Tips from the Experts:
How to Write a Successful Education Grant
Moderator
David Gordon, MD

Our Experts
Ashley Grantham, PhD
Deborah Engle, EdD, MS
Andrew Muzyk, PharmD, MHPE
Stacey McCorison, MBA
Kristin Dickerson
Mitch Heflin, MD
Objectives

• Discuss how to develop a quality research question

• Describe different outcome measures that can be used to demonstrate the effectiveness of an innovation

• Explain how to write a quality abstract for an educational grant

• Discuss how to construct a budget for an educational grant
Writing cannot rescue a poorly designed project

But... bad writing can hurt an excellent project

-Judd E. Hollander, MD and Kirstin L. Rising MD MS
Thomas Jefferson University
Is there a way to reduce communication errors during resuscitations?
iTRUTH

Interprofessional Training to Reduce Unintentional Harm
Research Question - Ashley
How to develop a research question

Ashley Grantham, PhD
Possible sources of inspiration

- Your observations and perceptions about your own learners
- Common struggles/pain points
- Curriculum efforts within your course, department, program, institution or specialty
- Unique curricular learner experiences
- Unique ”cases”
- What works, what doesn’t
- Theories/research in other subspecialties of education (i.e. adult education, higher education)
Opportunities

- Learners
- Teachers
- Institution/organizational factors
Engaging in the Scholarship of Teaching and Learning: A guide to the process and how to develop a project from start to finish

Cathy Bishop Clark, EdD and Beth Dietz-Uhler, PhD
The process

1. Identify the research question
2. Design the study
3. Collect the data
4. Present and publish your results
5. Analyze data and draw conclusions
Step 1: Brainstorming

Think of at least one educational activity you are involved in your current role that you might be interested in examining from a scholarly perspective.
Step 2: Identify keywords for literature search

What are potential keywords that might be associated with your area of interest?

- Population
- Teaching/learning methods
- Subject matter
- Theoretical framework
- Research methodology
  - Examples
    - Quantitative
    - Qualitative
    - Particular assessment tool**

(Bishop-Clark & Dietz-Uhler, 2012)
Step 2b: Literature search

Tips

• Use your EBM strategies
• Enlist your librarian
• Consider related research outside of your specialty within the health professions
  • Other health professions
  • Adult education
  • Higher education
  • Psychology
  • K-12 education
  • Business
  • Economics
Step 3: Using the literature to inform your question

1. “Describe the study in your own words
2. How does it relate to your study?
3. Consider:
   a) How will your research be the same as previous work?
   b) How will your research be different from previous work?”

(Bishop-Clark & Dietz-Uhler, 2012, p. 39-40)
Step 4: Write!

How To Create a Good Research Question

- Feasible: Enough time, money, expertise, # of subjects?
- Interesting: Would others be interested in your results?
- Novel: Does it add to the existing literature?
- Ethical: Would it get approved by an IRB?
- Relevant: Does it pass the “so what test”? What difference will this research make in medical education?
Example: Interprofessional Training to Reduce UninTentional Harm (iTRUTH)

“Through this training session amongst physicians, nursing, and pharmacy students, participants are taught to confirm or ask for “truth” for clarity on orders when running a code on a high-fidelity simulator, hopefully leading to better performance.”

• What topics might we study?
• What populations could we study?
• What keywords might we search within the literature to help frame our research question?
References


Center for Innovation in Research and Teaching. (n.d.). Writing a good research question. Retrieved from https://cirt.gcu.edu/research/developmentresources/tutorials/question
Research Question Drives Next Steps

Research Question

- Conceptual Framework
- Study Design
- Methodology

- Quantitative
- Qualitative
- Mixed Methods
Research Question Drives Next Steps

- Conceptual Framework
- Study Design
- Methodology

Outcomes:
- Quantitative
- Qualitative
- Mixed Methods
Where does your research question target?

Application to Work-based Learning

- Patient Outcomes
- Changes in professional practice?
- What knowledge, skills & attitudes have they acquired as a result?
- How did the learners react to the work based learning experience? Was it enjoyable?
Outcome Measures

- EHR Analysis, Patient-based Outcomes Survey
- 360 Evaluation, Procedure/Case Logs, Record Review, Checklist and Global Ratings, Focus Group, Interview
- Survey, Exam, 360 Evaluation, Simulation Results, Observer Checklists, Focus Group, Interview
- Survey, Focus Group, Interview
Writing Outcome Statements

• Often included in grant proposals, evaluation plans

• Written in very specific language

• Quite helpful for planning and implementing effective evaluation
Examples: Writing Outcome Statements

<table>
<thead>
<tr>
<th>Who/What (the target subject)</th>
<th>Change/Desired Effect (action verb)</th>
<th>In what (expected results)</th>
<th>By when (time period)</th>
</tr>
</thead>
</table>

https://lmcourse.ces.uwex.edu/Module_1_pages/M1_Section2/HTML/m1s2p11.htm
Examples: Writing Outcome Statements

