type of model. Many academic physicians are interested in becoming part of the graduate medical education community. This is a perfect opportunity for a faculty member to get started in an important residency related leadership role with potential for career advancement. There are opportunities for collaboration with colleagues and development of important skills outside the realm of medicine. In addition, and always appealing to young faculty members, there is ample opportunity for scholarship.

A resident’s coach would be a person with whom one could reflect on personal performance as well as set and achieve goals for both long term and short term success. Positivity is the hallmark of the faculty/learner interaction. While each relationship and interaction may be different, the nature of the relationship should leave both the resident and the faculty member encouraged to continue forward in success, feeling assured that their actions are meaningful.

Challenges of coaching

While there are many benefits to a coaching program, there are also some challenges. One big challenge is the actual implementation of such a system. The first step is usually buy-in from departmental leadership. Lack of investment by
leadership has been the downfall of well-intentioned coaching programs. Communication between faculty who are coaching and program directors is another challenge. It should be an open dialog, and faculty who are coaches should be notified of concerns brought up for struggling residents. Faculty who are coaches would not officially report to the Clinical Competency Committee, although if there were significant concerns, they would communicate with program leadership. The hope is that the faculty who is coaching would be a person with whom a resident could work on the knowledge, skills, and attitudes necessary to become an excellent physician.

Coaching solutions

Few published examples of coaching programs in GME exist, with the most widely cited belonging to the coaching program at Harvard Medical School. Beginning with only internal medicine residents, this model has since been adopted by many other specialties. Nationally, over 25 residency programs have adapted Harvard’s program.

The program consists of quarterly meetings which follow the same format:

1. Check-in and agenda setting
2. Share a positive story
3. Engage in a coaching exercise
4. Set/revisit ideal goals for a perfect year
5. Set three-month goals for the next meeting.

Financial support for the coaching program director can range in FTE from .10 to 0.30, depending on how many training programs would be included in the program. Coaches themselves are volunteers, however, they are often recipients of institutional recognition, as well as other advantages.

As a primer for the program, the program director trains prospective coaches on the basics of coaching, gives a lecture on positive psychology, and models the dyad experience and relationship of coach to learner. Other support is offered throughout the year and an annual retreat for further skills development occurs to build the community of coaches. In order to create a protected space for reflection and exploration of goals, learners are paired with a coach from a different division or department. The majority of coaches start with two learners in the first year, and can take on an additional learner each year thereafter. Each dyad meets after the coach’s initial training, with prompt scheduling of quarterly meetings to continue until the end of the learner’s training.

It is important to handpick faculty coaches, when possible, and to protect faculty time to cultivate the relationship. In addition, the ISMART goal setting rubric and ways to evaluate and score ISMART goals using the specific rubric can be implemented.

ISMART goals:

1. Address IMPORTANT topics
2. Are SPECIFIC
3. Include MEASURABLE or clearly describable outcomes
4. Have a mechanism of ACCOUNTABILITY
5. Are REALISTIC
6. Have a TIMELINE for accomplishment.

The role of peer-to-peer mentoring models are still relatively unexplored, but has been shown to be an effective tool in other teaching modalities. Programs have the opportunity to shape a coaching program in the way that it best fits their own culture and specific needs.
In review

In revisiting the vignette, it is recommended that Dr. Kevin meet with the resident and ask him what his priorities are for the year, both professionally and personally. Residents hear of the stress that the intern year can put on a marriage, and they can be somewhat apprehensive about it.

Dr. Kevin can ask the resident to describe what his year would look like if it went perfectly well. After reflecting on those answers, you ask him to brainstorm on one attainable goal until you meet up again.

Dr. Kevin follows up with him in person in one month at the very least and by email as needed. When you meet you ask him if he has been able to accomplish his goal. If he has not, you explore with him why and help him utilize the available resources for wellness at your institution.

Conclusion

The coaching model is an effective tool for GME. While departmental support is generally required to free a coach’s time to work one on one with residents, the return on this investment is evident. By identifying specific needs of each individual resident and by focusing efforts on using strengths to overcome areas of weakness, coaching can enhance resident performance, improve medical care delivered, and may help prevent physician burnout.
References


Appendix 1

**Example of portfolio coaching contract**
_Oregon Health & Science University_

**Portfolio coach program**
The Colleges program was begun in 2012 with the core mission of inspiring and supporting students in defining and reaching their full potential. Portfolio Coaches listen to students’ reflections upon their educational experiences in order to improve performance. They assist students in creating and meeting academic goals.

**Coach and student relationship**
The coaching relationship requires active participation and commitment of both coach and student. As such, it is important to note the following:

- The relationship will change and develop over time, with ongoing discussion of coaching relationship and roles.
- Continuity of coaching pairs and meetings over the course of medical school is important.
- Trust is a core element of the relationship.
- Confidentiality is essential. The coach will not be involved in student grading or evaluation, including clinical rotations. Coaches cannot be made to reveal any information shared in a coaching session unless the student is in danger.

