

## **48-802 Principles of Research I**

### **Assignment: A Journey of Discovery**

The first step of your assignment for this course is to describe your journey in discovering and developing your own research proposal.

I would like to tie the deliverable for this course with the work you will doing for Vivian and Burcu, which reflect VERY preliminary explorations for a dissertation topic.

Remember, you have all came to this program inspired by problems you encounter in your professional practice world. Normally you would weigh cost-benefit of a solution against a number of factors. In such circumstances, time, budget, billable hours etc. may take precedence over depth of a solution.

On the other hand, in academia you do not have such practical concerns and depth of solution plays a dominant role. In your capacity as DPP student you combine the inspiration that stems from your practice to taking on an academic view of a problem and its solution.

This often means focusing and narrowing the scope of your problem. That is, the basic problems you start off with as the source of your interest could be subdivided into a number of possible problems each tackled to a level of depth that is not possible in a professional practice setting. This itself is a process of discovery.

Further after a filtered examination of the literature you might hone in on a problem, which requires more literature review. This too is a process of discovery.

In honing in on a problem you may have to weigh the cost-benefit of learning new skills – e.g., statistical analyses, data modeling, BIM programming, energy modeling etc – skills that you might have outsourced in your previous incarnation. Some problems require less learning on your part of new skills than other problems and this may affect the ultimate choice of your problem. At the end of the day even if you outsource some of the work, you OWN the problem and you OWN its solution (i.e., at the time of your defense you are solely responsible for your answers - you cannot call upon consulting experts to speak for you) and this requires at a minimum working knowledge (terminology, language, interpretation) associated with any skills that you may outsource as part of your work – e.g., statistical analyses, energy modeling etc. Just finding out what auxiliary sources of knowledge and skills you need to tackle a problem is a process of discovery. How you fill this lacuna is something you would have to work out reasonably quickly. This too could be a process of discovery.

All this work will suggest possible avenues of attack i.e., a methodology. Or you may have to invent one. Choosing the methodological approach requires literature review and is also a process of discovery.

This entire discovery process is like designing - it could be simple or it could be involved – either way you keep your own ‘sketchbook’ for your DPP thesis, which is the preamble to the documents that Vivian and Burcu are asking for. I am asking for a structured description of the salient aspects in this process of discovery.

You could do it with the elements in this way. The outcome of your journey will be a research proposal, which might describe aspects of an eventual thesis. The proposal may include some of the following (although this is not an inclusive list):

- What is the thesis?
- Objectives for the research
- (Proposed) Bibliography for the research
- Methodology for researching
- Scope and limitations of the research
- Value and benefit of the research
- Timeline

For example, you could respond to this assignment by describing the following:

- What is the thesis: *What problem really grabs me?*
- Objectives for the research: *Why specifically this problem?*
- (Proposed) Bibliography for the research: *What literature do I need to review to provide me with justification, motivation, inspiration for proposing this research?*
- Methodology for researching: *Sources, literature review, etc. Who can help me? – discussions with advisors, experts, etc.*
- Scope and limitations of the research: *How do I develop a thesis developed from this proposal that is not too ambitious?*
- Value and benefit of the research: *Remember, I am in professional practice: will it serve my community?*
- Support: *How do I secure funding for my research?*
- Timeline: *Remember I have 3-4 years.*

You could also talk to me one-on-one.

**IMPORTANT:** You should structure in a way that feels most natural to you.

My role is to indicate how academic and logical your approach is, not how good your approach is – I leave that to the individual experts who advise you. Talk to them too about your potential problem and efficacy of any potential solution.

You can reach me by Skype on this handle: ramesh.krishnamurti.

All I ask is for you to email me if you wish to Skype: ramesh@cmu.edu

I will need a few days notice and something to read.

The second step of your assignment for this course will be given in the comments and feedback you will receive upon completing this first step.