
AP Research & Capstone

The Scholar-Leader: Original Research for a
More Just and Informed World

STUDENT HANDBOOK & INTEGRATED WORKBOOK

Summer Intensive Program 2026

Instructor: Qingyun Pei

Institution: NJCU / Kean Jersey City STEAM Academy

Location: Jersey City, New Jersey

Student Name: _____

Date of Submission: _____

Contents

1	Part 1 — Course Orientation	5
1.1	Welcome Letter	5
1.2	Course Overview	5
1.3	Five-Week Roadmap	5
1.4	What Is AP Research?	5
1.5	Human-Centered Design (HCD) Framework	5
2	Part 2 — Daily Research Log	7
2.1	Day 1 Research Log	7
2.2	Day 2 Research Log	9
2.3	Day 3 Research Log	11
2.4	Day 4 Research Log	13
2.5	Day 5 Research Log	15
2.6	Day 6 Research Log	17
2.7	Day 7 Research Log	19
2.8	Day 8 Research Log	21
2.9	Day 9 Research Log	23
2.10	Day 10 Research Log	25
2.11	Day 11 Research Log	27
2.12	Day 12 Research Log	29
2.13	Day 13 Research Log	31
2.14	Day 14 Research Log	33
2.15	Day 15 Research Log	35
2.16	Day 16 Research Log	37
2.17	Day 17 Research Log	39
2.18	Day 18 Research Log	41
2.19	Day 19 Research Log	43
2.20	Day 20 Research Log	45
3	Part 3 — Topic Development Toolkit	47
3.1	Research Interest Funnel	47
3.2	Topic Brainstorming Page	47
3.3	Topic Selection Table	48
3.4	FINER Framework Worksheet	49
3.5	Research Question Evaluation Checklist	49
3.6	Scope Triangle Worksheet	49
3.7	Question Revision Tracker	51
3.8	Research Interest Statement	51
4	Part 4 — Literature Review Toolkit	52
4.1	Literature Matrix	52
4.2	Theme Analysis Table	54
4.3	Research Gap Builder	55
4.4	Source Credibility Checklist	57
4.5	CRAAP Test Worksheet	57
4.6	Literature Review Planning Sheet	58

5	Part 5 — Methodology Toolkit	60
5.1	Method Selection Matrix	60
5.2	Participant Planning Sheet	61
5.3	Research Design Planner	61
5.4	Survey Planning Sheet	63
5.5	Interview Planning Sheet	63
5.6	Data Collection Timeline	65
5.7	Feasibility Checklist	65
6	Part 6 — Ethics & IRB Toolkit	67
6.1	Belmont Principles Summary	67
6.2	Ethics Checklist	67
6.3	Informed Consent Planning Sheet	68
6.4	Confidentiality Planning Worksheet	68
6.5	Risk-Benefit Analysis Table	70
6.6	AP Research IRB Application Template	70
6.7	Ethics Reflection	71
7	Part 7 — Proposal Builder	72
7.1	Research Question	72
7.2	Background and Significance	72
7.3	Literature Review	73
7.4	Research Gap	73
7.5	Methodology	73
7.6	Ethics Considerations	75
7.7	Hypothesis or Research Expectations	75
7.8	Expected Contribution	75
7.9	Timeline	77
7.10	References	77
8	Part 8 — Presentation Toolkit	78
8.1	Two-Minute Research Pitch	78
8.2	STEAM Fair Planning Sheet	78
8.3	Presentation Outline Template	80
8.4	Audience Question Tracker	80
8.5	Feedback Log	81
9	Part 9 — Scholar-Leader Portfolio	82
9.1	Week 1 Reflection	82
9.2	Week 2 Reflection	82
9.3	Week 3 Reflection	83
9.4	Week 4 Reflection	83
9.5	Week 5 Reflection	84
9.6	Final Scholar-Leader Reflection	85
10	Part 10 — AP Research Readiness	86
10.1	AP Research Timeline	86
10.2	Academic Paper Checklist	86
10.3	PODR Preparation Checklist	86
10.4	Proposal Progress Tracker	88
10.5	Mentor Meeting Log	88

10.6 Revision History Tracker 89
10.7 Research Milestone Tracker 90

1 Part 1 – Course Orientation

1.1 Welcome Letter

Dear Scholar-Leader,

Welcome to the AP Research & Capstone Summer Intensive Program. This document is a strategic lab manual designed to guide you step by step through the process of building an empirical, defense-ready research proposal.

In this intensive, scholarly inquiry is explicitly framed as an instrument of leadership. The questions you choose to evaluate, the data metrics you trust, and the social communities you focus on determine exactly what the world knows and can execute. A true leader does not depend on unverified opinions; they gather systematic evidence to surface hidden insights on behalf of populations whose lived experiences have been overlooked.

