

## **Attachment**

# **Interview Protocol: Cognitive Interviews on Interdisciplinary Research**

## **Protocol for Cognitive Interviews on Interdisciplinary Research**

### Introductory Material:

When participants arrive at the cognitive interview laboratory, they will be thanked for agreeing to help with the research. The purpose of the interview, which is to evaluate questionnaire items used in surveys conducted by the National Science Foundation, will be explained. At least one note-taker will be present for each interview in order to record the events and responses of the participant. It will be explained to participants why the note-takers are present, and then participants will be asked to read and sign a confidentiality statement, which is also signed by the interviewer. Then the process of the interviews will be explained: respondents are asked to complete a questionnaire and speak aloud as they do so. They will be asked to speak aloud everything they read, and to tell their thoughts and reactions as they respond to the questions. In order to verify that individuals understand these procedures, they will be given a one or two item practice questionnaire to illustrate the process (see example in Appendix 1).

### STEP 1: Interview Questionnaire:

Respondents will be asked to complete the actual questionnaire of interest. The interview questionnaire (see Appendix 2) consists of several items from the Survey of Earned Doctorates questionnaire. It includes questions about dissertation titles, fields of dissertation research (the question of interest, numbered A2 on the questionnaire), department, institution, field(s) of degrees, and some demographic questions. The list of fields that is provided with the Survey of Earned Doctorates will be provided with the questionnaire (see Appendix 3).

Two versions of the questionnaire have been constructed. Version A contains the dissertation research fields question as it was worded in the 2001-2003 SED. Version B uses the current version of the question, adopted in 2004. Half of the respondents will be given Version A, and the remaining half will be given Version B (the distribution of these versions will be determined based on the expected likelihood that individuals will report multiple fields. Both types of respondents will be able to see both question versions).

Respondents will be told to complete the questionnaire as they would do if they were at home alone, except they will be asked to read them aloud and tell what they are thinking. As respondents proceed through the questions of interest, the interviewer will probe with additional questions as necessary to ensure full understanding of how the participant interprets and responds to the items. The interviewer will use follow-up questions to determine if and how the list of fields and the wording of the questions affect how people respond to these items. For example, as respondents answer Question A2 (the question about dissertation research fields), they might be asked:

Did you have any trouble finding your field in the list of fields and codes provided? If so, how did you reconcile this?

Would you have answered this question differently if you were not asked to rely on this list of fields?

Would you have answered differently if we asked about the *department* or *program* of your research, instead of field?  
What if the question asked about your primary field of *study* rather than dissertation research?  
What if it asked about your *research* in general?

After respondents answer question A4 (about the field of their degree), they may be asked questions such as:

Did you have any trouble finding the field of your degree in this list? If yes, how did you deal with that?  
(If the individual puts a different field than one that was listed for the dissertation question, will ask) I noticed this response is different than the field(s) you listed before. Can you tell about this?  
What if this asked about the primary field of your *department* or *program*, rather than field of study? Would you have answered differently?

#### STEP 2: Alternative Version of Dissertation Research Question:

After respondents complete the primary questionnaire, they will be told that NSF could also ask some of these questions in different ways, and it would be useful to have them answer some different versions of a question and talk about their answers. First they will be shown the alternate SED question (either A or B, whichever they have not already seen) (see Appendix 4 for both versions). Once they have answered it they will be probed about whether they see this question as different or calling for a different answer than the first. Any differences in the way they answered the two questions will be noted.

#### STEP 3: Multidisciplinary Version:

Then a third version of the question that uses the term “multidisciplinary” instead of “interdisciplinary” (see Appendix 5) will be shown to them. Once they have answered it they will be probed again about whether they see this question as different or calling for a different answer than the others. Any differences in the way they answered the three questions will be noted. Additional probing will be used to understand if individuals rely on different information to answer the three versions of the question. For example, they may be asked:

Are all of these questions the same to you? Do you see any difference between asking these different versions?  
(If yes), what about them is different?

