

Ph.D. Dissertation and Defense

This form is intended to provide a common set of criteria for the assessment of the Ph.D. dissertation and defense. The committee should complete this form after the defense.

Please score the following elements of the Ph.D. Dissertation and oral defense according to the rubric below, with Expert defined as the expected proficiency of a Post-Doctoral Scholar or Assistant Professor, and Introductory defined as the expected proficiency of a bachelor's degree recipient.

| | Score | Comments |
|---------------------------|------------------------------------|----------|
| Introduction | Dissertation: Oral Defense: | |
| Literature Review | Dissertation: Oral Defense: | |
| Theory | Dissertation: Oral Defense: | |
| Methods | Dissertation: Oral Defense: | |
| Results/Data Analysis | Dissertation: Oral Defense: | |
| Discussion and Conclusion | Dissertation: Oral Defense: | |
| Verbal Communication | Dissertation: Oral Defense: | |

Dissertation/Defense Rubric

| | Introductory | Intermediate | Advanced | Expert |
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| Introduction | <p>Identifies a researchable problem but it does not reflect independent thinking.</p> <p>Demonstrates basic comprehension of the subject matter without an in-depth review of the literature.</p> <p>Hypotheses untestable, irrelevant, or absent.</p> <p>Background material does not support problem or hypotheses in any meaningful way; seems irrelevant.</p> | <p>Identifies a researchable problem that demonstrates some independent thinking and an application of foundational concepts of the field.</p> <p>Identifies simple, testable hypotheses that address aspects of the broader problem but justification needs development and clarification.</p> <p>Case for problem is supported by literature analysis that reflects basic questions in the field.</p> <p>Does not represent subtle and particular issues that define the field, nor the historical context.</p> <p>Comprehends the scientific enterprise to engage in a basic way. Ability to construct a richer project and identify meaningful questions will evolve with increased experience.</p> | <p>Identifies a meaningful research problem that reflects independent thinking and a more complete and finely parsed comprehension of the literature.</p> <p>Hypotheses tightly aligned to problem.</p> <p>Case for problem and hypotheses well developed.</p> <p>Provides some historical context.</p> <p>Clearly comprehends how to productively engage in research and able to do so relatively independently.</p> | <p>Identifies an important, timely and unaddressed problem in the field the results of which will push the boundaries of the field.</p> <p>Develops a compelling rationale for why the question is significant that is grounded in a thorough analysis of relevant literature and situates the problem historically.</p> <p>Generally demonstrates an unusually mature perspective on the field that couples a sound command of conceptual knowledge and scientific practice with reasoned and creative independent thinking.</p> |
| Literature Review | <p>Review of literature patchy, limited in terms of breadth and/or history.</p> <p>Does not identify the major papers in the field and does not correctly describe the major controversies or questions in the field.</p> <p>Alternatively, survey may be adequate or thorough, but is unable to synthesize literature in a way that recognizes the important issues and does not seem to recognize the boundaries of the field.</p> <p>Review lists and summarizes papers rather attempts to organize and synthesize in ways that identify and represent a central problem.</p> <p>Does not seem to recognize the role of literature in science.</p> | <p>Identifies all papers essential to defining the problem at hand. However, may not correctly contextualize these papers or represent their contributions appropriately.</p> <p>Includes both important and weak papers and equally weighs their value to defining the problem.</p> <p>Consequently, argument supporting research problem does not necessarily represent an entirely 'fair' interpretation of the literature. Makes efforts to synthesize literature and in doing so identify a problem that emerges from it. Recognizes role of literature in scientific enterprise.</p> | <p>Exhibits a sufficient command of the literature, able to correctly describe and contextualize the problem at hand.</p> <p>Demonstrates knowledge of what has and has not been researched in relation to the issue.</p> <p>Review of literature demonstrates ability to discriminate between important and informative papers and those that are not.</p> <p>Recognizes the role of literature, and is able to successfully and appropriately use the literature to further the research enterprise</p> | <p>Comprehensive, thorough, current and evaluative.</p> <p>Exhibits superior command of the breadth and depth of the literature.</p> <p>Has independent, reasoned thinking to discriminate among significant and relatively insignificant papers or trends.</p> <p>Includes papers the advisor may not have seen or read.</p> <p>Analysis convincingly supports the relevance and importance of proposed research.</p> <p>Synthesis is (or with minor work), publishable as a review article on the subject.</p> |

