

EVI101: Evidence

January 5th - January 16, 2026

[Course Canvas site](#)

Teaching Team

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Course description

The dilemmas we face as education professionals seeking to advance equity and opportunity require us to make sense of, evaluate, and prioritize different kinds of evidence. This course equips students with the foundational skills and knowledge they'll need to interpret the most common forms of evidence in education settings and apply them to their practice.

We ground our exploration of these issues in a persistent, pervasive, and provocative challenge: The secretaries of education in the city of São Paulo are working to improve academic achievement in foundational subjects (reading, math, and science) for lower secondary students in grades 6 to 9 in the city's schools. Additionally, they want to place a special emphasis on improving opportunities and outcomes for students from low-income families. Your task is to use evidence from the course in three ways to help them solve this Grand Challenge. We will use evidence to (1) frame the problem of educational inequity, (2) evaluate the quality and relevance of the evidence about possible solutions, and (3) consider what additional evidence we would need to strengthen our conclusions.

The course uses an innovative team-based learning pedagogy, including flipped lectures, whole-class discussion, and small-group activities. By the end of the course, students will be able to weigh the unique affordances of different types of evidence in making decisions about complex

educational dilemmas and will acquire a powerful set of tools for analyzing and applying evidence to improve education systems.

Evidence framework

The following evidence framework guides our course. Every day of class will focus on one of these four types of evidence, and you'll learn how to evaluate its quality, relevance, and validity.

Type of evidence	Descriptive	Causal	Synthetic	Process
Question it answers	What is happening?	Is a policy, program, or practice causing an impact?	What is already known?	How or why is it happening?

As an appendix to the syllabus, we have included a one-page summary of the essential questions about the affordance, quality, and relevance of each type of evidence.

Grand Challenge

This course builds toward a Grand Challenge: an authentic problem of practice that you will analyze with the tools you learn in this course. Completing the challenge will require you to use evidence to frame an issue, to decide on a program to implement, to support an intervention you've already decided to implement, and to continuously improve your work.

Grand Challenge

The secretaries of education in the city of São Paulo are working to improve academic achievement in foundational subjects (reading, math, science) for lower secondary students in grades 6 to 9 in the city's schools. Additionally, they want to place a special emphasis on improving opportunities and outcomes for students who are from low-income families.

You'll be asked to complete four tasks to support the secretaries in their decisions, based on research papers you will read during the course:

- 1) Frame the Grand Challenge with descriptive evidence. What is the challenge and why is it important?
- 2) Recommend considerations for expanding the Pedagogical Innovation Project (PIP) to São Paulo, Brazil.
- 3) Recommend the focus of teacher coaching to implement to support the PIP expansion.
- 4) Recommend what additional evidence they should collect to continually improve foundational education for these students.

Learning outcomes

By the end of this course, you will demonstrate mastery of the following competencies, with an emphasis on competency 1.

1. Evaluate the quality of evidence and its implications for policy, practice, or our understanding of education
2. Apply techniques for engaging diverse stakeholders in using evidence for decision-making
3. Understand how one's personal perspective and the broader political, social, and cultural contexts of education shape the construction and use of evidence

With these understandings, you will be able to:

- Analyze the unique affordances of descriptive, causal, synthetic, and process evidence.
- Apply different types of evidence to improve learning in authentic educational settings and contexts as you grapple with real-world educational dilemmas and challenges.
- Shape your own professional identity by connecting your understanding of the Evidence course competencies to the courses you will take at HGSE and to your future professional goals and aspirations

Preparing for class

Course pre-work: Module 1

Before the first class meeting, please work through the Context and the Grand Challenge module on Canvas. This module provides details on our team-based learning pedagogical model and our course policies and assessments, as well as introducing you to the context for our Grand Challenge: the education system in São Paulo, Brazil. Be sure to complete the iRATs (quizzes) for sessions 1 as well; they appear at the end of the module. The module includes a checklist of everything you need to do ahead of our first course meeting.

Preparing for class

Each day, please prepare for class in this order:

1. **Watch the daily course videos**, in which the teaching team will introduce you to the evidence concepts and core readings for that day.
2. **Read the required readings**, which can be found in the Library Reserves tool on the Canvas site.
3. **Complete the first two parts of that day's iRAT (quiz)** by 3 hours before your section begins.