By the conclusion of our 5-week block, you will have completed a rigorous, aligned research blueprint that establishes an immediate runway for your full academic paper and presentation parameters over the upcoming school term. Treat this workspace as your scientific testing field.

Sincerely,

Instructor Qingyun Pei

1.2 Course Overview

Course Title	AP Research & Capstone: The Scholar-Leader Framework
Duration	5 Weeks Intensive Loop (Summer 2026)
Weekly Schedule	Monday through Thursday
Session Sizing	45 Minutes per Operational Block
Primary Deliverable	Complete, Defense-Ready Original Research Proposal Package

1.3 Five-Week Roadmap

1.4 What Is AP Research?

AP Research is an independent year-long project where you produce a 4,000–5,000 word academic paper and an oral defense presentation (PODR). Unlike traditional classes, you are no longer just reporting what other authors think. You are generating brand-new empirical data to fill a specific knowledge void. This summer program secures your study design before the school semester begins.

1.5 Human-Centered Design (HCD) Framework

We approach academic research using Human-Centered Design. This model ensures your study directly addresses the values, tracking variables, and realities of real communities.

Week	HCD Phase	Focus Matrix	Major Deliverable
Week 1	Empathize	Research Question Development	Bounded Research Question Log
Week 2	Define	Literature Review & Source Analysis	Thematic Synthesis / Gap Statement
Week 3	Ideate	Methodology Selection & Ethics	Instrument Plan / IRB Application
Week 4	Prototype	Research Design & Academic Writing	Integrated Proposal Prototype Draft
Week 5	Test & Share	Proposal Presentations & STEAM Fair	STEAM Fair Showcase Opening

HCD Phase	Operational Action for the Scholar-Leader
Empathize	Listen to the target community to see whose experiences are missing from official research registries.
Define	Read the literature deeply to locate the exact boundary where established knowledge stops.
Ideate	Design a step-by-step methodology to gather trustworthy data while maintaining strict safety controls.
Prototype	Combine your question, literature review, and methods into a single, cohesive project blueprint.
Test & Share	Present your study plan to outside evaluators and update your design based on peer feedback.

2 Part 2 – Daily Research Log

Introduction Framework:

The College Board mandates that AP Research students maintain an ongoing, detailed record of their reflections, inquiries, and methodological changes. This Research Process Log (PREP) functions as a formal academic artifact. Maintaining this systematic log helps you track tactical shifts, verify empirical growth, and structure your final defense statements. Use this dedicated operational environment every class day to map out how your topic grows from an early curiosity into a defense-ready academic proposal.

2.1 Day 1 Research Log

Student Name: _____

Date: _____

Day Number: Day 1

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question Ethics / IRB
- Literature Search Hypothesis
- Literature Matrix Proposal Writing
- Source Evaluation Presentation
- Research Gap Peer Feedback
- Methodology Revision
- Research Design Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea Proposal paragraph
- Revised question Proposal outline
- New source found Presentation slide
- Matrix entry Feedback received
- Theme map Revision completed
- Gap statement Other: _____
- Method plan Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.3 Day 3 Research Log

Student Name: _____

Date: _____

Day Number: Day 3

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question Ethics / IRB
- Literature Search Hypothesis
- Literature Matrix Proposal Writing
- Source Evaluation Presentation
- Research Gap Peer Feedback
- Methodology Revision
- Research Design Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea Proposal paragraph
- Revised question Proposal outline
- New source found Presentation slide
- Matrix entry Feedback received
- Theme map Revision completed
- Gap statement Other: _____
- Method plan Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.4 Day 4 Research Log

Student Name: _____

Date: _____

Day Number: Day 4

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- | | |
|--|---|
| <input type="checkbox"/> Research Question | <input type="checkbox"/> Ethics / IRB |
| <input type="checkbox"/> Literature Search | <input type="checkbox"/> Hypothesis |
| <input type="checkbox"/> Literature Matrix | <input type="checkbox"/> Proposal Writing |
| <input type="checkbox"/> Source Evaluation | <input type="checkbox"/> Presentation |
| <input type="checkbox"/> Research Gap | <input type="checkbox"/> Peer Feedback |
| <input type="checkbox"/> Methodology | <input type="checkbox"/> Revision |
| <input type="checkbox"/> Research Design | <input type="checkbox"/> Other: _____ |

Evidence of Progress

What did you produce or improve today?