#### STEP 4: Additional Questionnaire about Interdisciplinarity:

Next they will proceed to an additional questionnaire designed to better understand how respondents think about interdisciplinarity and multidisciplinarity. They will be told that one of the concerns prompting the previous questions is that some of the terms used in these questions may be interpreted in different ways by different people. So, it would be helpful if they answer an additional set of questions to help understand how doctoral students think about some of these terms and the terms’ relation to their work. They will be provided with this questionnaire (see Appendix 6) and probed as needed to elicit further explanation and detail about participants’ responses.

**Appendix 1**  
Practice Questionnaire

Note: This questionnaire will be used to train participants to speak aloud as they read the questionnaire and formulate their responses.

Practice questionnaire

Please read this question aloud and tell me what you are thinking as you come up with your answer.

Q1. How many windows are in the apartment, mobile home, or house where you live?

\_\_\_\_\_ Number of windows

**Appendix 2**  
Interview Questionnaire

Note: There are two versions of this questionnaire, Version A and Version B. Half of the respondents will be given Version A, and half will be given Version B.

**Version A**

Select Items from the Survey of Earned Doctorates (SED)

**INSTRUCTIONS**

Thank you for taking the time to complete this questionnaire. Directions are provided for each question. Please print all responses; you may use either a pen or a pencil.

**PART A – EDUCATION**

A1. What is the title of your dissertation?

- Please mark (X) this box if the title below refers to a performance, project report, or musical or literary composition required instead of a dissertation.

Title

A2. Using the Specialties List (page 5), please write the name and number of the primary field of your dissertation research.

Name of Field

Number of Field

If you had a secondary field for your dissertation research, list the name and number.

Name of Field

Number of Field

A3. Please name the department (or interdisciplinary committee, center, institute, etc.) of the university that supervised your doctoral studies.

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Department/Committee/Center/Institute/Program

A4. The next few questions ask about the degrees you have received (or are about to receive). Please provide the following information for this doctoral degree, your most recent master's degree, and your first bachelor's degree in the appropriate columns below.

	This research doctoral degree	Most recent master's degree (e.g. MS, MA, MBA) or equivalent	First bachelor's degree (e.g. BA, BS, AB) or equivalent
a. Have you received a degree of this type?.....	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
b. Month/year degree granted.....	<input type="checkbox"/> <input type="checkbox"/> Month <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Year	<input type="checkbox"/> <input type="checkbox"/> Month <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Year	<input type="checkbox"/> <input type="checkbox"/> Month <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Year
c. Month/year that you started your degree	<input type="checkbox"/> <input type="checkbox"/> Month <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Year	<input type="checkbox"/> <input type="checkbox"/> Month <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Year	<input type="checkbox"/> <input type="checkbox"/> Month <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Year
d. Primary field of study.....			
e. Field number from list on p. 5.....	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
f. Institution name.....	<input type="text"/>	<input type="text"/>	
g. Branch or city.....			
h. State or province...			
i. Country.....			

PART B – BACKGROUND INFORMATION

B1. Are you –

- Male     Female

B2. What is your date of birth?

Month   Day   Year

B3. What is your marital status?

Mark (X) one

- Married  
 Living in a marriage-like relationship  
 Widowed  
 Separated  
 Divorced  
 Never married

B4. Not including yourself or your spouse/partner, how many dependents (children or adults) do you have – that is, how many others receive at least one half of their financial support from you?

Write in number of dependents

5 years of age or younger .....

6 to 18 years .....

19 years or older .....

Mark (X) if none

B5. Are you Hispanic or Latino?

- Yes → Go to B6

No → Go to B7

B6. Which of the following best describes your Hispanic origin or descent?

Mexican or Chicano

Puerto Rican

Cuban

Other Hispanic – Specify

B7. What is your racial background?

Mark (X) one or more

American Indian or Alaska Native

Specify tribal affiliation(s)

Native Hawaiian or other Pacific Islander

Asian

Black or African-American

White

Version B

Select Items from the Survey of Earned Doctorates (SED)

**INSTRUCTIONS**

Thank you for taking the time to complete this questionnaire. Directions are provided for each question. Please print all responses; you may use either a pen or a pencil.

**PART A – EDUCATION**

A1. What is the title of your dissertation?

- Please mark (X) this box if the title below refers to a performance, project report, or musical or literary composition required instead of a dissertation.