In class, we will spend the first part of our time on reviewing the key ideas from the reading and discussing the team Readiness Assurance Test, and the second part on applying the knowledge you have gained to an authentic problem of practice. These applications will be posted in the module for each day, so you will know ahead of time what questions you will be asked to address.

Course policies

Rigorous and kind learning community

A core belief in Evidence is that we are all colleagues, standing shoulder to shoulder to analyze and apply evidence in solving a provocative problem confronting educational professionals. We want to build a learning environment where we think carefully and critically about different types of evidence, are able to change our minds based on sound arguments, and are generous to each other. In short, we want a learning community that is **rigorous and kind**.

We aspire to uphold the following principles to create a rigorous and kind learning community:

- **Come prepared:** Do the homework and come ready to participate.
- **Be present:** Put aside other work and distractions so that you are ready to focus on the course content and team discussions.
- **Step up, step back:** Step up to participate when you have a contribution to make and step back to make space for others, paying attention to the social dynamics related to identity that have historically disempowered some voices.
- **Take an inquiry stance:** Ask questions. Be curious, not judgmental, about others' opinions and positions—especially when they differ from your own.
- **Explain your reasoning and intent** so that others can understand how you reached your conclusion and how their own reasoning might differ. Cite evidence to support your point of view. Ask yourself and others, "How do we know?"
- **Own your impact:** If something you say or do inadvertently harms someone else, take responsibility for the impact you had on that person.
- **Be generous with yourself and your colleagues:** Assume good intent, and be understanding if things don't go according to plan. Discuss problems and negative feedback directly and privately, with a focus on solutions.

Attendance

Because of the short duration of the course, and the fact that we will be learning collaboratively and in small groups, students are expected to attend every class. **Students missing more than 15 minutes of a class session will be considered absent for that day.** Please email your instructor and your TF if you must arrive late or leave early.

Per the [HGSE Student Handbook](#), students may be excused from no more than one session. A student must notify their instructor and their TF of an absence by 24 hours prior to the missed session.

When students miss a class in Evidence, even for an excused absence, they must:

- Schedule an oral exam during office hours with a member of the teaching team
- Complete the videos, readings, and iRAT for that week
- Watch the recording of the session posted on Canvas
- Check in with their team about any work the team completed during class

When a student is absent from a class session (including absences as a result of missing more than 15 minutes of a class session), they will be required to complete an oral exam with a teaching fellow during office hours. Oral exams include 3 to 4 questions on the course content from that day and are graded on a pass/fail basis. If a student fails an oral exam, they must retake it with the section instructor. Except in cases of severe illness or emergency in which the student is away from campus, all oral exams must be completed by Thursday, January 15th at 6pm ET.

Absence from more than one session of a Foundations course is rarely approved, and only in exceptional cases of extenuating circumstances. Students who anticipate missing more than one session before the course begins must submit a Student Appeal Form via my.harvard. After the course begins, a student who misses more than one session due to extenuating circumstances should contact their instructor and their TF.

Missing more than one session of a Foundations course, depending on the specific day(s) and activities missed, or failing to complete any required oral exams by the stated deadline may necessitate that the student either (1) take a grade of “Incomplete” (INC) until makeup work is submitted or (2) drop and retake the course at the next possible opportunity (another semester or the following year). It will be up to the instructor to determine the appropriate make-up work to learn the key concepts and receive a grade of SAT. Students with one or more unexcused absences from a Foundations course will receive a grade of DRP (dropped) for that course and be subject to withdrawal from HGSE.

Assessments and grading We will assess your progress in this course through two forms of assessments:

- **iRATs/tRATs** (individual/team Readiness Assurance Tests): daily quizzes on the material we’ll cover in class. These come in three parts: 1) check for understanding on course concepts; 2) applications to the readings, and 3) writing about evidence.
- The **Grand Challenge**, described above, which applies what you’ve learned to an authentic problem of practice: improving academic achievement in reading, math, and science for lower secondary students in grades 6 to 9 in the city’s schools.

