What is interdisciplinary research?

Interdisciplinary research is *a process* that *integrates the insights* of two or more disciplines together with interdisciplinary fields of study to answer a question, solve a problem, or tackle a topic that is too broad or complex to be answered by a single discipline. Interdisciplinary research offers *a cognitive advantage* unlikely through single disciplinary means. The disciplines are a *necessary precondition* and foundation for interdisciplinarity, although other fields of study may also be included. The integrated insights provide new knowledge that is outside any single discipline, that did not exist prior to integration, and that is not a re-assemblage or juxtaposition of each discipline's insights (Repko, 2008).

Use the following steps to guide you as you develop your Statement of Interdisciplinary Research Interest:

Step 1: What is your area of research interest?

Develop a research question or define an area of research interest.

Step 2: Can you justify an interdisciplinary approach?

Not all questions or areas of interest are interdisciplinary. Use the following five criteria to evaluate whether your question or interest requires an interdisciplinary approach.

1. The question /interest is complex
2. Two or more disciplines offer insights into the question /interest
3. The question /interest has not been addressed comprehensively by any single discipline
4. The question /interest is at the margins of disciplines
5. The question /interest addresses an unresolved or important societal need or issue

(National Academy of Sciences et al., 2005, 30-35)

Step 3: What disciplines are potentially relevant to your question or research interest?

What disciplines[1] have examined or investigated your research question/area? List the disciplines.

[1] A *discipline* is a body of knowledge that provides a worldview as well as a set of assumptions, facts, concepts and theories specific to that discipline. As scholarly communities, disciplines define the problems to be studied, methods of investigation, forums such as conferences and colloquia for sharing new knowledge, and career paths for scholars. Examples of disciplines are Sociology, Anthropology, Earth Science, History, Art, Philosophy, Psychology, Economics, Literature, Music, Business, Engineering, Education, Medicine.

Note: You may need to do a literature search to discover a range of disciplines that have addressed your question or area of interest.

Step 4: What are the assumptions of each discipline?

Write the assumptions[2] of each discipline you have listed in Step 3.

Step 5: What is each discipline's perspective on the area of interest?

How have the disciplines you have listed in steps 2 & 3 looked at and thought about the area of research you are interested in? What is their standpoint or world view on this topic? Look for the disciplinary perspectives specific to your area of interest. You may need to scan some of the articles from your earlier literature search.

Step 6: What non-disciplinary and interdisciplinary sources/interpretations exist?

While the disciplines are foundational to interdisciplinary inquiry, relevant knowledge should not be limited to the disciplines alone. Are there any non-disciplinary[3] or interdisciplinary sources or interpretations of your area of interest or question? Interdisciplinary fields of study[4] include international development studies, environmental studies, Canadian studies, urban studies, biological anthropology, environmental economics, bioethics? List non- and interdisciplinary sources and insights to your question or area of interest.

Step 7: What are the most relevant disciplines?

From the disciplines listed in steps 1-5 above, which two or three are most relevant to your proposed research? Identify the various components of your research question or area of interest. Referring back to step 5, ask how each discipline illuminates some part of your

[2] An *assumption* is the 'taken for granted' or accepted truths and evidence on which the discipline's theories and concepts are based. Multiple assumptions may exist in any one discipline. For example, in Sociology, empiricists take-for-granted that an independent reality exists and can be measured; constructionists take the position that reality and knowledge are socially constructed; critics of modernism assume that perceptions of social reality are filtered by assumptions, cultural influences and value-laden vocabulary (Wolf & Haynes, 2003; Repko, 2008).

[3] Non-disciplinary sources may include the knowledge of indigenous peoples; the knowledge the oppressed have of those who oppress them; immigrants' knowledge of the system and how it works (Carp, 2001; Stoller, 1997).

[4] Interdisciplinary Studies and departments have no universally recognised body of knowledge but draw on existing disciplinary knowledge; seek to produce new knowledge through a process of integration; borrow methods from the disciplines.

question/interest. Select the 2-3 disciplines that

- are most directly connected to the research problem
- have generated the most important research, and
- have advanced the most compelling theories to explain it.

To choose the disciplines, ask three questions:

1. Does the discipline have a well-defined perspective on the question/area of interest?
2. Has the discipline produced a body of research, and hence insights on the question/area of interest, that cannot be ignored?
3. Has the discipline generated one or more theories to explain the question/area of interest?

Step 8: What non-disciplinary and/or interdisciplinary fields of study will you add?

Include the most relevant fields of study from Step 6 above.

Step 9: Which methodology/methods should you use to study your area of interest?

Methodologies and methods influence outcomes/findings, therefore it is important to think carefully about which methodologies/methods you will use. Consider the following questions to help decide what methodologies/methods will be most relevant to your research area.

- Which methodologies/methods do the relevant disciplines use?
- How do those methodologies/methods influence each discipline's insights?
- What methodologies/methods are most relevant to the new knowledge production you anticipate in your research?
- Are new innovative methods or combinations of methods needed to obtain the cognitive advantage and integrate insights?

References

Carp, R.M. 2001. Integrative praxes: Learning from multiple knowledge formations. *Issues in Integrative Studies*,19, 71-121.

National Academy of Sciences, National Academy of Engineering, & Institute of Medicine. 2005. *Facilitating interdisciplinary research*. Washington, DC: National Academies Press.

Repko, A. 2008. *Interdisciplinary Research: Process and Theory*. Thousand Oaks, CA: Sage.

Stoller, P. 1997. *Sensuous Scholarship*. Philadelphia: University of Pennsylvania Press.

Wolf, C., & Haynes, C. 2003. Interdisciplinary writing assessment profiles. *Issues in Integrative Studies*, 21, 126-169.