Guidance for Writing T32 Curriculum and Evaluation Components

March 7, 2018

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Why proposals may not be funded.
Framework to guide writing the evaluation.
Describe quick fixes to common problems.
Educational Development & Evaluation services and successes
Ongoing evaluation studies
WHY PROPOSALS MAY NOT BE FUNDED
Lack of clarity.

Unclear relationship between grant objectives and outcomes.

Training program, grant aims, and outcomes lack alignment.

How training leads to competency attainment is uncertain.

Insufficient evaluation plan.
ENSURE DETAILS AND VERACITY

• How a training program is likely to result in a trainee’s developing an independent line of research, one that is distinguishable from that of the mentor is not well described.

SPECIFY INTENDED OUTCOMES/ BENEFITS

• Explanation of how the training study will result in intended outcomes and how those outcomes will be assessed is often not provided.
WRITING THE CURRICULUM AND EVALUATION SECTION
1. What will trainees experience, do, or study?

2. What are the objectives of the training program?

3. What is the sequence of training activities?

4. How will attainment of training program objectives be assessed?
• Use the guiding questions to frame the development of your proposal.
SHOW LINKAGES BETWEEN PROGRAM AIMS AND OBJECTIVES
1. Describe career development plan in detail.

2. Propose a training program that supersedes a graduate level degree program.

3. Identify how training program will enhance attainment of specific outcomes trainees seek.

4. Show relationship between coursework and proposed research.

5. Describe content and frequency of meetings with program mentors.

6. Explain how trainees’ work will help others, lead to improved or new clinical understandings, new studies, or is likely be cited by others in the field.
Quick Fixes to Common Problems
<table>
<thead>
<tr>
<th>Proposal Excerpt</th>
<th>Suggested Change</th>
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<tbody>
<tr>
<td>Research Development – Ability to:</td>
<td>o Based on reading of scientific literature, present and critique strengths and weaknesses of potential research designs that could be used to study research ideas.</td>
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<td>Participants… experience exposure to both disciplines through … courses and “side-by-side” training … gain an appreciation for the potential value of clinical and basic science research partnerships, to gain better understanding of the pathophysiology of chronic and critical research questions.</td>
<td>Through engagement in advanced coursework and working in mentor’s lab or clinic, trainees will be expected to: (1) identify overarching research questions, (2) develop a research study that that strengthens their knowledge of the underlying mechanisms related to pathophysiology of chronic pain that can lead to developing therapeutics, and (3) identify psycho-social interventions that will minimize chronic pain.</td>
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| Emphasizes use of regular meetings, both informal and formal, between trainees and core faculty; weekly informal discussions to create optimal environment for interaction between trainees and mentors. | • Mentees will meet with mentors during regularly scheduled weekly appointments and will be asked:  
  • to summarize their experiences, ask questions about what they did not understand.  
  • Through written work, trainee will be asked to show that s/he has the ability to: (a) locate the relevant research problem, (b) formulate research questions, (c) select the research design, and (d) describe data collection and analysis plan that corresponds to the research problem. |
WRITE A DETAILED EVALUATION PLAN

• Demonstrate alignment among program, process, and outcomes.
INCLUDE A LOGIC MODEL AND A TABLE THAT LINKS ASSESSMENT FOCI AND MEASURES
EVALUATION

Inputs
- UF CTSI Organization:
  - Leadership
  - Research Services, Education Programs, Community Engagement

- Funding:
  - CTSI Funds, KL2, Institutional Sponsored grants

- Faculty:
  - Mentors from 6 HSC Colleges, Program Leadership

- Learners:
  - PhD & Professional Degree Fellows and Jr. Faculty

- Training Programs:
  - KL2, MA, CRPC Degree Programs
  - CTS MS & PhD

- Assessment Plan:
  - CTS Core Competencies, Assessment Tools

- Motivations:
  - Demand for new models of research translation and need to diversify the workforce

Activities
- CTSI Coordination:
  - Education & Training Directive, KL2, Advisory Committee

- CTS Didactic Coursework:
  - Research Literacy, Leadership, Training for Educators, Grant Writing

- Mentored Team Research:
  - KL2 Scholar, KL2 Mentor Teams

- Professional Development:
  - Leadership, Communication, Research Management, Teaching

- Improved Attitudes Toward:
  - Team Science, Research Self-Efficacy, Cultural Competence, Collaboration Readiness, Leadership, Mentoring

- Career Development:
  - Individual Development Plans, Opportunity of onsite training at other CTSA's