This course is graded satisfactory/no credit (SAT/NCR) only. To earn a satisfactory grade, you must:

- **Attend all course sessions.** You are allowed only one excused absence; see details under Attendance.
- **Satisfactorily complete all assignments**, including the iRATs and tRATs (daily quizzes and writing prompts), course surveys, peer feedback, the team Grand Challenge. If you have any missing iRATs or do not contribute equitably to your team's Grand Challenge, you must take a grade of Incomplete to finish the work or be graded NCR.
- **Complete any requests to revise and resubmit:** If you do not meet the criteria for success on an assignment, we will ask you to revise and resubmit (R&R) until you have met our expectations on the course competencies. If your team is asked to complete an R&R on the Grand Challenge, your team must complete the R&R by the deadline or take a grade of Incomplete to finish the work or be graded NCR.
- **Completed any required oral exams to make up time missed:** See details on oral exam policies under the Attendance section above.

All assignments are graded as complete or revise and resubmit. The iRATs are individual assignments and count for 60% of your final grade. You must complete all iRATs to earn 60% or you will get a 0%. iRAT parts 1 and 2 are graded on completeness only, not percent correct. iRAT 3 is graded by your TF, who will provide individual feedback. The Grand Challenge is a team assignment and counts for 40% of your grade.

Extensions

Students are expected to submit their assignments (e.g., iRATs, Grand Challenge presentation) on time; however, we understand that emergencies occur. We would prefer that you ask for an extension rather than struggle with the assignment or turn in something that does not represent your best work. **Please email the instructor and your TF to request any extensions at least 24 hours in advance of the assignment due date.** If you are missing work that cannot be turned in and graded before the grading deadline for the course, you must take an Incomplete and discuss a timeline for making up the work with your instructor.

Academic integrity and use of generative AI

All work submitted to meet course requirements is expected to be the student's own. In the preparation of all papers and other written work submitted to meet course and degree requirements, students must be careful to distinguish between ideas that are their own and those that have been derived from other sources. Information and opinions drawn from all sources are to be attributed specifically to these sources. It is the student's responsibility to learn and use the proper forms of citation. Quotations must be properly placed within quotation marks and must be fully cited. All paraphrased material must also be fully cited. In all cases where ideas or material presented are derived from a student's reading and research, the source used must be indicated. Students who submit work either not their own or without clear

attribution to the original source, for whatever reason, face sanctions up to and including dismissal and expulsion. For additional information about appropriate citation and paraphrasing, please visit these resources:

- [Gutman Library tutorials on academic integrity, AI literacy, writing and citing, and research and course support](#)
- [Purdue OWL resource on quoting, paraphrasing, and summary](#)

HGSE policy on academic integrity forbids students to represent work as their own that they did not write, code, or create, and this includes use of generative AI. All students must abide by [HGSE's policy on generative AI](#).

In Evidence, acceptable uses of generative AI include:

- Checking grammar and spelling
- Asking for a summary or other examples to better understand a concept from class
- Asking for language translations
- Using the AI as part of an assistive technology solution as approved by the Office of Student Affairs and the EVI101 teaching team
- Using AI when it is included as part of a class activity, such as a TBL application

Unacceptable uses of generative AI include:

- Generating any portion of an assignment for the course, including for the iRATs or the Grand Challenge assignment
- Any other use that presents the results of an AI as if they were your own original thoughts or writing

As stated in the HGSE policy on generative AI, **if you use an AI tool to help you with an assignment, you must provide a 1 to 2 sentence explanation of which tools you used and how.** You do not need to provide a list of prompts or chat history.

Revisions to the syllabus

We intend that this syllabus will give you guidance about what may be covered during the course. We will follow it as closely as possible, but we reserve the right to modify, supplement, and make changes as course needs and circumstances arise.

Topics and required readings

1 Context and the Grand Challenge • Monday, January 5

OECD Education in Brazil. (2021). [Chapter 1: The Brazilian education system](#)

- Pages 16 to 33 only (*skip the section on emerging issues*)

2 Descriptive quantitative evidence • Tuesday, January 6

OECD Education in Brazil. (2021). [Chapter 3: Learning and its outcomes](#)

- Pages 70 to 92 only

3 Descriptive qualitative evidence, day 1 • Wednesday, January 7

Calarco, J. M. (2011). [“I need help!”](#) Social class and children’s help-seeking in elementary school. *American Sociological Review*, 76(6), 862–882.