- | | |
|--|---|
| <input type="checkbox"/> New research idea | <input type="checkbox"/> Proposal paragraph |
| <input type="checkbox"/> Revised question | <input type="checkbox"/> Proposal outline |
| <input type="checkbox"/> New source found | <input type="checkbox"/> Presentation slide |
| <input type="checkbox"/> Matrix entry | <input type="checkbox"/> Feedback received |
| <input type="checkbox"/> Theme map | <input type="checkbox"/> Revision completed |
| <input type="checkbox"/> Gap statement | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Method plan | <input type="checkbox"/> Ethics form |

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.5 Day 5 Research Log

Student Name: _____

Date: _____

Day Number: Day 5

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question Ethics / IRB
- Literature Search Hypothesis
- Literature Matrix Proposal Writing
- Source Evaluation Presentation
- Research Gap Peer Feedback
- Methodology Revision
- Research Design Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea Proposal paragraph
- Revised question Proposal outline
- New source found Presentation slide
- Matrix entry Feedback received
- Theme map Revision completed
- Gap statement Other: _____
- Method plan Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.6 Day 6 Research Log

Student Name: _____

Date: _____

Day Number: Day 6

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question Ethics / IRB
- Literature Search Hypothesis
- Literature Matrix Proposal Writing
- Source Evaluation Presentation
- Research Gap Peer Feedback
- Methodology Revision
- Research Design Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea Proposal paragraph
- Revised question Proposal outline
- New source found Presentation slide
- Matrix entry Feedback received
- Theme map Revision completed
- Gap statement Other: _____
- Method plan Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.7 Day 7 Research Log

Student Name: _____

Date: _____

Day Number: Day 7

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question Ethics / IRB
- Literature Search Hypothesis
- Literature Matrix Proposal Writing
- Source Evaluation Presentation
- Research Gap Peer Feedback
- Methodology Revision
- Research Design Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea Proposal paragraph
- Revised question Proposal outline
- New source found Presentation slide
- Matrix entry Feedback received
- Theme map Revision completed
- Gap statement Other: _____
- Method plan Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.8 Day 8 Research Log

Student Name: _____

Date: _____

Day Number: Day 8

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question Ethics / IRB
- Literature Search Hypothesis
- Literature Matrix Proposal Writing
- Source Evaluation Presentation
- Research Gap Peer Feedback
- Methodology Revision
- Research Design Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea Proposal paragraph
- Revised question Proposal outline
- New source found Presentation slide
- Matrix entry Feedback received
- Theme map Revision completed
- Gap statement Other: _____
- Method plan Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.9 Day 9 Research Log

Student Name: _____

Date: _____

Day Number: Day 9

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Horizontal lines for class notes.

Project Progress Tracker

Which part of your project did you work on today?

- Project progress tracker checklist: Research Question, Literature Search, Literature Matrix, Source Evaluation, Research Gap, Methodology, Research Design, Ethics / IRB, Hypothesis, Proposal Writing, Presentation, Peer Feedback, Revision, Other: _____

Evidence of Progress

What did you produce or improve today?

- Evidence of progress checklist: New research idea, Revised question, New source found, Matrix entry, Theme map, Gap statement, Method plan, Proposal paragraph, Proposal outline, Presentation slide, Feedback received, Revision completed, Other: _____, Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.10 Day 10 Research Log

Student Name: _____

Date: _____

Day Number: Day 10

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question Ethics / IRB
- Literature Search Hypothesis
- Literature Matrix Proposal Writing
- Source Evaluation Presentation
- Research Gap Peer Feedback
- Methodology Revision
- Research Design Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea Proposal paragraph
- Revised question Proposal outline
- New source found Presentation slide
- Matrix entry Feedback received
- Theme map Revision completed
- Gap statement Other: _____
- Method plan Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.12 Day 12 Research Log

Student Name: _____

Date: _____

Day Number: Day 12

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question Ethics / IRB
- Literature Search Hypothesis
- Literature Matrix Proposal Writing
- Source Evaluation Presentation
- Research Gap Peer Feedback
- Methodology Revision
- Research Design Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea Proposal paragraph
- Revised question Proposal outline
- New source found Presentation slide
- Matrix entry Feedback received
- Theme map Revision completed
- Gap statement Other: _____
- Method plan Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.13 Day 13 Research Log

Student Name: _____

Date: _____

Day Number: Day 13

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question
- Literature Search
- Literature Matrix
- Source Evaluation
- Research Gap
- Methodology
- Research Design
- Ethics / IRB
- Hypothesis
- Proposal Writing
- Presentation
- Peer Feedback
- Revision
- Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea
- Revised question
- New source found
- Matrix entry
- Theme map
- Gap statement
- Method plan
- Proposal paragraph
- Proposal outline
- Presentation slide
- Feedback received
- Revision completed
- Other: _____
- Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.14 Day 14 Research Log

Student Name: _____

Date: _____

Day Number: Day 14

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question
- Literature Search
- Literature Matrix
- Source Evaluation
- Research Gap
- Methodology
- Research Design
- Ethics / IRB
- Hypothesis
- Proposal Writing
- Presentation
- Peer Feedback
- Revision
- Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea
- Revised question
- New source found
- Matrix entry
- Theme map
- Gap statement
- Method plan
- Proposal paragraph
- Proposal outline
- Presentation slide
- Feedback received
- Revision completed
- Other: _____
- Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.15 Day 15 Research Log

