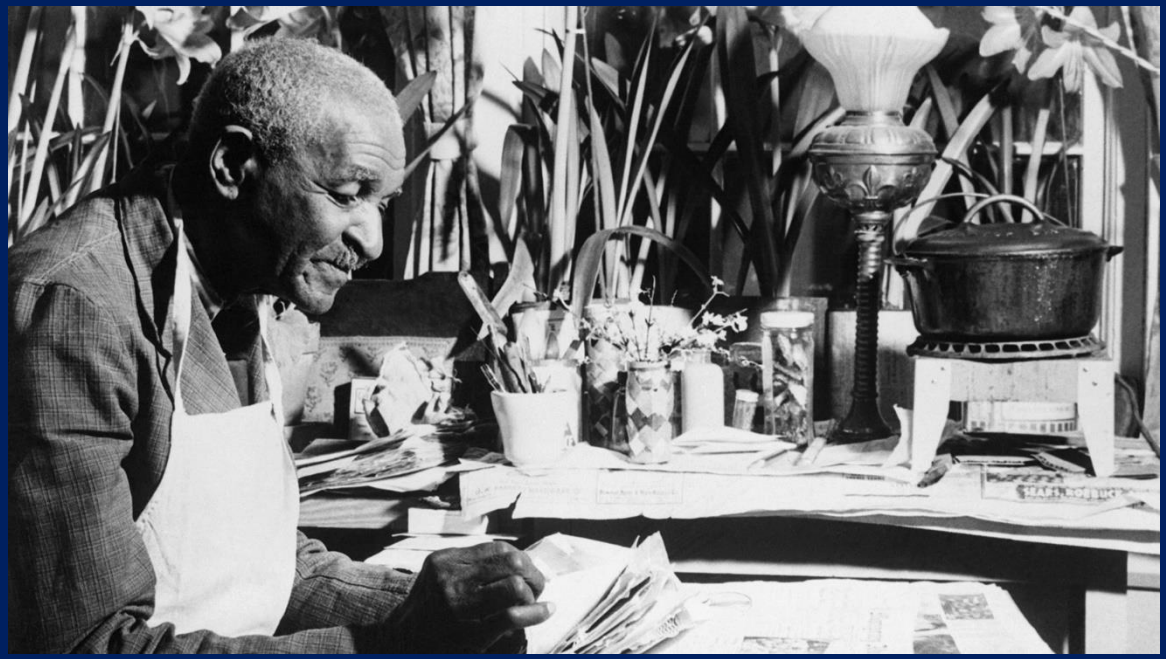
Types of Research and Methodology

Research in AP Seminar forms the foundation of your academic investigations. Let's explore the main types of research and methods you'll encounter and use in your coursework.

Research can be broadly categorized into different types based on its purpose, methodology, and approach. Key classifications include: applied vs. basic research, qualitative vs. quantitative research, and descriptive, correlational, and experimental research. Additionally, research can be categorized by its specific method, such as surveys, case studies, or experiments.



Bonus Question: Name the person pictured. What is he best known for?