**Academic coaching agreement and expectations**

**Student expectations**
- Be open and honest with coach, including strengths, limitations, and challenges
- Be open to feedback
- Come to scheduled meetings on time and contact coach in advance with any potential schedule conflicts
- Come to meeting with an agenda: academics, wellness, academic and career goals, outside concerns, expectations
- Help coach define optimal ways to assist you
- Respond to coach communications in a timely manner
- Inform coach of any relevant problems or challenges (academic, personal or other) in a timely manner
- Support other members of cohort - in same class and other classes
- Follow through with mutually agreed upon plans/action items

**Coach expectations**
- Respond to student concerns in a timely manner
- Clarify desired methods of communication with student: email, text, etc.
- Review student evaluations and grades prior to meetings and identify areas of concern
- Follow up with prior concerns and action items
- Effectively document coaching sessions to assist with student growth, while maintaining appropriate confidentiality
- As needed, refer student to appropriate resources

____________________  ______________________  ________________
Student                                        Coach                                          Date
Appendix 2

Action plan example from the University of Connecticut

<table>
<thead>
<tr>
<th>Student Name</th>
<th>Capstone Proposal Plan</th>
<th>UCONN</th>
<th>SCHOOL OF MEDICINE</th>
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<tbody>
<tr>
<td><strong>Action Steps</strong></td>
<td><strong>Due date</strong></td>
<td><strong>Success criteria</strong></td>
<td><strong>Resources required</strong></td>
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<td>Click here to enter text.</td>
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<td>Identify potential mentors</td>
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<td>Click here to enter text.</td>
</tr>
<tr>
<td>Recruit mentor</td>
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<td>Click here to enter text.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Develop proposal</td>
<td>Click here to enter a date.</td>
<td>Click here to enter text.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Mentor approval of proposal</td>
<td>Click here to enter a date.</td>
<td>Click here to enter text.</td>
<td>Click here to enter text.</td>
</tr>
<tr>
<td>Submit Capstone proposal</td>
<td>Click here to enter a date.</td>
<td>Click here to enter text.</td>
<td>Click here to enter text.</td>
</tr>
</tbody>
</table>
Appendix 3

Diversity training resources for coaches


Diversity in the Health Care Workforce: http://www.nap.edu/books/030909125X/html/

National Women’s Law Center: http://www.nwlc.org

Association of American Medical Colleges: (AAMC) Tool for Assessment of Cultural Competence Training (TACCT): http://www.aamc.org/meded/tacct/start.htm

US Department of Health and Human Services: Cultural Competence Resources for Health Care Providers: http://www.hRSA.gov/culturalcompetence/curriculumguide

National Center for Cultural Competence (NCCC): http://www11.georgetown.edu/research/gucchd/nccc/

PBS Race Website: www.pbh.org/race
PBS What is Race Page: http://wwwpbs.org/race/001_WhatIsRace/001_00-home.htm
PBS Implicit and the Implicit Association Test (IAT): https://implicit.harvard.edu/implicit/

Understanding Prejudice (Social Psychology Network): http://www.understaningprejudice.org


Learning Disabilities Association of America: https://ldaamerica.org/

Museum of Tolerance: http://www.museumoftolerance.com/

National Multi-Cultural Institute: http://www.nmci.org/

Lambda Legal: https://www.lambdalegal.org

Cook Ross, Inc. Unconscious Bias Training: www.cookross.com
## Appendix 4

### Examples of comprehensive coaching programs: Scope and resources

<table>
<thead>
<tr>
<th>Institution</th>
<th>Scope of coaching role</th>
<th>Number of coaches in program</th>
<th>Number of students/coach</th>
<th>Time commitment</th>
<th>FTE</th>
<th>Funding source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ohio State University College of Medicine</td>
<td>Review of portfolio, performance rating of other students (coached by others) on OSCE</td>
<td>100</td>
<td>8–10</td>
<td>100 hrs/year incl 20 hrs/yr OSCE rating</td>
<td>.05</td>
<td>College of Medicine</td>
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<tr>
<td>Oregon Health Services University School of Medicine</td>
<td>Review of portfolio with assessments and learning plans, career advice</td>
<td>32</td>
<td>20</td>
<td>4 hrs/week (flexible times)</td>
<td>.1</td>
<td>UME education budget SOM</td>
</tr>
<tr>
<td>University of California San Francisco School of Medicine</td>
<td>Review of assessments (dashboard) and learning plans, career advice, clinical skills teaching, oversight student QI projects</td>
<td>56</td>
<td>12</td>
<td>1 assigned day/week</td>
<td>.2</td>
<td>Dean’s office SOM</td>
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<tr>
<td>University of Connecticut School of Medicine</td>
<td>Review of academic progress, goal setting</td>
<td>40</td>
<td>5*</td>
<td>90–100 hrs/year</td>
<td>.05</td>
<td></td>
</tr>
<tr>
<td>University of Michigan School of Medicine</td>
<td>Review of academic performance and goal setting</td>
<td>64</td>
<td>10–12</td>
<td>Regular 30 minute coaching sessions throughout the year (15–20 hrs/yr)</td>
<td>.02</td>
<td>Dean’s office SOM</td>
</tr>
</tbody>
</table>

*Coaches work in pairs (one clinical and one research faculty) to coach groups of 10 students*