Student Name: _____

Date: _____

Day Number: Day 15

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question Ethics / IRB
- Literature Search Hypothesis
- Literature Matrix Proposal Writing
- Source Evaluation Presentation
- Research Gap Peer Feedback
- Methodology Revision
- Research Design Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea Proposal paragraph
- Revised question Proposal outline
- New source found Presentation slide
- Matrix entry Feedback received
- Theme map Revision completed
- Gap statement Other: _____
- Method plan Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.16 Day 16 Research Log

Student Name: _____

Date: _____

Day Number: Day 16

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question
- Literature Search
- Literature Matrix
- Source Evaluation
- Research Gap
- Methodology
- Research Design
- Ethics / IRB
- Hypothesis
- Proposal Writing
- Presentation
- Peer Feedback
- Revision
- Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea
- Revised question
- New source found
- Matrix entry
- Theme map
- Gap statement
- Method plan
- Proposal paragraph
- Proposal outline
- Presentation slide
- Feedback received
- Revision completed
- Other: _____
- Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.17 Day 17 Research Log

Student Name: _____

Date: _____

Day Number: Day 17

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question Ethics / IRB
- Literature Search Hypothesis
- Literature Matrix Proposal Writing
- Source Evaluation Presentation
- Research Gap Peer Feedback
- Methodology Revision
- Research Design Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea Proposal paragraph
- Revised question Proposal outline
- New source found Presentation slide
- Matrix entry Feedback received
- Theme map Revision completed
- Gap statement Other: _____
- Method plan Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.18 Day 18 Research Log

Student Name: _____

Date: _____

Day Number: Day 18

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- | | |
|--|---|
| <input type="checkbox"/> Research Question | <input type="checkbox"/> Ethics / IRB |
| <input type="checkbox"/> Literature Search | <input type="checkbox"/> Hypothesis |
| <input type="checkbox"/> Literature Matrix | <input type="checkbox"/> Proposal Writing |
| <input type="checkbox"/> Source Evaluation | <input type="checkbox"/> Presentation |
| <input type="checkbox"/> Research Gap | <input type="checkbox"/> Peer Feedback |
| <input type="checkbox"/> Methodology | <input type="checkbox"/> Revision |
| <input type="checkbox"/> Research Design | <input type="checkbox"/> Other: _____ |

Evidence of Progress

What did you produce or improve today?

- | | |
|--|---|
| <input type="checkbox"/> New research idea | <input type="checkbox"/> Proposal paragraph |
| <input type="checkbox"/> Revised question | <input type="checkbox"/> Proposal outline |
| <input type="checkbox"/> New source found | <input type="checkbox"/> Presentation slide |
| <input type="checkbox"/> Matrix entry | <input type="checkbox"/> Feedback received |
| <input type="checkbox"/> Theme map | <input type="checkbox"/> Revision completed |
| <input type="checkbox"/> Gap statement | <input type="checkbox"/> Other: _____ |
| <input type="checkbox"/> Method plan | <input type="checkbox"/> Ethics form |

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.19 Day 19 Research Log

Student Name: _____

Date: _____

Day Number: Day 19

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question Ethics / IRB
- Literature Search Hypothesis
- Literature Matrix Proposal Writing
- Source Evaluation Presentation
- Research Gap Peer Feedback
- Methodology Revision
- Research Design Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea Proposal paragraph
- Revised question Proposal outline
- New source found Presentation slide
- Matrix entry Feedback received
- Theme map Revision completed
- Gap statement Other: _____
- Method plan Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

2.20 Day 20 Research Log

Student Name: _____

Date: _____

Day Number: Day 20

Lesson Topic: _____

Class Notes

Key concepts, examples, questions, or instructions from today's lesson.

Project Progress Tracker

Which part of your project did you work on today?

- Research Question
- Literature Search
- Literature Matrix
- Source Evaluation
- Research Gap
- Methodology
- Research Design
- Ethics / IRB
- Hypothesis
- Proposal Writing
- Presentation
- Peer Feedback
- Revision
- Other: _____

Evidence of Progress

What did you produce or improve today?

- New research idea
- Revised question
- New source found
- Matrix entry
- Theme map
- Gap statement
- Method plan
- Proposal paragraph
- Proposal outline
- Presentation slide
- Feedback received
- Revision completed
- Other: _____
- Ethics form

Today's Work Summary

Today I worked on:

Today I completed:

Today I still need to improve:

Reflection

The most useful thing I learned today was:

One challenge I faced was:

Before next class, I need to:

Instructor / Peer Feedback

Feedback received:

Revision I will make:

3 Part 3 – Topic Development Toolkit

3.1 Research Interest Funnel

Instruction Matrix: Start with a broad area of personal curiosity, then layer on specific contexts, dimensions, and population constraints until you isolate a narrow, testable question.