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<th>In what (expected results)</th>
<th>By when (time period)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants from today’s Education Grand Rounds</td>
<td>Increase</td>
<td>Their skills in writing grant proposals</td>
<td>By the end of this session</td>
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</tbody>
</table>

Question--
What Kirkpatrick’s level of evaluation is this?

https://lmcourse.ces.uwex.edu/Module_1_pages/M1_Section2/HTML/m1s2p11.htm
Putting it all Together: Align and Link

- Research Question/Target
- Level of Evaluation
- Study Design
- Methodology
- Outcome Measures
Practice with iTruth:

“Through this training session amongst physicians, nursing, and pharmacy students, participants are taught to confirm or ask for “truth” for clarity on orders when running a code on a high-fidelity simulator, hopefully leading to better performance.”

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</table>

https://lmcourse.ces.uwex.edu/Module_1_pages/M1_Section2/HTML/m1s2p11.htm
BEST PRACTICES

• Make sure your study design will answer your research question
• Don’t forget to collect baseline data
• Consult an expert for evaluation plan and include during your study design
• Consult a statistician and include in study design
• Use validated tools whenever possible
• Measure what you intend to measure
• Do no harm
References


University of Wisconsin. https://lmcourse.ces.uwex.edu/Module_1_pages/M1_Section2/HTML/m1s2p11.htm. Accessed Dec 8, 2019
Writing an Abstract

Andrew Muzyk, PharmD, MHPE
Writing an Abstract

• One of the first things to write for a grant

• Tempting to just **GET IT DONE** and move on

**BUT**
• It is the last thing that you should write

• Take it seriously, DO NOT rush because....

FIRST IMPRESSION

• Only proposal section that EVERY reviewer reads

• Program/grant officer reads it....does it proceed to review?
  • If yes, then abstract helps decide where/who to next
• Back to the **beginning**...

• If you **JUST NEED** to write your abstract first, then do it

• Use it to organize your thoughts and to get into the flow of grant proposal structure

  Make sure to come back to it at the end
• **Believe me**, writing an abstract is easier to write at the end
  • You will have the full proposal to draw from
  • Write it from what you have described, not anticipated
  • Emphasize central message/importance of your grant
  • Abstract will match what is written in the proposal

• **DO NOT** challenge yourself to write it from scratch
  • Cut and paste directly from your proposal
  • Thin out and edit
• **Describes** project concisely, accurately, and logically

• **Provides** reader with a clear rationale and impact of study

• **Identifies** why your project is unique, relevant, significant, and should be given **MONEY**

• **Stands** on its own
  • Understood if removed from the rest of the project

• **Connects** **YOUR** proposal to **THEIR** grant call
  • Use their words!
• **Usual components**
  • Problem statement
  • Need for research
  • Research design and methods
  • Educational implications of the research

• There is a word limit

• Think 2 - 3 sentences per section

• Serves as a guide for each grant section

• **DO NOT** stuff in too much **YOU HAVE GOT** entire proposal
The DO NOT’s

• Use abbreviations

• Include references, tables or figures

• Have information not found in the proposal

• Make unsupported or unaccomplishable statements

• Ignore word count or format of grant

• Use passive voice
The DO’s

• Clear and easy to read → simpler words, shorter sentences

• Balanced → each section of proposal is represented

• Focused → what you intend, why it is important, how it will be done

• Action oriented → get to the point, make it dynamic

• Enticing → go on put it down, I dare you!
Finally

- Take your time → write, stop, reflect, review, write
- Step outside your project...still make sense?
- Ask someone else to read it and describe your project back
  - Choose those familiar and unfamiliar with topic area
  - **Remember**: not all reviewers will be familiar with topic
Back to our project

• **DON’T**: Preliminary data from a pilot study clearly demonstrated resolution of an unmet educational need in communication and medication errors...

• **DO**: Pilot study data demonstrated resolution of an unmet education need in communication and medication errors...

Removing emotional intensifiers, trimming words, and removing overview statement
Back to our project

• **DON’T**: In light of the fact that many communication errors during medical codes occur when...

• **DO**: Because many communication errors occur during...

Trimming words
Back to our project

• **DON’T**: There is a simulation laboratory experience at Duke University that will provide training opportunities...

• **DO**: Duke University provides a simulation laboratory experience....

Avoid expletive constructions (*There is*), be direct, and add action verb
Back to our project

• **DON’T**: Researchers examining communication errors in medical codes **have found out** that healthcare workers **are under** intense pressure....

• **DO**: Researchers examining communication errors in medical codes **discovered** that healthcare workers **face** intense pressure....