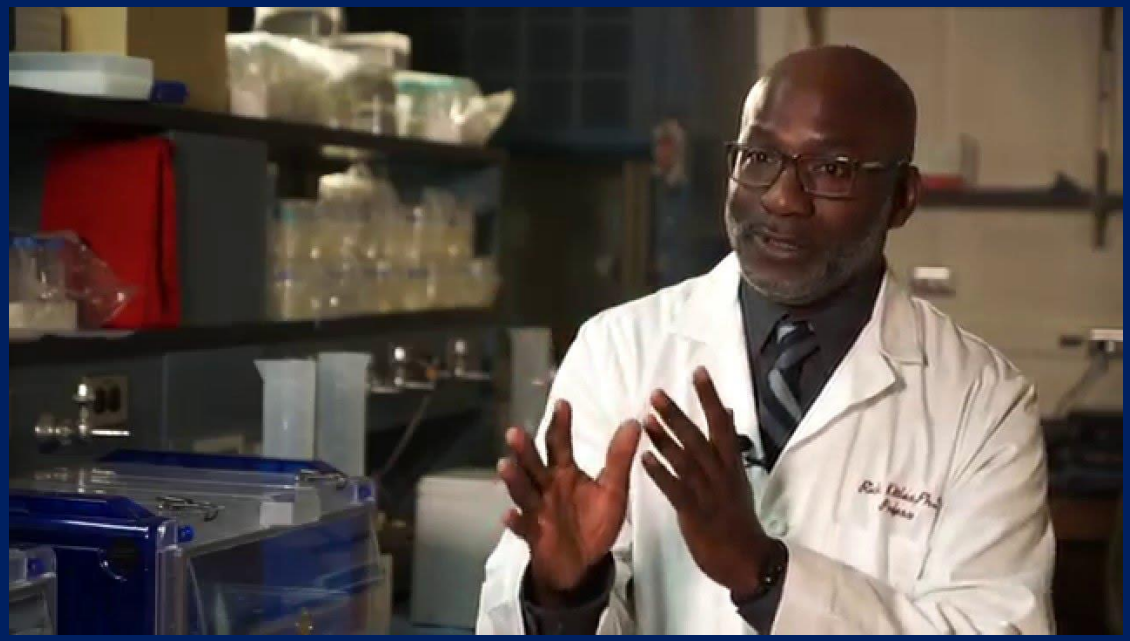
Basic vs Applied Research

Basic research focuses on expanding fundamental scientific knowledge and understanding phenomena without a specific practical application in mind, driven by curiosity and the pursuit of general principles. The main motivation is to expand man's knowledge, not to create or invent something.

Example: Scientists explore the behavior of matter and energy at the most fundamental levels. (Quantum Mechanics)

In contrast, **applied research** is designed to solve practical problems of the modern world, rather than to acquire knowledge for knowledge's sake. One might say that the goal of the applied scientist is to improve the human condition. He or she uses existing scientific knowledge to solve specific, practical problems and meet modern needs, such as improving health or technology, with a focus on immediate utility and tangible outcomes.

Examples of applied research include creating new ways to treat diseases, designing products to help seniors live independently, developing strategies to improve student engagement in math, improving the efficiency of manufacturing processes, or finding ways for businesses to reduce their environmental impact.



Pictured: Dr. Rick Kittles

Trivia Question: What field of science does he work in? What ground-breaking research has he conducted? (10 Bonus Points)

Basic research ⟷ Applied research

Basic research

Purpose:

- Expand knowledge of processes of business and management
- Results in universal principles relating to the process and its relationship to outcomes
- Findings of significance and value to society in general

Context:

- Undertaken by people based in universities
- Choice of topic and objectives determined by the researcher
- Flexible time scales

Applied research

Purpose:

- Improve understanding of particular business or management problem
- Results in solution to problem
- New knowledge limited to problem
- Findings of practical relevance and value to manager(s) in organisation(s)

Context:

- Undertaken by people based in a variety of settings including organisations and universities
- Objectives negotiated with originator
- Tight time scales

Qualitative vs. Quantitative Research

Qualitative research explores in-depth understanding of experiences, perspectives, and meanings through methods like interviews, focus groups, and observations.

Quantitative research uses numerical data and statistical analysis to measure and quantify variables, often through surveys, experiments, and large datasets.

Descriptive, Correlational, and Experimental Research

Descriptive research aims to describe the characteristics of a population or phenomenon, often through surveys, case studies, or observations.

Bonus Question: Name the person pictured. What milestone did she accomplish first? (10 Bonus points

Correlational research examines the relationships between variables, exploring how changes in one variable relate to changes in another.

Trivia Questions: Who is the scientist in the picture? What is her legacy to her profession? (10 Bonus Points)

Experimental research manipulates variables to establish cause-and-effect relationships, often involving control groups and random assignment.