Funnel Stratum	My Active Conception Workspace
1. Broad Interest	
2. Focused Topic	
3. Specific Systemic Issue	
4. Bounded Problem Gap	
5. Refined Research Question	

3.2 Topic Brainstorming Page

Prompt Directive: Record topics, problems, or questions you notice in your community, field studies, or schools. Focus on tracking why these dynamics occur.

3.3 Topic Selection Table

Candidate Topic	Why This Matters	Target Population	Draft Research Question
Option 1			
Option 2			
Option 3			
Option 4			

3.4 FINER Framework Worksheet

Evaluate your top research question option against these five core safety and validity metrics:

Criterion	Strategic Question Check	My Field Evaluation Notes
Feasible	Can I finish data collection in a few weeks with local tools?	
Interesting	Do I care enough about the data to read 15+ complex papers?	
Novel	Does this study find a new local angle or evaluate a small gap?	
Ethical	Does this setup safeguard user privacy and prevent psychological stress?	
Relevant	Does this answer provide a useful tool for a real-world community?	

3.5 Research Question Evaluation Checklist

Before submitting your project for evaluation, you must be able to check off every requirement below:

- My research question uses precise language and avoids vague terms like “bad” or “impact”.
- My question is completely open-ended and cannot be answered with a simple “yes” or “no”.
- My question clearly identifies the specific target variables and participant groups.
- My data gathering strategy is practical and executable within our short program timeline.
- My study addresses an actual gap in existing research rather than just repeating prior studies.
- My chosen data method directly matches the focus of the question.
- My participant recruitment pathway fully protects the emotional and social safety of my peers.
- My question demands primary data collection and analysis, rather than just a quick Google search.

3.6 Scope Triangle Worksheet

Map out separate narrowing paths for your favorite topics. Add specific details as you move downward: **Who → Where → When**.

Attempt 1:

Broad Domain → _____
Focused Context → _____
Locked AP Question → _____

Attempt 2:

Broad Domain → _____
Focused Context → _____
Locked AP Question → _____

3.7 Question Revision Tracker

Document how your research question evolves as you gather feedback and analyze background literature:

Iteration	Exact Wording of the Question	Structural Modifications	Why This Improved Alignment
Version 1			
Version 2			
Final Locked			

3.8 Research Interest Statement

Execution Template Directive: Complete this structural synthesis statement to lock down your Week 1 deliverables. Use objective, academic language.

1. Primary Field Inflow & Target Variables:

I am analytically interested in evaluating the specific interaction between:

2. Systemic Justification:

This specific topic area mandates rigorous investigation because:

3. Participant Boundaries:

The local human community or population node most directly impacted by this condition is:

4. The Bounded Research Question:

The precise, open-ended question I will address next week is:

5. Feasibility Defense:

This research plan is executable within our 5-week tracking window because:

4 Part 4 — Literature Review Toolkit

4.1 Literature Matrix

Instruction Matrix: Document and systematically deconstruct your collected academic sources. Ensure every entered paper explicitly surfaces an addressable gap.

Author	Year	RQ	Methods	Sample	Findings	Limits	Link

4.2 Theme Analysis Table

Instruction Matrix: Cross-reference your primary academic sources against identified thematic trends to locate structural overlaps and domain conflicts.

Theme Mapping Framework – Instance 1:

Source Reference	Theme A:	Theme B:	Theme C:	Cross-Cutting Notes

Theme Mapping Framework – Instance 2:

Source Reference	Theme A:	Theme B:	Theme C:	Cross-Cutting Notes

4.3 Research Gap Builder

Execution Matrix Statement: Synthesize your critical reading into an actionable knowledge omission framework.

1. Established Literature Inflow (What researchers currently know):

2. Systemic Omission Vector (However, the field has not adequately evaluated):

3. Sample or Variable Exclusivity (Few studies have isolated):

4. Explicit Knowledge Handoff (Therefore, my original study will dynamically track):

4.4 Source Credibility Checklist

Evaluate each foundational literature addition using this operational diagnostic tool:

- The source is explicitly peer-reviewed and indexed in an accredited scholarly database.
- The document is a primary scholarly source, rather than an unverified popular review text.
- The publication date falls within the required narrow structural obsolescence window.
- The research design is methodologically appropriate, utilizing clear control sets and logical tracking.
- The participant pool aligns directly with my study's demographic population constraints.
- The key findings provide clear, quantifiable metrics that can help frame my localized investigation.
- The author maintains institutional credentials with zero transparent commercial conflicts of interest.
- The paper acknowledges explicit limitations, defining clear margins for my own study's entry point.

