Enhancing Faculty-Trainee Mentorship and Communication in the Basic & Translational Science Research Environment

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Background

- Academic basic and translational science research laboratories serve as the primary training environments for PhD graduate students and research postdoctoral fellows, and are led by research faculty whose success is intertwined with their ability to effectively recruit, train and lead teams of research trainees.

- There has been little effort to develop and support the mentoring skills of faculty research at our institution, particularly with respect to managing difficult training and mentoring issues.

- Trainee dissatisfaction with mentoring is associated with reduced advances in research, and poorer outcomes for student and postdoctoral trainees.

Overall Evaluation of Mentor Performance by PhD Students at Graduation

Lowest ranked areas:
- Guidance for personal and professional development
- Setting clear expectations for performance
- Timeliness of feedback
- Help in setting and reaching career goals
- Survey of PhD Students (n=125) at graduation (7.1.2020 to 12.31.2021)

Pie chart categories: Outstanding, Good, Acceptable, Poor, Very Poor
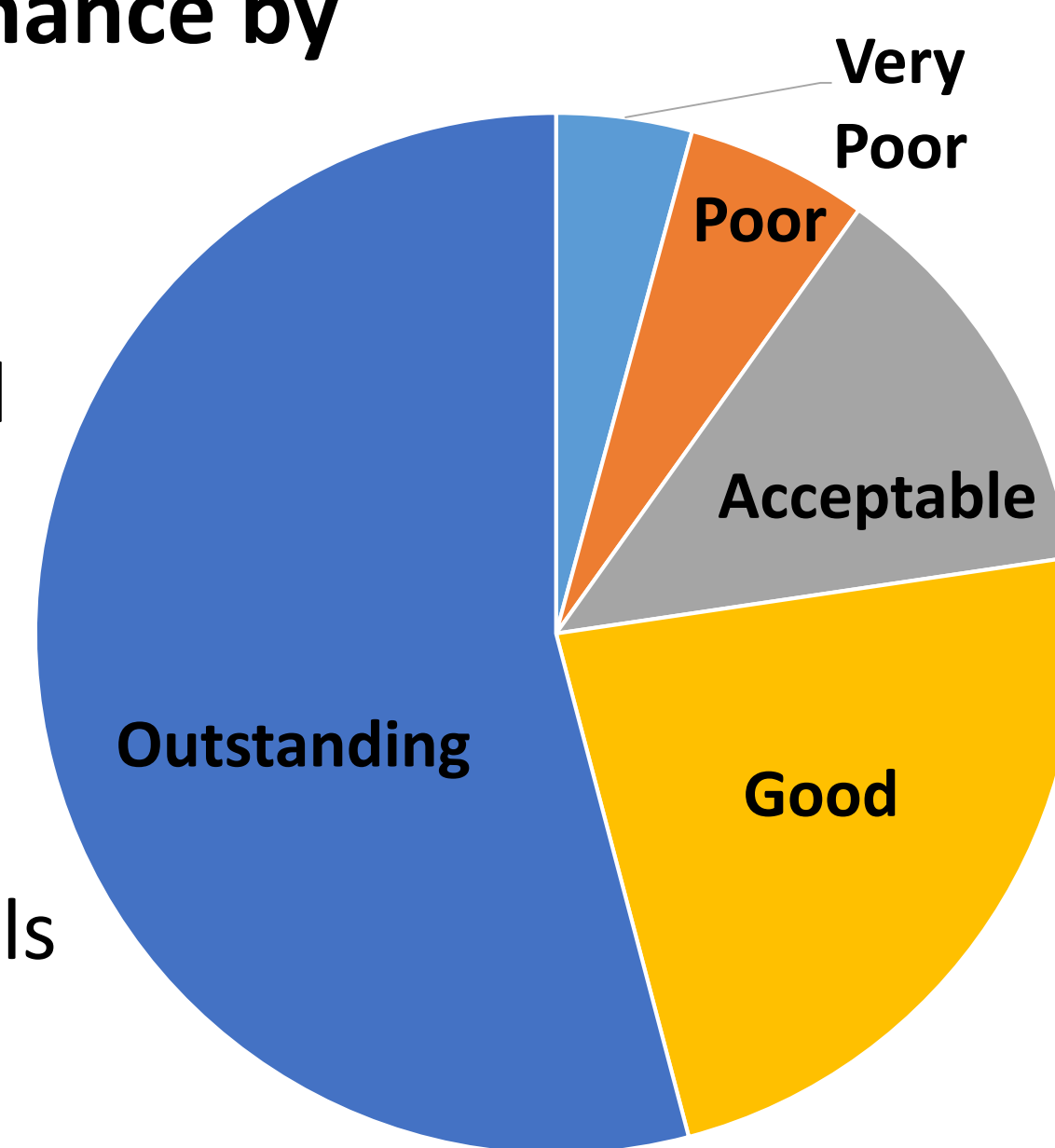
Purpose