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| Theory | Lacks recognition of relevant theory or misinterprets it completely. Does not seem to comprehend the role of theory in designing studies. Willing to draw broad and generalized conclusions based on limited observations. | Recognizes the role and importance of theory and exhibits knowledge of relevant theories. For the most part able to use theory properly and correctly in development and design of study. However, still building understanding so may need some guidance. | Able to apply theory independently and judiciously in the conceptualization and design of meaningful studies that will contribute productively to the field. Suggests an ability to prioritize research relative to theoretical relevance. | Superior comprehension and presentation of how the theory, problem, and hypotheses are related. Relates this more broadly to the direction of the field. Research is innovative, problem solving to produce new concepts, new mathematical or statistical applications and will revise or add to theory. Work is inventive and original. Able to contextualize observations beyond the work at hand. Exceptionally creative. |
| Methods | Methods are incompletely described and/or inappropriate to the proposed work. Appropriate and basic practices for designing experiments/studies have not been applied. Cannot anticipate how this work will actually be done or the data that will be generated. | Methods are appropriately selected to produce data that will allow evaluation of hypothesis. Statistical or other analyses have been considered in the design, although may not be fully appropriate or anticipate issues related to the data likely to be collected. Sufficiently detailed to allow a reader to judge if the study is successful. | Methods are described in detail and are explicitly and correctly mapped to statistical or other analyses; designed to generate a study of sufficient power to draw conclusions about validity of hypotheses confidently. Methodological challenges are recognized and appropriate and likely workable solutions are proposed, including the modification of existing techniques. | Methods including data analysis are described in great detail; include analysis of limitations of standard and more cutting edge techniques and/or statistical analyses. Reasonable and creative methodological solutions to limitations are proposed. Demonstrates deep understanding of methods and techniques and statistical analyses including their limitations and potential for further, productive development that will push the field forward. |
| Results/ data analysis | No meaningful results reflecting flawed methodology, an inability to distinguish reliable from unreliable data or insufficient data or data inappropriate for testing hypotheses. Data may be inappropriate to the question asked, and/or student may read too much into the data. Uses inappropriate statistical tests or does not seem to have attended to assumptions underlying statistical tests or those of other analytical methods. Unable to appropriately analyze and represent results. Figures inappropriate to data, lack appropriate labels, information on error, sample sizes, etc. | Generates sufficient amount of data to test hypotheses. Identifies correct statistical tests and executes attending to fundamental assumptions. May have some difficulty making sense of the data or identifying limitations but is able to with support of the mentor. Figures clear, appropriately labeled, and include information on error and sample sizes. Figures generally appropriate to nature of data to produce interpretable results. | Generates data that provide convincing tests of hypotheses, including appropriate controls. Data thoughtfully and carefully analyzed, demonstrating awareness of statistical options and perhaps new analytical techniques. Figures designed to present results in easily interpretable fashion. | Generates data that provides strongly convincing tests of the hypotheses, good controls. Identifies patterns in results demonstrating awareness of relationship of elements of work to each other. Data analyzed using creative, innovative methods appropriate to data and that support novel insights. Gets as much out of the data as possible but without over-interpretation. Provides statistically relevant interpretations and does not overreach. Figures thoughtfully designed to communicate results and facilitate interpretation. |

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| Discussion and Conclusion | Basic summary of results. Does not discuss shortcomings of current work or considerations for future work. May be omitted entirely. | Not well done; provides some considerations for future work based on shortcomings of current work. | Good summary of results; clearly states contributions, possible applications, and future directions. | Short summary that brings out major points and ties back to the introduction; contains lucid insights; places work within the context of the field; identifies contributions and applications as well as limitations and shortcomings; anticipates criticism; discusses future directions. |
| Written Communication | Poorly written with poor grammar, typos and inappropriate paragraphing; leaves the impression of being hastily prepared. | Writing is mostly clear and organized. Occasional typos may lead to misunderstanding. | Well written: concise, organized and well edited. | Well written in an engaging style. Organized to lead the reader directly to the hypotheses. |
| Verbal Communication | Has difficulty speaking clearly, is difficult to follow. Responses to questions or criticism are off topic or very limited. | Student speaks somewhat clearly, may be slightly hard to follow. Responses to questions and criticism may be incomplete or flawed. | Speaks fairly clearly, explanations are generally understandable. Is able to answer nearly all questions and respond to criticism. | Speaks clearly, providing clear explanations. Has well-reasoned, complete responses to questions and criticism. |