Title

A2. Please write the name of the primary field of your dissertation research.

Name of Field

Using the list on page 5, choose the code that best describes the primary field of your dissertation research.

Number of Field

If your dissertation research was interdisciplinary, list the name and number of your secondary field.

Name of Field

Number of Field

A3. Please name the department (or interdisciplinary committee, center, institute, etc.) of the university that supervised your doctoral studies.

Department/Committee/Center/Institute/Program

A4. The next few questions ask about the degrees you have received (or are about to receive). Please provide the following information for this doctoral degree, your most recent master's degree, and your first bachelor's degree in the appropriate columns below.

	This research doctoral degree	Most recent master's degree (e.g. MS, MA, MBA) or equivalent	First bachelor's degree (e.g. BA, BS, AB) or equivalent
a. Have you received a degree of this type?.....	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
b. Month/year degree granted.....	<input type="checkbox"/> <input type="checkbox"/> Month <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Year	<input type="checkbox"/> <input type="checkbox"/> Month <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Year	<input type="checkbox"/> <input type="checkbox"/> Month <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Year
c. Month/year that you started your degree	<input type="checkbox"/> <input type="checkbox"/> Month <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Year	<input type="checkbox"/> <input type="checkbox"/> Month <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Year	<input type="checkbox"/> <input type="checkbox"/> Month <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> Year
d. Primary field of study.....			
e. Field number from list on p. 5.....	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
f. Institution name.....	<div style="border: 1px solid black; height: 50px; width: 100%;"></div>	<div style="border: 1px solid black; height: 50px; width: 100%;"></div>	
g. Branch or city.....			
h. State or province...			
i. Country.....			

**PART B – BACKGROUND INFORMATION**

B1. Are you –

Male     Female

B2. What is your date of birth?

Month   Day   Year

B3. What is your marital status?

Mark (X) one

- Married
- Living in a marriage-like relationship
- Widowed
- Separated
- Divorced
- Never married

B4. Not including yourself or your spouse/partner, how many dependents (children or adults) do you have – that is, how many others receive at least one half of their financial support from you?

Write in number of dependents

5 years of age or younger .....

6 to 18 years .....

19 years or older .....

Mark (X) if none

B5. Are you Hispanic or Latino?

- Yes → Go to B6
- No → Go to B7

B6. Which of the following best describes your Hispanic origin or descent?

Mexican or Chicano

Puerto Rican

Cuban

Other Hispanic – Specify

B7. What is your racial background?

Mark (X) one or more

American Indian or Alaska Native

Specify tribal affiliation(s)

Native Hawaiian or other Pacific Islander

Asian

Black or African-American

White

**Appendix 3**  
List of Fields

Note: This is the list of fields and codes that is used in the SED. It will be given to respondents with the questionnaire used in STEP 1.

**BUSINESS MANAGEMENT/ADMINISTRATION**

900 Accounting	916 International Business/Trade/Commerce	935 Organizational Behavior ( <i>see also PSYCHOLOGY/Industrial &amp; Organizational</i> )
905 Banking/Financial Support Services	920 Marketing Management & Research	938 Business Management/Administration, General
910 Business Administration & Management	917 Management Information Systems/Business Statistics	939 Business Management/Administration, Other
915 Business/Managerial Economics	930 Operations Research ( <i>also in ENGINEERING &amp; in MATHEMATICS</i> )	
901 Finance		
921 Human Resources Development		

**COMMUNICATION**

940 Communication Research	950 Film, Radio, TV & Digital Communication	958 Communication, General
957 Communication Theory	947 Mass Communication/Media Studies	959 Communication, Other

**COMPUTER & INFORMATION SCIENCES**

400 Computer Science	410 Information Science & Systems	419 Computer & Information Science, Other
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**EDUCATION****RESEARCH & ADMINISTRATION**

840 Counseling Education/Counseling & Guidance	810 Educational/Instructional Media Design	845 Higher Education/Evaluation & Research
800 Curriculum & Instruction	807 Educational Leadership	825 School Psychology ( <i>also in PSYCHOLOGY</i> )
805 Educational Administration & Supervision	822 Educational Psychology ( <i>also in PSYCHOLOGY</i> )	830 Social/Philosophical Foundations of Education
820 Educational Assessment/Testing/Measurement	815 Educational Statistics/Research Methods	835 Special Education