Develop and implement training programs and resources for faculty and trainees that will:

- Support effective communication in research settings
- Foster productive mentor-mentee relationships
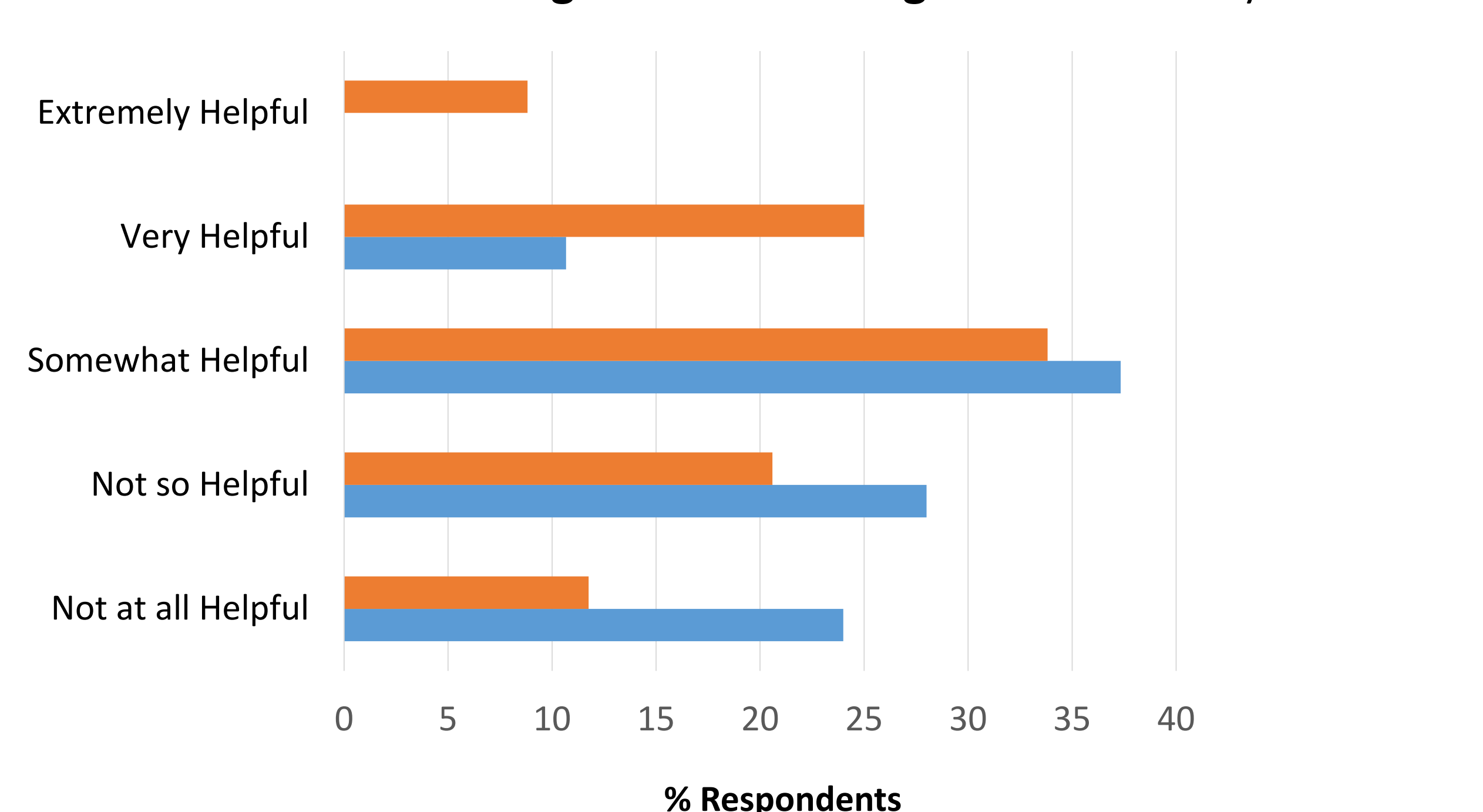- Yield greater satisfaction and productivity for faculty and trainees