4.5 CRAAP Test Worksheet

Criterion	Guiding Question Check	My Field Evaluation Notes	Score
Currency	Is the data timeline appropriate for your specific inquiry?		
Relevance	Does the informational density match your tracking variables?		
Authority	Is the source, publisher, or platform fully credentialed?		
Accuracy	Are empirical metrics supported by transparent citations?		
Purpose	Is the tone objective and free from commercial propaganda?		

4.6 Literature Review Planning Sheet

Map out the narrative architecture of your upcoming analytical synthesis chapters:

Thematic Chapter Strategy Node 1:

Theme Identifier Wording:

Primary Lit Sources:

Major Empirical Agreements:

Structural Contradictions / Debates:

Direct Link to Research Gap Framework:

Thematic Chapter Strategy Node 2:

Theme Identifier Wording:

Primary Lit Sources:

Major Empirical Agreements:

Structural Contradictions / Debates:

Direct Link to Research Gap Framework:

Thematic Chapter Strategy Node 3:

Theme Identifier Wording:

Primary Lit Sources:

Major Empirical Agreements:

Structural Contradictions / Debates:

Direct Link to Research Gap Framework:

5 Part 5 – Methodology Toolkit

5.1 Method Selection Matrix

Method	Strengths	Limitations	Appropriate For	Fit for My Project
Survey	High reach; rapid quantifiable metrics.	Self-reporting bias; low qualitative depth.	Large sample trend identification.	
Interview	Extreme conceptual nuance and context.	Tiny participant pool; high researcher bias.	Bounded psychological narrative mapping.	
Observation	High environmental objectivity.	Hawthorne effect; zero variable controls.	Behavioral or social spatial tracking.	
Experiment	Isolated internal causal validity.	Artificial environment; high ethical barriers.	Causal mechanics under strict control sets.	
Case Study	Deep bounded context matrix.	Zero generalizability to larger cohorts.	Unique institutional situational exploration.	
Mixed Methods	Triangulates qualitative and quantitative data.	Multiplies structural and temporal design complexity.	Complex systemic policy and performance analysis.	

5.2 Participant Planning Sheet

Target Population Specification:

Target Sample Size (N):

Recruitment Strategy Pathway:

Inclusion Criteria (Who qualifies for entry):

Exclusion Criteria (Who must be systematically filtered out):

Potential Operational Challenges & Attrition Countermeasures:

5.3 Research Design Planner

Operational Research Question:

Methodological Framework Label:

Bounded Participant Cohort Node:

Data Collection Mechanics:

Proposed Execution Timeline:

Expected Statistical or Qualitative Analysis:

Acknowledged Potential Limitations:

5.4 Survey Planning Sheet

Target Population Inflow:

Proposed Question Count:

Distribution Method Vector:

Minimum Return Power Response Goal:

Draft Survey Questions (Likert / Closed-Ended Layouts):

5.5 Interview Planning Sheet

Target Interviewee Sub-Cohort:

Proposed Interview Length:

Audio / Text Recording Plan:

Draft Semistructured Interview Prompts:

5.6 Data Collection Timeline

Week	Task	Materials Needed	Status	Notes
Week 1				
Week 2				
Week 3				
Week 4				
Week 5				
Week 6				
Week 7				
Week 8				
Week 9				
Week 10				

5.7 Feasibility Checklist

Final project alignment checkpoint before submitting your proposal for IRB certification:

- I have secure, legal, and unrestricted access to my target participant cohort pool.
- I have built an active time model that accounts for typical delays in collecting data.
- My chosen analytical method matches the operational focus of my research question.

- My required instrument tools are readily available, uncopyrighted, or pre-approved.
- My planned analytical models fit within my technical skillset or software limits.
- The full scope of this study can be executed individually within the academic school year.

6 Part 6 – Ethics & IRB Toolkit

6.1 Belmont Principles Summary

Belmont Principle	Operational Action for the Scholar-Leader
Respect for Persons	Protecting autonomy and securing ongoing informed consent while preventing any structural deception or institutional pressure.
Beneficence	Systematically minimizing potential harms while maximizing long-term utility for the target group.
Justice	Selecting participant groups fairly and ensuring the community bearing the burden of research directly receives its benefits.