**TEACHER EDUCATION**

858 Adult & Continuing Teacher Education	850 Pre-elementary/Early Childhood Teacher Education	856 Secondary Teacher Education
852 Elementary Teacher Education		

**TEACHING FIELDS**

860 Agricultural Education	866 Foreign Languages Education	882 Reading Education
861 Art Education	868 Health Education	884 Science Education
862 Business Education	874 Mathematics Education	885 Social Science Education
864 English Education	876 Music Education	888 Trade & Industrial Education
870 Family & Consumer/Human Science ( <i>also in Fields Not Elsewhere Classified</i> )	878 Nursing Education	889 Teacher Education & Professional Development, Other
	880 Physical Education & Coaching	

**OTHER EDUCATION**

898 Education, General	899 Education, Other	
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**ENGINEERING**

300 Aerospace, Aeronautical & Astronautical Engineering	376 Engineering Management & Administration	357 Nuclear Engineering
303 Agricultural Engineering	327 Engineering Mechanics	360 Ocean Engineering
306 Bioengineering & Biomedical Engineering	330 Engineering Physics	363 Operations Research ( <i>also in MATHEMATICS &amp; in BUSINESS MANAGEMENT</i> )
309 Ceramic Sciences Engineering	333 Engineering Science	366 Petroleum Engineering
312 Chemical Engineering	336 Environmental Health Engineering	369 Polymer & Plastics Engineering
315 Civil Engineering	339 Industrial & Manufacturing Engineering	372 Systems Engineering
318 Communications Engineering	342 Materials Science Engineering	398 Engineering, General
321 Computer Engineering	345 Mechanical Engineering	399 Engineering, Other
324 Electrical, Electronics & Communications Engineering	348 Metallurgical Engineering	
	351 Mining & Mineral Engineering	

**HUMANITIES****HISTORY**

706 African History	705 European History	708 Middle/Near East Studies
700 American History (U.S. & Canada)	710 History, Science & Technology & Society	718 History, General
703 Asian History	707 Latin American History	719 History, Other

**FOREIGN LANGUAGES & LITERATURE**

768 Arabic	746 Italian	755 Slavic (other than Russian)
758 Chinese	762 Japanese	749 Spanish
740 French	752 Russian	769 Other Languages & Literature
743 German		

**LETTERS**

732 American Literature (U.S. & Canada)	734 English Language	736 Speech & Rhetorical Studies
720 Classics	733 English Literature (British & Commonwealth)	738 Letters, General
723 Comparative Literature	724 Folklore	739 Letters, Other
735 Creative Writing		

**OTHER HUMANITIES**

770 American/U.S. Studies	780 Music	785 Philosophy
773 Archaeology	786 Music Theory & Composition	790 Religion/Religious Studies
776 Art History/Criticism/Conservation	787 Music Performance	798 Humanities, General
792 Bible/Biblical Studies	788 Musicology/Ethnomusicology	799 Humanities, Other
795 Drama/Theater Arts	789 Music, Other	

**LIFE SCIENCES****AGRICULTURAL SCIENCES/NATURAL RESOURCES**

005 Agricultural Animal Breeding	055 Fishing & Fisheries Sciences/Management	030 Plant Pathology/Phytopathology ( <i>also in BIOLOGICAL SCIENCES</i> )
000 Agricultural Economics	043 Food Science	039 Plant Sciences, Other
025 Agricultural & Horticultural Plant Breeding	044 Food Science & Technology, Other	046 Soil Chemistry/Microbiology
020 Agronomy & Crop Science	066 Forest Sciences & Biology	049 Soil Sciences, Other
010 Animal Nutrition	070 Forest/Resources Management	080 Wildlife/Range Management
014 Animal Science, Poultry (or Avian)	079 Forestry & Related Science, Other	072 Wood Science & Pulp/Paper Technology
019 Animal Science, Other	050 Horticulture Science	098 Agriculture, General
081 Environmental Science	074 Natural Resources/Conservation	099 Agricultural Science, Other