Methods

- Surveys and focus groups of students, faculty and department chairs in basic science departments for needs assessment

- Development of new Individual Development Plan (IDP) process and tools with associated training resources for faculty & trainees

- Develop & implement mentee training workshops

- Expand capacity for providing mentor training to faculty & create research mentor handbook

Results: IDP

Usefulness of Current IDP for Guiding Student Training Goals   ■ Faculty   ■ Students

Bar chart categories (y-axis): Extremely Helpful, Very Helpful, Somewhat Helpful, Not so Helpful, Not at all Helpful
x-axis: % Respondents (0, 5, 10, 15, 20, 25, 30, 35, 40)

Approach:
- Review Literature & IDPs in use at other institutions
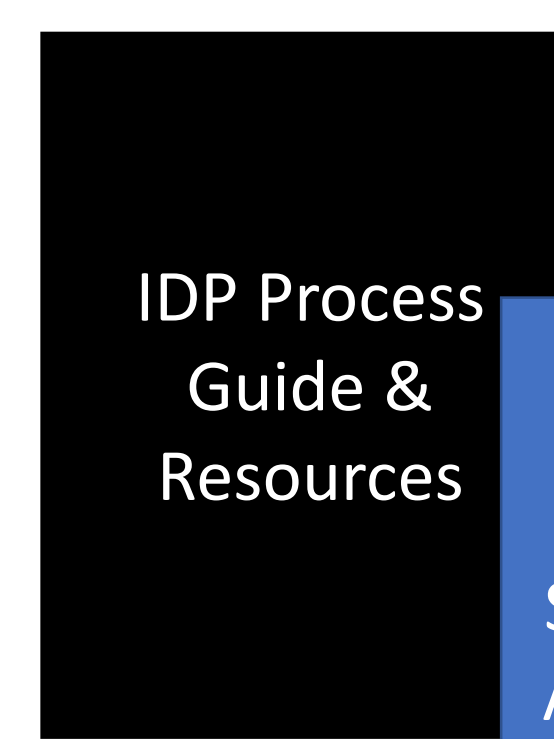- Collaborate with Career Development Center & Office of Faculty Development

New Process & Tool Development:
Faculty & Student Workgroup

Validate Proposed IDP with:
Graduate Program Directors
Graduate Student Council

New IDP Tools & Process

On-line Training for Faculty Mentors

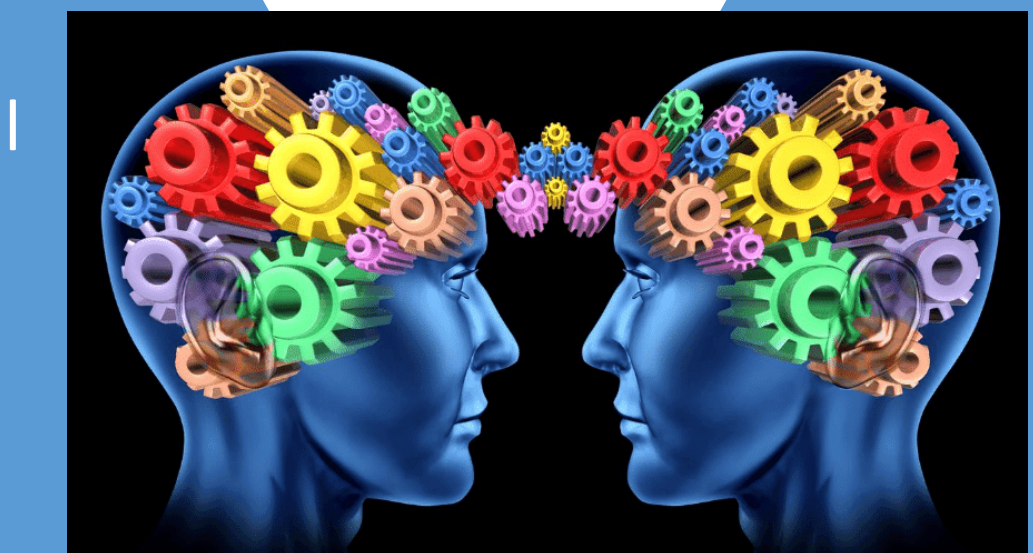**IDP Website**

IDP Process Guide & Resources

IDP Tools: Self Reflection, Assessments & Planner

Results: Mentor/Mentee Training

Mentor Training
- Hire Director of Professional Development & Mentor Training
- Recruit & train 3 additional faculty to facilitate mentor training
- Incentivize faculty participation