6.2 Ethics Checklist

Ensure your data infrastructure protects human participants across these key criteria:

- Informed Consent:** Every adult participant will review and sign an explicit, legally binding tracking disclosure.
- Assent Process:** Minors will sign clear assent forms alongside parent/guardian signatures.
- Confidentiality Strategy:** Real-world identities will be masked using complex, secure alphanumeric codes.
- Anonymity Guard:** Surveys will gather no metadata, IP addresses, or identifying markers.
- Data Storage Protocol:** All sensitive files will remain on an encrypted, password-protected server.
- Vulnerable Population Framework:** Extra safety barriers are enabled for protected or at-risk groups.
- Risk Assessment:** The layout contains zero risk markers beyond common day-to-day interactions.
- Voluntary Participation:** Participants are explicitly informed that opt-out paths remain open at all times.
- Right to Withdraw Vector:** Methods allow users to purge their data up until final aggregate analysis.

6.3 Informed Consent Planning Sheet

Target Participant Cohort Group:

Plain-Language Study Purpose:

Detailed Step-by-Step Field Procedures:

Identified Social, Emotional, or Time Risks:

Direct or Structural Benefits for Participants:

Voluntary Participation Disclosure Statement Wording:

6.4 Confidentiality Planning Worksheet

What identifying information or metadata will be collected?

What masking or encryption codes will protect real-world names?

Who holds exclusive access rights to the key decryption files?

Where will the physical and digital datasets be stored?

When and how will the collected data files be destroyed?

6.5 Risk-Benefit Analysis Table

Potential Risk	Likelihood	Severity	Mitigation Strategy	Target Community Benefit

6.6 AP Research IRB Application Template

Primary Research Question:

Core Purpose of the Inquiry:

Participant Pool Description:

Recruitment Strategy Pathway:

Data Collection Procedures:

Informed Consent Delivery Plan:

Confidentiality and Storage Safeguards:

Risk Profile Mitigation Summary:

Review Category (Check One): Exempt Expedited Full Board Review

Researcher Signature

Date

6.7 Ethics Reflection

Critical Reflection Prompt: How does maintaining ethical research standards show true respect for the human beings whose lived experiences are turned into data points?

7 Part 7 – Proposal Builder

The Proposal Blueprint Lab Environment Use this section to write the core sections of your re- search plan. Your draft text must directly address the guiding questions provided for each section.

7.1 Research Question

Purpose

To define the boundary of your study using an open-ended, non-biased question.

Strategic Guiding Requirements:

- Is the question open-ended and free from clear bias?
- Are all core variables and context boundaries defined?

7.2 Background and Significance

Purpose

To frame your project within a historic or systemic social crisis.

Strategic Guiding Requirements:

- What foundational terms or historical policies must your reader understand first?
- Why does solving this specific social problem matter to outside leaders?

7.3 Literature Review

Purpose

To synthesize your themes and show where current academic research reaches its limits.

Strategic Guiding Requirements:

- How do your collected sources group together into distinct themes?
- Where do these major academic studies disagree or run into dead ends?

7.4 Research Gap

Purpose

To explicitly state the hidden variable or overlooked group that your project isolates.

Strategic Guiding Requirements:

- What specific question did prior peer-reviewed studies fail to answer?
- Why can this gap only be filled by gathering new primary data?

7.5 Methodology

Purpose

To provide an explicit, step-by-step recipe for your data gathering process.

Strategic Guiding Requirements:

- What exact tools will you use to collect data?

How will you analyze the resulting quantitative metrics or qualitative text?

7.6 Ethics Considerations

Purpose
To document your protection strategy for human participants.

Strategic Guiding Requirements:

- How will you secure informed consent and keep student data safe?
- Where and how will the digital data files be locked down?

7.7 Hypothesis or Research Expectations

Purpose
To state your expected discovery based on existing theories.

Strategic Guiding Requirements:

- What specific outcome or pattern does current academic theory predict?
- What will a surprising result reveal about your chosen topic?

7.8 Expected Contribution

Purpose
To connect your project’s data back to actionable improvements in the community.

Strategic Guiding Requirements:

- How will local leaders use your findings to make better choices?
- What new questions will your study open up for future researchers?

7.9 Timeline

Purpose

To map out clear milestones across the full academic year.

Strategic Guiding Requirements:

- When will you finish adjustments to your data gathering tools?
- What is your final deadline to finish writing before presentation prep?

7.10 References

Purpose

To list your core peer-reviewed sources in APA 7th format.

Strategic Guiding Requirements:

- Are all sources properly formatted with matched in-text citations?

8 Part 8 — Presentation Toolkit

8.1 Two-Minute Research Pitch

My project investigates the hidden interaction between:

This investigation matters to global leadership because:

Current peer-reviewed literature currently knows:

My localized study fills the knowledge gap by showing:

8.2 STEAM Fair Planning Sheet

Target Evaluation Audience:

Core Evidentiary Message:

Primary Visual Aid Elements:

Hardest Questions I Expect from the Review Panel:

Data Evidence Available to Support My Claims:

8.3 Presentation Outline Template

- Introduction:** Hook the audience and state the global significance.
- Problem / RQ:** Present your open-ended research question and its tight boundaries.
- Literature / Gap:** Show where previous research stops and introduce your study’s entrance point.
- Methodology:** Defend your choice of tools, sample sizes, and step-by-step procedures.
- Contribution / Future:** Explain how your findings support evidence-based choices.
- Closing:** End with a strong statement on how research functions as leadership.