**LIFE SCIENCES (continued)****BIOLOGICAL/BIOMEDICAL SCIENCES**

130	Anatomy	136	Cell/Cellular Biology & Histology	166	Parasitology
110	Bacteriology	142	Developmental Biology/Embryology	175	Pathology, Human & Animal
100	Biochemistry ( <i>see also PHYSICAL SCIENCES/ Chemistry, other</i> )	139	Ecology	180	Pharmacology, Human & Animal
102	Bioinformatics	145	Endocrinology	185	Physiology, Human & Animal
103	Biomedical Sciences	148	Entomology	115	Plant Genetics
133	Biometrics & Biostatistics	137	Evolutionary Biology	120	Plant Pathology/Phytopathology ( <i>also in AGRICULTURAL SCIENCES</i> )
105	Biophysics ( <i>also in PHYSICS</i> )	170	Genetics/Genomics, Human & Animal	125	Plant Physiology
107	Biotechnology	151	Immunology	169	Toxicology
129	Botany/Plant Biology	157	Microbiology	189	Zoology
158	Cancer Biology	154	Molecular Biology	198	Biology/Biomedical Sciences, General
		160	Neurosciences	199	Biology/Biomedical Sciences, Other
		163	Nutrition Sciences		

**HEALTH SCIENCES**

210	Environmental Health	240	Medicinal/Pharmaceutical Sciences	200	Speech-Language Pathology & Audiology
211	Environmental Toxicology	230	Nursing Science	250	Veterinary Sciences
220	Epidemiology	215	Public Health	298	Health Sciences, General
212	Health Systems/Services Administration	245	Rehabilitation/Therapeutic Services	299	Health Sciences, Other
222	Kinesiology/Exercise Science				

**MATHEMATICS**

425	Algebra	440	Logic	450	Statistics ( <i>also in SOCIAL SCIENCES</i> )
430	Analysis & Functional Analysis	445	Number Theory	455	Topology/Foundations
420	Applied Mathematics	465	Operations Research ( <i>also in ENGINEERING &amp; in BUSINESS MANAGEMENT/ADMIN.</i> )	498	Mathematics/Statistics, General
460	Computing Theory & Practice			499	Mathematics/Statistics, Other
435	Geometry/Geometric Analysis				

**PHYSICAL SCIENCES****ASTRONOMY**

500	Astronomy	505	Astrophysics		
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**ATMOSPHERIC SCIENCE & METEOROLOGY**

510	Atmospheric Chemistry & Climatology	514	Meteorology	519	Atmospheric Science/Meteorology, Other
512	Atmospheric Physics & Dynamics	518	Atmospheric Science/Meteorology, General		

**CHEMISTRY**

520	Analytical Chemistry	530	Physical Chemistry	538	Chemistry, General
522	Inorganic Chemistry	532	Polymer Chemistry	539	Chemistry, Other ( <i>see also BIOLOGICAL/Biochemistry</i> )
526	Organic Chemistry	534	Theoretical Chemistry		

**GEOLOGICAL & EARTH SCIENCES**

542	Geochemistry	544	Geophysics & Seismology	550	Stratigraphy & Sedimentation
540	Geology	548	Mineralogy & Petrology	558	Geological & Earth Sciences, General
552	Geomorphology & Glacial Geology	546	Paleontology	559	Geological & Earth Sciences, Other

**OCEAN/MARINE SCIENCES**

585	Hydrology & Water Resources	595	Marine Sciences		
590	Oceanography, Chemical & Physical	599	Ocean/Marine, Other		

**PHYSICS**

560	Acoustics	574	Condensed Matter/Low Temperature Physics	570	Plasma/Fusion Physics
576	Applied Physics	568	Nuclear Physics	572	Polymer Physics
561	Atomic/Molecular/Chemical Physics	569	Optics/Photonics	578	Physics, General
565	Biophysics ( <i>also in BIOLOGICAL SCIENCES</i> )	564	Particle (Elementary) Physics	579	Physics, Other