Mentee Training
- IDP & Career Introduction
- Mentoring Up Workshop
- Effective Communication Workshop
- Bench Mentor Training

Conclusions, Next Steps & Expected Impacts

Conclusions:
- ~23% PhD graduates rate their mentors as less than good
- Surveys and focus groups have been effective approaches to assess student & faculty concerns, learn about desired resources and identify participants for development work.

Next Steps:
- Assess new tools, improve, refine
- Develop remaining postdoc and faculty activities and resources

Revise IPD for Postdoctoral Fellows → Onboarding for Faculty Research Mentors → Faculty Mentor Handbook

- Assess faculty & trainee outcomes & satisfaction

Expected Impacts:
- Improved faculty and trainee satisfaction with mentor-mentee relationships
- Reduced trainee turnover in labs & greater research productivity
- Increased promotion and retention of research faculty
- Promotion of a respectful learning environment

Abstract: 2022 ELAM Institutional Action Project

Project Title: Enhancing Faculty-Trainee Mentorship and Communication in the Basic & Translational Science Research Environment

Name and Institution: Carolyn L Smith, Baylor College of Medicine

Collaborators: Biykem Bozkurt, Katherine King, Nancy Moreno, Fredrick Pereira, Robert Tillman,

Topic Category: Faculty Development

Background, Significance of Project: Academic basic and translational science research laboratories serve as the primary training environments for PhD graduate students and research postdoctoral fellows. Laboratories are led by research faculty whose success is intertwined with their ability to recruit, train and lead a team of research trainees to investigate important scientific questions and publish novel findings. There has been little effort to develop and support the mentoring skills of faculty research at our institution, particularly with respect to managing difficult training and mentoring issues. This leads to dissatisfaction with mentoring, reduced advances in research, and poorer outcomes for both faculty and their student and postdoc trainees. Addressing this deficiency in the research environment is expected to positively impact research faculty satisfaction, retention and promotion, as well as trainee outcomes.

Purpose/Objectives: Develop and implement training programs and resources for faculty and trainees that will support effective laboratory communication as well as foster productive and appropriate mentor-mentee relationships that will lead to greater overall satisfaction and productivity for faculty and trainees.

Methods/Approach/Evaluation Strategy: The methods used include: (a) surveys and focus groups of trainees, faculty and department chairs, (b) development of workshops, on-line training, websites and written materials, (c) communication plans and (d) incorporation of key processes into procedures for faculty and trainees. Short term evaluations will include a mixed methods approach to assess effectiveness of each training element, and overall faculty satisfaction with the professional development tools. Long term evaluations will assess faculty satisfaction, promotion and retention, trainee satisfaction with their research mentors and training, and measures of trainee outcomes.

Outcomes/Results: The College's capacity for mentor training was expanded and faculty participation in mentor training was incentivized. Workshops in effective communication were developed for students and postdoctoral fellows. The Graduate School's Individual Development Plan was re-designed to improve process, training and resources for trainees and faculty. In the next academic year, an onboarding program will be developed for new research faculty who train students and fellows, and a faculty mentor handbook delineating policies, resources and expectations will be made available to all faculty supervising research trainees.

Discussion/Potential Impact: Providing education to research faculty and their trainees on communication and mentoring skills is expected to improve faculty and trainee satisfaction with the mentor-mentee relationship and contribute to a respectful training environment that supports greater research productivity, and recruitment of new faculty as well as promotion and retention of current junior faculty. In parallel, improvements in trainee mentoring reinforce a respectful learning environment, further our commitment to equity and inclusion, signal an increase in faculty and institutional support of trainees, and are expected to improve training outcomes thereby increasing the competitiveness of our academic research programs.