

i3 2023 Research Design Teaching Module

Instructors

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Overview

In this course, students will be introduced to basic concepts relevant to research in the information sciences. Students will understand the importance of research in the information sciences as well as the benefits and drawbacks of various research methods and designs. In addition, students will analyze existing research on the basis of its methods, research design, and ethical implications. Further, students will understand at a high level the research pipeline, including research design, data collection, data analysis, publishing and presenting. Finally, students will understand connections between the different phases of research.

Learning Outcomes


- Understand the purposes and goals of research in the information sciences
- Derive clear research questions from research topics
- Understand various qualitative and quantitative research methods and identify which methods should be used to answer various research questions
- Become familiar with methods for analyzing quantitative and qualitative data
- Understand basic research ethics, including online research ethics
- Critically analyze published research questions, methods, analysis, and ethics
- Visualize connections between different phases of the research process

Required Readings

*PDFs will be available for all required and recommended readings and will be linked below in the [Schedule](#) section


Schedule

Date	Topic	Readings (Have done by class)	Objectives	Activity
WEEK 1				
Monday, June 26th	Intro to Research/ Research in the Information Sciences	<u>Required Readings:</u> <ul style="list-style-type: none"> N/A <hr/> Additional/Recommended Resources: <ul style="list-style-type: none"> Borko, H. (1968). Information science: what is it?. American documentation, 19(1), 3-5. 	<ul style="list-style-type: none"> <i>Define research</i> <i>Explain the importance of research</i> <i>Define the information sciences</i> <i>Contrast between inductive and deductive reasoning</i> 	Emoji Activity
Tuesday, June 27th	Research Questions	<u>Required Readings:</u> <ul style="list-style-type: none"> Michael Crotty, "The Research Process." in <i>The Foundations of Social Research</i> Research Aims, Objectives, & Research Questions: Research Aims, Objectives & Research Questions (The Golden Thread) - Definitions + Examples 📖 <hr/> <u>Additional/Recommended Resources:</u>	<ul style="list-style-type: none"> <i>Differentiate between research objectives, research problems, and research questions</i> <i>Write strong, actionable research questions</i> 	Create a Research Question and Problem Statement (puzzle activity)

		<ul style="list-style-type: none"> • Davis, M. S. (1971). That's interesting! Towards a phenomenology of sociology and a sociology of p lol henomenology. Philosophy of the social sciences, 1(2), 309-344. • Tsang, E. W. (2022). That's interesting! A flawed article has influenced generations of management researchers. Journal of Management Inquiry, 31(2), 150-164. 		
Wednesday, June 28th	Quantitative Data Collection	<p><u>Required Readings:</u></p> <ul style="list-style-type: none"> • Edward Said and Orientalism:  Edward Said and Orien... <hr/> <p><u>Additional/Recommended Resources:</u></p> <ul style="list-style-type: none"> • Hargittai, E. (2020). Potential biases in big data: Omitted voices on social media. Social Science Computer Review, 38(1), 10-24. • Nikunen, K. (2021). Ghosts of white methods? The challenges of Big Data research in exploring racism in digital context. Big Data & 	<ul style="list-style-type: none"> • <i>Describe various methods used to collect quantitative data</i> • <i>Compare the benefits and drawbacks of various methods of quantitative data collection</i> 	<p>Quant Methods Teach-In</p> <ul style="list-style-type: none"> • Survey • Experiment • Networks/Big Data • Content Analysis • Ecological Momentary Assessment/Experience Sampling

		Society, 8(2). 20539517211048964		
Thursday, June 29th	Qualitative Data Collection	<p><u>Required Readings:</u></p> <ul style="list-style-type: none"> • Ch 2 from Smith's Decolonizing Methodologies <hr/> <p><u>Additional/Recommended Resources:</u></p> <ul style="list-style-type: none"> • Tanweer, A., Gade, E., Krafft, P. M., & Dreier, S. (2021). Why the data revolution needs qualitative thinking. Harvard Data Science Review, 3. • Bardzell, S., & Bardzell, J. (2011, May). Towards a feminist HCI methodology: social science, feminism, and HCI. In Proceedings of the SIGCHI conference on human factors in computing systems (pp. 675-684). • Hayes, G. R. (2014). Knowing by doing: action research as an approach to HCI. Ways of Knowing in HCI, 49-68. 	<ul style="list-style-type: none"> • <i>Describe various methods used to collect qualitative data</i> • <i>Compare the benefits and drawbacks of various methods of qualitative data collection</i> 	<p>Qual Methods Teach-In</p> <ul style="list-style-type: none"> • Interview • Focus Group • Ethnographic Methods • Asynchronous Remote Communities • Qualitative Content Analysis
Friday, June 30th	Mixed Methods Data Collection	<p><u>Required Readings:</u></p> <ul style="list-style-type: none"> • Creswell Research Design Chapter 10 - Mixed Methods <hr/>	<ul style="list-style-type: none"> • <i>Describe various ways to do mixed methods research</i> • <i>Compare the</i> 	<p>Fill-in-the-slide Lecture</p>