- Career Trajectories:
  - Participation in Career Development

Outputs (Short-Term)
- New Courses:
  - Leadership for Innovators, Quantitative & Qualitative Research

- Academic Performance:
  - Course grade MS Degree, Certificate

- Research Performance:
  - CTS Competencies, Team Research Projects, CTS Review Papers, T0-T4 Dissertation Chapters, Publications

- Professionalism:
  - CTS Network for Professional Development in Multiple Professions

- Improved Attitudes Toward:
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- Career Development:
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- Career Trajectories:
  - Participation in Career Development

Outcomes (Long-Term)
- KL2 Graduates:
  - Transdisciplinary Clinical & Translational Team Science Expertise

- Effective Training:
  - Active Research Programs:
    - Research funding

- Research Performance:
  - CTS Competencies, Team Research Projects, CTS Review Papers, T0-T4 Dissertation Chapters, Publications

- Professionalism:
  - CTS Network for Professional Development in Multiple Professions

- Improved Attitudes Toward:
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- Career Development:
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- Career Trajectories:
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Impact Goals
- Cadre of CTSI Translational Research Leaders:
  - Across all Health Science Disciplines

- Team Science:
  - New UF Collaborative Research Projects, Projects across multiple health professions

- Scholarship:
  - Publications, Presentations, Intellectual Property

- Career Placement:
  - Academia, industry, government and community health research teams

- Innovative Translational Research

CTSA Goals
- National CTSA Consortium Supporting Clinical & Translational Research Work
- Innovative, Transdisciplinary Team Science Approaches to Improving Human Health
- Improved Health for Individuals and Populations
<table>
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<tr>
<th>Training Component</th>
<th>Assessment Foci</th>
<th>Metrics/Methods</th>
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<tr>
<td><strong>Input</strong></td>
<td><strong>Learners</strong></td>
<td>• Trainees’ background (Prior experience with research, publications and presentations)</td>
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<td>• Recruiting &amp; admissions</td>
<td>• Demographics</td>
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<td>• Diversity</td>
<td>• Semi-structured interviews</td>
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<td>• Research funding &amp; publications</td>
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<td>• Mentoring track record</td>
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<td>• Participations as mentors and instructors</td>
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<td><strong>Activities</strong></td>
<td><strong>Courses</strong></td>
<td>• Review of course syllabi</td>
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<td>• Plan/implementation alignment</td>
<td>• Enrollment</td>
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<td>• Quality of mentoring</td>
<td>• Course evaluations &amp; peer observation</td>
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<td>• Diversity</td>
<td>• Participation (number, demographics)</td>
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<td>• Meeting frequency</td>
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<td>• Faculty development of mentors</td>
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<td><strong>KL2 Research Teams</strong></td>
<td>• Plan/implementation alignment</td>
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<td>• Interdisciplinarity</td>
<td>• Impact on curriculum</td>
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<td>• Quality of instruction</td>
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<td><strong>KL2 Mentoring Teams</strong></td>
<td>• Content review</td>
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<td>• Interdisciplinarity</td>
<td>• Sessions offered, learner enrollment</td>
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<td>• Quality of mentoring</td>
<td>• Learner evaluations &amp; peer observation</td>
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<td>• Mapping to CTS competencies</td>
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<td>outputs (Short-Term)</td>
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<td>• Competency-based assessment</td>
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<td><strong>Academic Performance</strong></td>
<td>• Course completion, satisfactory grades, time-to-degree or certificate</td>
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<td>• CTS curriculum knowledge base</td>
<td>• Courses taught, enrollment</td>
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<td>• Research progress</td>
<td>• Mentorship Effectiveness Scale (learner)</td>
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<td>• Mentorship Profile Questionaire (faculty)</td>
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<td>• Quality of career development activities</td>
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<td>• Quality of learning</td>
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<td><strong>Attitudes</strong></td>
<td>• Cross-Disciplinary Collaborative Activities</td>
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<td>• Collaboration</td>
<td>• Research Orientation Scale</td>
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<td>• Interdisciplinarity</td>
<td>• Clinical Research Appraisal Inventory</td>
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<td>• Self-efficacy for CTS research</td>
<td>• Knowledge, Efficacy and Practices Instrument</td>
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<td>• Leadership</td>
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<td><strong>Scholarship</strong></td>
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<td>• Scholarships</td>
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1. Describe potential confounds in proposed research; explain how your proposal addresses/overcomes these limitations.

