Task Order 20: Identifying Examples of Basic Research, Applied Research, and Experimental Development Primarily for Social Science and the Humanities Fields

Interview protocol

Below are questions to guide the discussion. We will collect as many examples as an expert can provide us.

Introduction
Thank you for taking the time to talk with us today. *(Interviewers introduce themselves.)*

We are working with the National Center for Science and Engineering Statistics (NCSES) of the National Science Foundation, one of the thirteen designated federal statistical agencies in the United States. As part of its core activities, NCSES is responsible for collecting data on R&D including the <field of expert>.

We are talking with you today to gather examples of R&D in your field. These definitions are listed on the document that we provided before the interview. I have a copy of it here for your reference, if needed. R&D is defined as "Creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture, and society, and the use of this stock of knowledge to devise new applications." We will be asking you questions related to different aspects of R&D activities across your entire field, not only about the R&D conducted at your organization or that pertaining to your subspecialty.

Please review and sign the attached consent form.

Questions

Introduction questions

1.1 We would like you to provide us with examples of research and development in your field. Before doing so, we would like you to identify yourself as a member from the following list of fields. *(Hand list to respondent).*

- Were there any another fields that you considered?
- On what basis do you associate yourself with the field you selected?
- *(If applicable)* What led to your decision not to choose the other field(s)?

1.2 Please tell us about research and development in this field:

- What are the biggest questions the field is trying to answer?
- Do you think of "experts" in this field as researchers or something else?
- What do they study?
- How would you describe their research to someone outside the field?

Questions on each type of R&D

Now let's turn to the specific types of R&D in your field. On the handout we have provided the definition of basic research, which is used by NCSES. (A*llow interviewee time to read definition off of handout.)*

> ***Basic research*** *is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view.*

2.1 How might someone in your field interpret this definition?

- What does the term "experimental work" mean in your field?
- What does "theoretical work" mean in your field?
- How does your field define "the underlying foundation of phenomena and observable facts"?
- What does the term "new knowledge" mean in your field?

2.2 Do researchers in your field conduct basic research?

2.2a If so, can you provide an example of a basic research project in your field? *If needed:* A project is defined as a planned piece of work that has an intended goal.

- What makes this project an example of basic research?
- What is the fundamental research question this example hopes to address?
- What are the circumstances needed to perform this research? (e.g., access to instruments, funding?)
- What types of institutions house the researchers who perform this research? (e.g., universities, businesses, nonprofit research institutes, individuals in their studios?)

- Why do you think the institutions you named tend to perform this type of research? (e.g. specific types of conditions such as access to instruments, funding, incentive structures?)

2.2b If not, please explain why.

Please refer to the definition of applied research, which is used by NCSES. (A*llow interviewee time to read definition off of handout.)*

> ***Applied research*** *is also original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily towards a specific practical aim or objective*.

3.1 How might someone in your field interpret this definition?

- How does your field define "practical aim"?
- What are some typical "objectives" of researchers in your field?

3.2 Do researchers in your field conduct applied research?

3.2a If so, can you provide an example of applied research project in your field?
If needed: A project is defined as a planned piece of work that has an intended goal.

- What is the practical aim or objective this example is hopes to address?
- What is the area of application anticipated for the research?
- What makes this an example of applied research?
- How is this different than your example of basic research?
- What are the circumstances needed to perform this applied research? (e.g., access to instruments, funding)
- What types of institutions house the researchers that perform this applied research? (e.g., universities, businesses, nonprofit research institutes, individuals in their studios?)
- Why do you think the institutions you named tend to perform this type of applied research? (e.g. specific types of conditions such as access to instruments, funding, incentive structures)

3.2b If not, please explain why.

Please refer to the definition of experimental development, which is used by NCSES. (A*llow interviewee time to read definition off of handout.)*

> ***Experimental development*** *is systematic work, drawing on existing knowledge gained from research and/or practical experience, which is directed to producing new materials, products or devices, to installing new processes, systems and services, or to improving substantially those already produced or installed.*

This definition would also include work to develop new methods and tools.

4.1 How would someone in the field interpret this definition?

- What is your conception of how work in your field enters into practice?
- What kinds of products, processes, systems or services tend to benefit from research in your field?
- Through what channels does research in your field influence the work of practitioners or reaches the market? For example, are there particular industries, companies, or other organizations that utilize findings from your field?

4.2 Do researchers in your field conduct experimental development work?

4.2a If so, can you provide an example of a development project in your field? *If needed:* A project is defined as a planned piece of work that has an intended goal.

- What makes this an example of development?
- How does it differ from your example of applied research?
- What is being developed, and what will it be used for?
- What knowledge base does this development project draw upon?
- What are the circumstances required to carry out this example of technical development? (e.g., access to instruments, funding)
- What types of institutions house the researchers that perform this developmental work? (e.g., universities, businesses nonprofit research institutes, individuals in their studios)
- Why do you think the institutions you named tend to perform this type of developmental work? (e.g., specific types of conditions such as access to instruments, funding, incentive structures)

4.2b If not, please explain why.

5. Thinking about the questions we just asked and the conversation we just had, whom else would you recommend we interview in this field?

(Question for performers)

6.1 Please tell us about a project you are working on.

6.2 Would you classify this project as basic research, applied research, or experimental development? Why?

- How confident are you in this categorization?
- Why did you not pick the other categories?
- What about the project would need to be different for you to classify it as <insert the "next" category>?

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Interview Handouts

Handout #1

Fields

- Psychology
- Economics And Business
- Educational Sciences
- Sociology
- Law
- Political Science
- Social and Economic Geography
- Media and Communications
- History
- Archaeology
- Language
- Literature
- Philosophy
- Ethics
- Religion
- The Arts
    - Performing Arts
    - History of Art
    - Music
- Computer And Information Sciences
- Chemical Sciences
- Biological Sciences
- Physical Sciences
- Materials Engineering
- Medical Engineering
- Nanotechnology
- Basic Medicine
- Forestry Sciences

Handout #2

Definitions of R&D
The National Center for Science and Engineering Statistics uses the following definitions of R&D.

Research & Development (R&D) Creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture, and society, and the use of this stock of knowledge to devise new applications.		
Basic research Experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundation of phenomena and observable facts, without any particular application or use in view.	**Applied research** Also original investigation undertaken in order to acquire new knowledge. It is, however, directed primarily towards a specific practical aim or objective.	**Experimental development** Systematic work, drawing on existing knowledge gained from research and/or practical experience, which is directed to producing new materials, products or devices, to installing new processes, systems and services, or to improving substantially those already produced or installed.