		<p><u>Additional/Recommended Resources:</u></p> <ul style="list-style-type: none"> • Fielding, N. G. (2012). Triangulation and mixed methods designs: Data integration with new research technologies. Journal of mixed methods research, 6(2), 124-136. • Schoonenboom, J., & Johnson, R. B. (2017). How to construct a mixed methods research design. Kolner Zeitschrift fur Soziologie und Sozialpsychologie, 69(Suppl 2), 107. 	<p><i>benefits and drawbacks of mixed methods research</i></p> <ul style="list-style-type: none"> • <i>Describe the concept of triangulation</i> 	
WEEK 2				
Monday, July 3rd	Data Analysis (Quant, Qual, Mixed Methods)	<p><u>Required Readings:</u></p> <ul style="list-style-type: none"> • Thornberg, R., & Charmaz, K. (2014). Grounded theory and theoretical coding. The SAGE handbook of qualitative data analysis, 5, 153-69. • Greasley, P. (2007). EBOOK: Quantitative Data Analysis using SPSS: An Introduction for Health and Social Sciences. McGraw-Hill Education (UK). - Chapter 1 <hr/> <p><u>Additional/Recommended Resources:</u></p> <ul style="list-style-type: none"> • Gibbs, G. R. (2014). Using software in qualitative 	<ul style="list-style-type: none"> • <i>Understand what we do with data once we've collected it</i> • <i>Compare and contrast different methods of analysis</i> 	Thematic Analysis Think/Pair/Share

		<p>analysis. The SAGE handbook of qualitative data analysis. 277-294.</p> <ul style="list-style-type: none"> • Jamison, T., Kemp, C. L., Speirs, K. E., Swenson, A., & Vesely, C. K. (2018). Dialogue About Qualitative Data Analysis Software. In How Qualitative Data Analysis Happens (pp. 221-227). Routledge. 		
Tuesday, July 4th	Literature Review/Theory	<p><u>Required Readings:</u></p> <ul style="list-style-type: none"> • How to Write a Literature Review: 3 Minute Step-by-step Guide Scribbr  • Synthesizing Sources - Purdue OWL • Reza et al., 2019 "Skins for Sale: Linking Player Identity, Representation, and Purchasing Practices" <hr/> <p><u>Additional/Recommended Resources:</u></p> <ul style="list-style-type: none"> • Ogbonnaya-Ogburu, I. F., Smith, A. D., To, A., & Toyama, K. (2020, April). Critical race theory for HCI. In Proceedings of the 2020 CHI conference on human factors in computing systems (pp. 1-16). 	<ul style="list-style-type: none"> • <i>Lit Reviews are not fun. We know. But there are ways to make them really useful!</i> • <i>Understand the components and purpose of a literature review</i> • <i>Discover ways to search for and evaluate literature</i> • <i>Contrast between summarizing and synthesizing sources</i> 	<p>Speed Review for Chosen topic</p> <p>Emoji Activity Part 2 (if time allows)</p>

		<ul style="list-style-type: none"> • Hekler, E. B., Klasnja, P., Froehlich, J. E., & Buman, M. P. (2013, April). Mind the theoretical gap: interpreting, using, and developing behavioral theory in HCI research. In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (pp. 3307-3316). 		
Wednesday, July 5th	Research Ethics	<p><u>Required Readings:</u></p> <ul style="list-style-type: none"> • Computer science ethics education: The case for ethics integration in the tech classroom • Fiesler 2019, "Ethical Considerations for Research Involving Public Data" <hr/> <p><u>Additional/Recommended Resources:</u></p> <ul style="list-style-type: none"> • Markham, A. N., Tiidenberg, K., & Herman, A. (2018). Ethics as methods: doing ethics in the era of big data research—introduction. Social Media+ Society, 4(3), 2056305118784502. • Zook, M., Barocas, S., Boyd, D., Crawford, K., Keller, E., 	<ul style="list-style-type: none"> • <i>Understand formal ethical rules and regulations regarding human subjects research</i> • <i>Understand informal ethical suggestions</i> • <i>Compare and contrast the various ethical decisions required when working with different research methods</i> 	Ethical or Sus?

		<p>Gangadharan, S. P., ... & Pasquale, F. (2017). Ten simple rules for responsible big data research. PLoS computational biology, 13(3), e1005399.</p> <ul style="list-style-type: none"> • Thompson, A., Stringfellow, L., Maclean, M., & Nazzari, A. (2021). Ethical considerations and challenges for using digital ethnography to research vulnerable populations. Journal of Business Research, 124, 676-683. 		
Thursday, July 6th	Publishing & Presenting	<p><u>Required Readings:</u></p> <ul style="list-style-type: none"> • Heron & Schwartz 2007, "What is a Problem Statement?" <hr/> <p><u>Additional/Recommended Resources:</u></p> <ul style="list-style-type: none"> • How to Write a CHI Paper • Research Contributions in HCI 	<ul style="list-style-type: none"> • <i>Understand basic components involved in research paper publication</i> • <i>Understand basic components involved in presenting your research and networking at conferences</i> • <i>Develop and practice research elevator pitches</i> 	Research Elevator Pitches
Friday, July 7th	Wrap-Up/Reflection	<u>Required Readings:</u>	<ul style="list-style-type: none"> • <i>Review module material</i> 	Jeopardy

		<ul style="list-style-type: none"> • Belinha S. De Abreu, 2022, “Challenging Conversations in Challenging Times: Respect, Rapport, and Relationships.” in <i>Media Literacy for Justice: Lessons for Changing the World</i> • New York Times, “Blue Check Confusion” by Madison Malone Kircher, 2023 <hr/> <p><u>Additional/Recommended Resources:</u></p> <ul style="list-style-type: none"> • N/A 	<ul style="list-style-type: none"> • <i>Reflect on lessons learned in the module</i> • <i>Discuss the Twitter Blue case study and its implications for information science and media literacy</i> 	Twitter Blue Case Study
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