Small, M. L., & Calarco, J. (2022). *Qualitative literacy: A guide to evaluating ethnographic and interview research*. University of California Press.

- Introduction (pp. 8-9 and 18-22 only)

4 Descriptive qualitative evidence, day 2 • Thursday, January 8

Small, M. L., & Calarco, J. (2022). *Qualitative literacy: A guide to evaluating ethnographic and interview research*. University of California Press.

- Chapter 1: Cognitive Empathy (pp. 23-46)
- Appendix A from the Piza et al reading for causal experimental evidence

5 Causal experimental evidence • Friday, January 9

Piza, C., Zwager, A., Ruzzante, M., Dantas, R., & Loureiro, A. (2024). [Teacher-led innovations to improve education outcomes: Experimental evidence from Brazil](#). *Journal of Public Economics*, 234, 105123.

6 Causal quasi-experimental evidence • Monday, January 12

Dee, T. S., & Penner, E. K. (2016). [The causal effects of cultural relevance](#). *American Educational Research Journal*, 54(1), 127–166.

- Pages 127-150 only

7 Synthetic evidence • Tuesday, January 13

Kraft, M. A., Blazar, D., & Hogan, D. (2018). [The effect of teacher coaching on instruction and achievement: A meta-analysis of the causal evidence](#). *Review of Educational Research*, 88(4), 547–588.

8 Process evidence • Wednesday, January 14

Oliveira, G., Barbosa Lindquist, C., Sato Shiratori, E., & Baptaglin, L. (2024). [Venezuelan migration to Brazil: Teachers and students co-constructing multicultural education inside classrooms](#). *Journal for Multicultural Education*, 18(4), 540–553.

9 • Exploratory evidence and course wrap-up • Thursday, January 15

Luvison Araújo, L. A., & Dos Santos Alitto, R. A. (2021). [Teaching native biodiversity: An exploratory study with Brazilian teachers](#). *Journal of Biological Education*, 57(5), 960–970.

10 • Grand Challenge presentations • Friday, January 16

No readings

Appendix: Evidence 101 framework and essential questions

Descriptive (quantitative)	Descriptive (qualitative)	Causal	Synthetic	Process
AFFORDANCE of this type of evidence (questions it can answer)				
What is happening? (breadth)	What is happening? (depth)	Is a policy, program, or practice causing an impact?	What is already known?	How or why is it happening?
Questions for assessing QUALITY: how well a study answers the question it sets out to answer				
<ul style="list-style-type: none"> How well supported are the claims in this study by the type of evidence it represents? <i>For example, claims about causal impact should be based on experimental or quasi-experimental evidence; claims about what we already know should be based on synthetic evidence; claims about perceptions or reasoning of participants should rely on participants' own accounts.</i> What are the limitations of this evidence? What claims can we <i>not</i> make based on this evidence? 				
<ul style="list-style-type: none"> How well does the approach to sampling support inferences about the target population? How well do the authors describe the typical values and their variability in the sample data? How well do the authors describe the range of plausible values for the population characteristic? 	<ul style="list-style-type: none"> How well does the study select participants or cases purposefully to address the research question(s)? How well does the study illustrate participants' perspective, experiences, or behaviors? How well does the study describe the context of participants' experiences? 	<ul style="list-style-type: none"> How well does the study describe the contrast between the treatment and the counterfactual? How valid is the counterfactual? (How well does the study deal with selection bias?) How well do the authors specify the groups to which the treatment effect applies? 	<ul style="list-style-type: none"> How well does the study define and focus the topic or intervention? How transparent and systematic are the criteria by which studies are included in or excluded from the synthesis? How strong is the quality of the underlying individual studies? 	<ul style="list-style-type: none"> How well does the study identify the mechanisms by which an outcome is produced, including by ruling out plausible alternatives? How well does the study describe how relevant features of the local context might affect this process? How well does the study explore how participants interpret and respond to this process? <p><i>(plus appropriate questions from other columns)</i></p>
Questions for assessing RELEVANCE: how applicable a study's findings are to a different context				

Appendix: Evidence 101 framework and essential questions

- What inferences can you make from this study that would inform or apply to São Paulo, Brazil's Grand Challenge?
- How related are the setting and sample to São Paulo, Brazil's context, priorities, and needs? How or why would any differences matter?