**PSYCHOLOGY**

600	Clinical Psychology	615	Experimental Psychology	627	Physiological/Psychobiology Psychology
603	Cognitive Psychology & Psycholinguistics	620	Family Psychology	633	Psychometrics & Quantitative Psychology
606	Comparative Psychology	613	Human Development & Family Studies	636	School Psychology ( <i>also in EDUCATION</i> )
609	Counseling	621	Industrial & Organizational ( <i>see also BUSINESS MANAGEMENT/Organization Behavior</i> )	639	Social Psychology
612	Developmental & Child Psychology	624	Personality Psychology	648	Psychology, General
618	Educational Psychology ( <i>also in EDUCATION</i> )			649	Psychology, Other

**SOCIAL SCIENCES**

650	Anthropology	667	Economics	686	Sociology
652	Area/Ethnic/Cultural/Gender Studies	670	Geography	690	Statistics ( <i>also in MATHEMATICS</i> )
657	Criminal Justice & Corrections	674	International Relations/Affairs	694	Urban Affairs/Studies
658	Criminology	676	Linguistics	695	Urban/City, Community & Regional Planning
662	Demography/Population Studies	678	Political Science & Government	698	Social Sciences, General
668	Econometrics	682	Public Policy Analysis	699	Social Sciences, Other

**FIELDS NOT ELSEWHERE CLASSIFIED (NEC)**

960	Architecture/Environmental Design	972	Library Science	984	Theology/Religious Education ( <i>see also OTHER HUMANITIES/Religion/Religious Studies</i> )
964	Family/Consumer Science/Human Science ( <i>also in EDUCATION</i> )	974	Parks/Sports/Rec./Leisure/Fitness	989	Other Fields, NEC
968	Law	976	Public Administration		
		980	Social Work		

**Appendix 4**  
Alternative Versions of Question A2

Note: There are 2 versions, Version A and Version B. Version A will be given to respondents who received Version A of the initial questionnaire in Step 1, and Version B will be given to those who received Version B of the initial questionnaire in Step 1.

Alternative Question Version A

A2b. Please write the name of the primary field of your dissertation research.

Name of Field

Using the list on page 5, choose the code that best describes the primary field of your dissertation research.

Number of Field

If your dissertation research was interdisciplinary, list the name and number of your secondary field.

Name of Field

Number of Field

Alternative Question Version B

A2b. Using the Specialties List (page 5), please write the name and number of the primary field of your dissertation research.

Name of Field

Number of Field

If you had a secondary field for your dissertation research, list the name and number.

Name of Field

Number of Field

**Appendix 5**  
Multidisciplinary Question

Note: This question will be given to all respondents in Step 3.

A2c. Please write the name of the primary field of your dissertation research.

Name of Field

Using the list on page 5, choose the code that best describes the primary field of your dissertation research.

Number of Field

If your dissertation research was multidisciplinary, list the name and number of your secondary field.

Name of Field

Number of Field

**Appendix 6**  
Additional Questionnaire about Interdisciplinary/Multidisciplinary

Note: This will be given to all respondents in Step 4, after they answer all versions of the dissertation research question.

## Additional Questions

Next we would like to ask you a series of questions about the concepts of interdisciplinarity and multidisciplinary. Please provide as much information as you can; your responses are important for helping us understand how to improve the questions used in the NSF questionnaires.

Q1. Do you think the meanings of the terms “interdisciplinary” and “multidisciplinary” are:

- Exactly the same
- Very similar
- Somewhat similar
- Somewhat different
- Very different
- Completely different
  
- Not sure

Q2. What exactly does “interdisciplinary” mean to you?

Q3. How do you think the meaning of “multidisciplinary” differs from the meaning of “interdisciplinary” (if at all)?

Q4. Based on your definitions, how would you describe your doctoral dissertation research?

