
1. **Engage in Strategic Pre-planning**
   - Prepare and anticipate the wide variability in your student’s level of preparation, motivation, and skill before you begin researching.
   - Put careful consideration into planning your project based on your individual student’s needs and interests. Projects should:
     - Draw on skills that students already possess or can learn quickly
     - Begin at a theoretical level that a student is able to understand based on year in school/course background
     - Possess a modest scope that is easily manipulated
     - Produce results within the research timeframe

2. **Set Clear and Well-Scaffolder Expectations**
   - Effective mentors outline expectations at the beginning of the research period. Much like a syllabus, mentors should consider creating a research contract that articulates research goals and expectations in regards to interpersonal dynamics.
   - A student’s needs fluctuate during the research process. Be sensitive to the needs of your mentee and provide additional support early on to ensure student independence towards the end of your work together.

3. **Teach Technical Skills, Methods, and Techniques**
   - Mentors should spend time upfront instructing students in proper research procedures.
     - This should include technical skills as well as how to conduct research in a safe and ethical manner.
   - Research skill development should be personalized to each individual student’s goals and/or scholarly interests.

4. **Balance Rigorous Expectations with Emotional Support and Appropriate Personal Interest in Students**
   - Positive and constructive feedback—particularly during first attempts at writing about research—is critical to student success.
- Mentors should make a significant effort to learn about their student(s) emotional needs as well as their learning needs.
  - Fostering an appropriate personal relationship with a mentor includes:
    - High level of availability
    - Trustworthiness
    - Approachability
    - Capacity for network development
    - Close guidance during the writing and revision stages
- Social-emotional support of mentors has shown to be even more important for underrepresented minority students in undergraduate research.

5. Build Community Among Members of the Research Team
- Mentors working with more than one student at a time should seek to foster interpersonal relationships among team members.
- Regular meetings to debrief and share accomplishments/next steps as a team can contribute to a supportive research environment.
- Informal meetings outside of work time, such as attending lectures or activities based on common interests, are important for forming connections between students and mentors.

6. Dedicate Time to One-on-One, Hands-On Mentoring
- Even when working with a group of researchers, mentors should set aside one-on-one time with students for time-intensive and hands-on mentoring (weekly meetings, instating an open-door policy, etc.)
- Time spent with mentors during the research process and student learning are strongly related.

7. Increase Student Ownership Over Time
- Investing in one-on-one mentoring works to develop confidence in independent work among students.
  - Mentors should promote shared responsibility, shared power, and a collaborative work environment.
- Undergraduate Research Environments that promote student ownership:
  - Foster openness in regards to sharing thoughts and opinions
  - Understand how small/individual tasks relate to the larger goal of the research
  - Promote patience, active listening, and openness
  - Gradually increase student autonomy over the course of the research period
  - Provide work that will help to clarify or prepare students for future career coals and/or scholarly interests
8. Support Students’ Professional Development through Networking and Explaining Norms of the Discipline
   - Introducing students to colleagues on campus and at professional conferences is a vital part of encouraging professional development
   - Students reported that informal networking opportunities held off campus/ outside of conferences were more beneficial than presenting research.
   - Professional socialization by faculty mentors is particularly significant for underrepresented minority and first-generation students.

9. Create Intentional Opportunities for Peers and Near-Peers to Learn Mentoring Skills
   - When appropriate, mentors should consider using experienced or older students to replicate the role of mentor.

10. Encourage and Guide Students through the Dissemination of their Findings
    - Exposing students to the avenues for dissemination of their research (i.e. publications, conferences, etc.) is integral for developing appreciation for scholarly work and written and oral communication skills.
    - Successful mentors encouraged students to present findings in both informal settings and professional conferences.

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