Trim words & add action verbs
Resources

- Blanco MA, Lee MY. Twelve tips for writing educational research grant proposals. *Medical Teacher*
  

- Blanco MA, et al. How to write an educational research grant. *Medical Teacher*
  

- Cook DA, Bordage G. Twelve tips on writing abstracts. *Medical Teacher*
  

- https://your.yale.edu/sites/default/files/files/HowToWriteACompellingAbstractForGrantApplication_July2017.pdf

Education Grant Budgets

Kristin Dickerson
Stacey McCorison, MBA
Developing a budget

Think of everything you will need to get project done
“In-kind” work is discouraged
IT support
Getting salary information
Getting real estimates not WAG
Working with your Finance/Research person
Devil in the details
Timely submissions
Logistics

Ok, I’ve got the grant now what?
Getting the funds to you? To others?
Setting up codes/ cost objects/correct GLs – what language is this?
Working with Finance/Research
I just want to do the research!
Where to get help
Closeout
PI support may not total more than 25% of the requested funds. Administrative support is available through “consultant costs.”

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Estimated Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>PI support</td>
<td>PI support</td>
<td>$5000.00</td>
</tr>
<tr>
<td>Consultant Costs</td>
<td>Pay collaborators</td>
<td>$1000</td>
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<tr>
<td>Equipment</td>
<td></td>
<td>$0.00</td>
</tr>
<tr>
<td>Computer</td>
<td>Hardware (ex. $1500/laptop)</td>
<td>$1500.00</td>
</tr>
<tr>
<td></td>
<td>Software</td>
<td>$0.00</td>
</tr>
<tr>
<td>Supplies</td>
<td>Gift cards for focus group participants</td>
<td>$500</td>
</tr>
<tr>
<td>Travel</td>
<td>(1,000/trip max)</td>
<td>$1000</td>
</tr>
<tr>
<td>Other Expenses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Costs for Proposed Project</td>
<td></td>
<td>$10,000</td>
</tr>
<tr>
<td>Consultant Costs</td>
<td>Estimated Cost</td>
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</tr>
<tr>
<td>-----------------------</td>
<td>----------------</td>
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</tr>
<tr>
<td>PI support (for IPEC grant only)</td>
<td>$2500.00</td>
<td></td>
</tr>
<tr>
<td>Standardized patient services based on quote from Kelly Branford director 2 standardized patients x 20 hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DOCR services/ statistical support – Based on quote from Sue Budinger</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Editor services, Liz Cook quote $42/hr @ 10 hours</td>
<td>$3320.00</td>
<td></td>
</tr>
<tr>
<td>Equipment</td>
<td>$0.00</td>
<td></td>
</tr>
<tr>
<td>Computer</td>
<td>$1080.00</td>
<td></td>
</tr>
<tr>
<td>Supplies</td>
<td>$0.00</td>
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</tr>
<tr>
<td>Supplies will include a total of 30 DiSC assessments (currently $64.50/student + tax). Additional expenses will include handouts, reports, and resources for each participant and supplies for the DiSC facilitator (markers, flip charts)</td>
<td>$2100</td>
<td></td>
</tr>
<tr>
<td>Travel</td>
<td>$1000</td>
<td></td>
</tr>
<tr>
<td>Travel (1,000/trip): Travel funds will be used for expensed related to presentation of the project at national conferences.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Expenses</td>
<td>$10,000</td>
<td></td>
</tr>
<tr>
<td>Total Costs for Proposed Project</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$10,000
Any Questions?
Pearls and Pitfalls

Mitch Heflin, MD
Education Grants: Pearls and pitfalls

1) Get cozy with the funder
   - Talk with program officer
2) Be compulsive about directions
   - Create checklists
3) Read prior grants
   - Ask grantees about process
4) Write for experts & strangers
   - Find readers early
5) Review the literature for importance and innovation
   - Focus on what is relevant and new
6) Identify appropriate methods and measures
   - Find people who do evaluation for a living
7) Be sure you can deliver what you promise
   - Be realistic and feasible
8) Be thoughtful about budgets
   - Think about administrative needs and supplies
9) Think about sustainability
   - 6) Hardwire changes
   - 7) Have leaders promise support
10) Plan to disseminate
References


Resources

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Thurs, Dec 12, 2019
4:00–5:15 pm GMT

You can expect to learn more about:

- The editorial decision-making process
- What to include in each section of your manuscript
- How to select a journal for submission

The presentation will be followed by a Q&A with Heather.

Heather obtained her PhD in Immunology from the University of Massachusetts Medical Center, where she investigated human T cell responses to hantavirus infection. After her postdoctoral research in the laboratory of Eric Pamer at Memorial Sloan Kettering Cancer Center, USA, Heather embarked on an editorial career. She was an Editor at The Journal of Experimental Medicine for more than a decade before joining The Lancet Diabetes & Endocrinology as Deputy Editor in 2015. She later served as Deputy Editor for The Lancet Gastroenterology & Hepatology before becoming the inaugural Editor-in-Chief for The Lancet Rheumatology in 2019.