- Neither interdisciplinary nor multidisciplinary → **SKIP to Q10 on pg. 3**
- Interdisciplinary
- Multidisciplinary
- Both interdisciplinary or multidisciplinary

Q5. (If interdisciplinary and/or multidisciplinary) Do you consider your research to be interdisciplinary or multidisciplinary for any of the following reasons? *Mark Yes or No for each item.*

	Yes	No	Does not apply
You cite research from multiple fields/disciplines		<input type="checkbox"/>	<input type="checkbox"/>
You use research from multiple fields/disciplines to formulate your research questions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You use theories or methods from multiple fields/disciplines to conduct your research		<input type="checkbox"/>	<input type="checkbox"/>
Your research's implications are relevant or applicable to multiple fields/disciplines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You have presented or plan to present your research at a multidisciplinary or interdisciplinary conference	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your research may be publishable in a journal that speaks to multiple disciplines or in an interdisciplinary journal	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Your committee consists of faculty from multiple fields/disciplines		<input type="checkbox"/>	<input type="checkbox"/>

Q6. If there are additional reasons (not listed above) why you consider your research to be interdisciplinary or multidisciplinary, please describe them here:

Q7. Did you begin your graduate studies with the intention of conducting interdisciplinary or multidisciplinary research?

Yes

No

Q8. What factors influenced your decision to do an interdisciplinary or multidisciplinary dissertation?

Q9. How did you become involved in interdisciplinary or multidisciplinary research?

Q10. Based on your definitions of interdisciplinary and multidisciplinary, would you say that the doctoral degree you will earn (or have just earned) is:

Neither interdisciplinary nor multidisciplinary → **SKIP to Question Q13 on pg. 4**

Interdisciplinary

Multidisciplinary

Both interdisciplinary or multidisciplinary

Q11. (If interdisciplinary and/or multidisciplinary) Do you consider your degree to be interdisciplinary or multidisciplinary for any of the following reasons? *Mark Yes or No for each item.*

	Yes	No	Does not apply
Your field of study is considered to be an interdisciplinary field	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You are earning a minor in an additional field/discipline	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You took courses from multiple academic departments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
You took courses that were cross-listed to multiple departments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- Your committee consists of faculty from multiple fields/disciplines
- Your program/department has faculty from multiple fields/disciplines
- You have another degree in a different field/discipline
- Your research uses theories or methods from multiple fields/disciplines

Q12. If there are additional reasons (not listed above) why you consider your doctoral degree to be interdisciplinary or multidisciplinary, please describe them here:

Q13. In your opinion, is there a difference between doing interdisciplinary/ multidisciplinary research for a dissertation and getting an interdisciplinary/ multidisciplinary doctoral degree?

- Yes
- No
- Not sure

Q14. In general, do you think that interdisciplinary or multidisciplinary research is typically:

- Of higher quality than research produced within a single discipline
- Of the same quality than research produced within a single discipline
- Of lower quality than research produced within a single discipline
- Not sure

Q15. Please explain why you answered Q14 the way you did.

Q16. How supportive or unsupportive do you think WSU is of graduate students who conduct interdisciplinary or multidisciplinary research?

- Very supportive
- Somewhat supportive
- Neither supportive nor unsupportive
- Somewhat unsupportive
- Very unsupportive
  
- Not sure

Q17. To what extent do you think that doctoral students who conduct interdisciplinary or multidisciplinary research are advantaged or disadvantaged when looking for a job, compared to students whose research is based only in one discipline?

- Very advantaged
- Somewhat advantaged
- Neither advantaged nor disadvantaged
- Somewhat disadvantaged
- Very disadvantaged
  
- Not sure

Q18. Thinking about careers in general, do you think conducting interdisciplinary or multidisciplinary research is advantageous or disadvantageous for researchers?

- Very advantageous
- Somewhat advantageous
- Neither advantageous nor disadvantageous
- Somewhat disadvantageous
- Very disadvantageous
  
- Not sure

Q19. Some scholars define multidisciplinary research as research that uses perspectives from multiple disciplines, but does not necessarily integrate the concepts from the various disciplines.

This is distinguished from interdisciplinary research, which these scholars view as research that integrates perspectives from multiple disciplines to solve problems that are beyond the scope of a single discipline.

Based on these definitions, would you say that your dissertation research is:

- Neither interdisciplinary nor multidisciplinary
- Interdisciplinary
- Multidisciplinary
- Either interdisciplinary or multidisciplinary

Q20. Thinking of other graduate students in your program, about how many would you say conduct dissertation research that is interdisciplinary or multidisciplinary?

- None
- Few
- Some
- Most
- All