2. Provide a comprehensive overview of the literature; do not report selectively.

3. Write an analytical plan and use power analysis to support sample size.

4. Explain why proposed training is essential to the development of the scientists you propose to train.
ED & E SERVICES PROVIDED AND SUCCESS STORIES
Map (National Center for Advancing Translational Science) NCATS competencies to courses and program experiences.

Provide mentored experiences in conceptualizing and publishing educational research studies to health science faculty.

Analyze qualitative and quantitative data.

Align inputs and training activities with measurement foci and intended outcomes.
Write evaluation components of training and clinical science translational grants.

- Multiple T32 and R25 awards, and CTSA 2.0 renewal awards.

- Pending P20, U54, R38 and foundation grant proposals.
HRSA
- F. Catalanotto - Predoctoral Dental Education.
- F. Catalanotto & Behar-Horenstein - Dental Faculty Development.

T32
- M. Segal –REnal TrAlning & reteNtion (RETAIN)
- M. Fillingim – Integrative and Multidisciplinary Pain and Aging Research Training (IMPART) Program.
- W. C. Smith – Vision Grant.
FUNDED GRANTS

Pepper Center
- C. Leewenburgh - Pepper Older Americans Independence Center (REC)

R25
- F. Odedina - Florida Cancer ReTOOL Program for Underrepresented Minority Students

CTSA 2.0
- T. Pearson - KL2
- W. McCormack-TL1

Abbvie
- E. Zimmerman – IBD students transition to college
CTSI, ED&E

• Assess trainees core competencies, milestones, and academic performance.

• Provide opportunities that foster faculty growth in teaching scholarship, educational research, and assessment via the Educational Scholarship Program (ESP): http://facdev.ufhealth.org/resources/educational-scholarship-program/, co-sponsored by the CTSI and the Health Science Colleges.
NEW TRAINING PROGRAMS: CERTIFICATE, BIOMEDICAL SCIENTIST AS EDUCATOR (CBSE)

• Developed 4-course certificate designed to certify that program participants will be prepared to teach, conduct educational research, and mentor students upon entry into their future academic positions.

• Submitted a IRDACA grant that aims to train clinical translational postdoctoral minority researchers.
• **GMS 6951 Teaching Biomedical Science (2)** - Acquire the skills necessary for creating and modifying courses. Fall 2017

• **GMS 6952 Curricular Models of Biomedical Science (3)** - Develop their own curriculums and use curricular models. Spring 2018

• **GMS 6954 Assessing Effectiveness of Biomedical Science Teaching and Curricula (3)** - Obtain experience conducting an evaluation study, writing a professional report and presenting the findings. Offer Summer C

• **GMS 6953 Art and Science of Mentoring (1)** - Acquire the knowledge and skills required to effectively mentor early stage professionals. Offer Summer B
EVALUATION STUDIES
1. Assessed Spring 2015 participants’ outcomes.

2. Analyzed pre- and post-test changes in Spring and Fall 2016 and Fall 2017 participants’ mentoring skills.

3. Compared outcomes of Spring 2016 to Spring 2015 participants.

4. Analyzed reflective writings of current cohort to assess impact of program.
CLINICAL RESEARCH COORDINATOR STUDIES

- Assessing two predominant online training programs for clinical research professionals.
- Collected five datasets
- Published 4 studies.
Measured pre-post-test changes in research self-efficacy, collaboration-readiness, and preference for solo or team-based research as function of taking a team science course.

Used qualitative inquiry to describe TL1 early program and mentoring experiences.
T32 SCHOLAR STUDIES

- Assessed T32 predoctoral and postdoctoral researcher self-efficacy, cross-disciplinary collaboration, preferences for sole or team-based research.

- Described T32 predoctoral, postdoctoral, and mentor perceptions of learning and mentoring experiences.

- Published a paper based on these findings in *Mentoring & Tutoring* 2017; 25(4); 430-454.
1. Provide a comprehensive description of training program and link it with training objectives.

2. Emphasize the benefits of the program to participant career development.
3. Provide a rigorous evaluation.

4. Explain a plan for tracking trainee career outcomes.
5. Describe the system that will track participants following program completion.
6. Seek assistance from the CTSI Office of Educational Development & Evaluation early during proposal preparation (3-6 months before submission).
KEY POINTS

7. Do not let fulfillment of grant evaluation be the end point.

8. Publish and present research findings.
SELECTED CTSI FUNDED ED&E PUBLICATIONS


• Solberg L, Kolb HR, Prikhidko A, Behar-Horenstein LS. Ensuring representativeness in competencies for research coordinators. (accepted for publication). The Clinical Researcher.
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