Primary Research

Primary research is original, firsthand research that you conduct yourself

Examples for AP Seminar: (1) surveys of your local community; (2) interviews with subject matter experts; (3) original experiments; (4) field observations; (5) analysis of raw data

Trivia Questions: Who is the scientist pictured? In which branch of science does he work? What is one of his famous quotes? (20 Bonus Points)

Secondary Research

Secondary research is an analysis of data, information, studies, etc. conducted by others

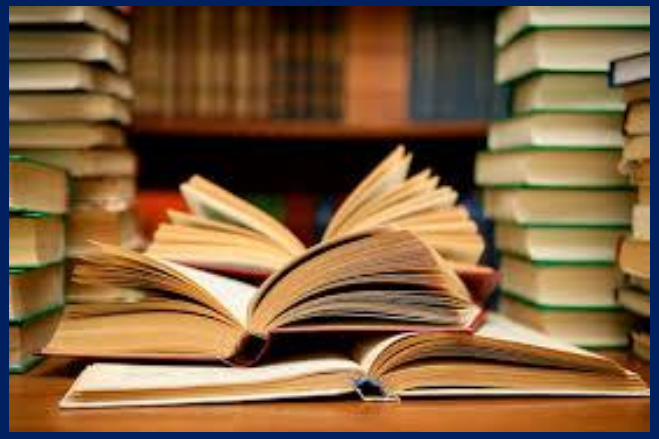
Key sources for AP Seminar: (1) peer-reviewed academic journals; (2) scholarly books; (3) government reports; (4) credible news sources; (5) academic databases

Pictured: Moddie Taylor (1912 – 1976), was a chemist who worked on the Manhattan Project. Trivia Question: What was the Manhattan Project? (25 Bonus Points)

Research Methods

- Surveys: Gathering data through questionnaires.
- Case studies: In-depth investigation of a single individual, group, or situation.
- Experiments: Manipulating variables to test hypotheses and establish cause-and-effect relationships.
- Observations: Systematically observing and recording behavior or events.
- Interviews: Gathering data through structured or unstructured conversations.

- Focus groups: Gathering data from group discussions.
- **Secondary data analysis: Analyzing existing data collected by others.**
- Mixed methods: Combining qualitative and quantitative approaches



AP Seminar Research Requirements

For Team Project & Presentation (Team Performance Task)

- **Must incorporate both primary and secondary research**
- **Required to evaluate the credibility of sources**
- **Need to analyze multiple perspectives**
- **Must synthesize evidence from various sources**
- **Should address real-world problems or issues**

For Individual Research-Based Essay

- Focus on secondary research analysis
- Minimum of 6-8 credible sources required
- Must include scholarly, peer-reviewed sources
- Should represent diverse perspectives
- Need to evaluate source credibility and relevance

Research Best Practices for AP Seminar

Source Evaluation (RAVEN)

Reputation of the source

Ability to verify information

Vested interest (bias check)

Expertise of the author

Newness (currency) of the information

Research Documentation

Maintain detailed research logs

(A) Record all bibliographic information

(B) Take careful notes with page numbers

(C) Document your research process

(D) Keep track of search terms used

Ethical Research Guidelines

Proper citation of all sources

Avoiding plagiarism

Obtaining informed consent for primary research

Maintaining participant confidentiality

Following school research protocols

Pictured: Dr. Whitney Ingram Trivia Question: She was the first to _____. (10 Bonus Points)

Common Research Methods in AP Seminar

Qualitative Research

- Interviews
- Focus groups
- Case studies
- Content analysis
- Observational research

Quantitative Research

- Statistical analysis
- Surveys with numerical data
- Experimental research
- Data modeling
- Comparative analysis

Research Timeline Management

- Initial research phase: 2-3 weeks
- Source evaluation: 1-2 weeks
- Data collection/analysis: 2-3 weeks
- Writing and revision: 2-3 weeks
- Final presentation preparation: 1-2 weeks

Important Notes

- Always verify source credibility
- Use multiple perspectives
- Document your research process
- Follow ethical guidelines
- Meet all College Board requirements
- Seek teacher guidance when needed

You

are

AMAZING!