8.4 Audience Question Tracker

Question Asked	My Response	What I Learned	Future Revision

8.5 Feedback Log

Date	Feedback Received	Action Taken

9 Part 9 – Scholar-Leader Portfolio

9.1 Week 1 Reflection

The Inquiry Inflow

What specific problem in your community or technical field matters enough to you that you will spend a full year analyzing it?

9.2 Week 2 Reflection

The Missing Perspectives

As you read the existing literature, whose voices, demographics, or local realities are systematically missing from the official data?

9.3 Week 3 Reflection

The Ethical Guardrails

What unique ethical responsibilities do you hold when studying human participants whose real-world lives are transformed into data points?

9.4 Week 4 Reflection

Evidence and Agency

How does gathering empirical data change your ability to lead, challenge bad policy choices, and speak truth to power?

9.5 Week 5 Reflection

The Personal Manifesto

Based on your progress this month, what kind of Scholar-Leader do you want to become over the next year?

9.6 Final Scholar-Leader Reflection**The Scholar-Leader Capstone Covenant**

1. The Research Question I am most committed to answering over the next year is:

2. This specific inquiry matters to the field because:

3. The community or group that benefits most from a rigorous answer is:

4. By systematically answering this question, what kind of leader do I hope to become?

10 Part 10 – AP Research Readiness

10.1 AP Research Timeline

Month	Research Task	Target Milestone	Notes
September	Finalize RQ and Method Strategy	IRB Application Approval	
October	Launch Literature Review Draft	15 Scholarly Sources Analyzed	
November	Build and Pre-Test Data Tools	Pilot Study Completed	
December	Deploy Tools and Gather Data	Raw Data Securely Logged	
January	Close Tools and Sort Datasets	Clean Coding Complete	
February	Run Statistical / Thematic Analysis	Results Chapter Drafted	
March	Write Synthesis and Discussion	Full Academic Paper Draft	
April	Revise Layout and Practice Presentation	Presentation and Oral Defense (PODR)	
May	Upload Final Digital Portfolio	College Board Submission	

10.2 Academic Paper Checklist

Ensure your final paper fulfills all structural sections required by the AP scoring rubric:

- | | |
|--|---|
| <input type="checkbox"/> Bounded Research Question | <input type="checkbox"/> Discussion & Gap Evaluation |
| <input type="checkbox"/> Introduction & Context | <input type="checkbox"/> Structural Study Limitations |
| <input type="checkbox"/> Literature Review Themes | <input type="checkbox"/> Conclusion & Future Runways |
| <input type="checkbox"/> Explicit Methodology Choice | <input type="checkbox"/> APA 7th References |
| <input type="checkbox"/> Primary Data / Findings | <input type="checkbox"/> Appendices / Data Tools |

10.3 PODR Preparation Checklist

Prepare for your 15-minute presentation and panel defense across these criteria:

- Presentation slides use clean layouts with minimal text blocks and clear graphics.
- The research question is explained clearly and connected directly to a real-world community.
- The literature gap is defended using evidence from past peer-reviewed studies.
- The chosen research methodology is defended against alternative choices.
- The analytical conclusions follow directly from the gathered data.
- All limitations are acknowledged without undermining the value of the project.
- I have practiced oral defense answers for unplanned questions from the panel.
- The presentation shows my independent growth as an ethical researcher.

10.4 Proposal Progress Tracker

Monitor your summer intensive deliverables as you finish your work blocks:

- Research Question Locked
- Source Collection Complete
- Literature Matrix Updated
- Theme Map Complete
- Gap Statement Drafted
- Methodology Plan Detailed
- Ethics Plan Approved
- Project Hypothesis Logged
- Proposal Prototype Draft
- Pitch Presentation Slides
- STEAM Fair Defense Done

10.5 Mentor Meeting Log

Date	Advisor / Mentor	Feedback Received	Next Tactical Steps

10.6 Revision History Tracker

Version	Changes Made	Reason for Change	Date

10.7 Research Milestone Tracker

Milestone Node	Target Date	Completed? (Y/N)	Strategic Field Notes
Topic Boundary Finalization			
Initial Literature Synthesis Matrix			
Method Instruments Finalized			
IRB Clearance Sign-off			
Participant Sample Finalized			
Primary Field Data Collection Exit			
Statistical Matrix Finalized			
First Full Structural Paper Draft			
Peer Review and Revision Cycles			
Oral Defense Presentation Locked			