

LECTURE

Module 4.2.

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A simplification is that the subject is mental such as a category or model, while the object is a physical thing so it can be observed or measured. On this site, the subject is the topic, while the objects are the posts. These become epistemology versus ontology, though the former also uses the terms subjectivity and objectivity.

What must be evaluated is qualitative and what can be counted is quantitative. Research involves writing or literacy, the subject is competency and the object is communication.



What must be evaluated is qualitative and what can be counted is quantitative.

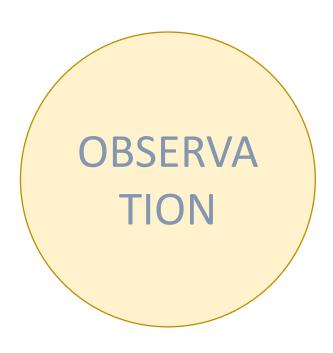
Whenever Research involves writing or literacy, the subject is competency and the object is communication.



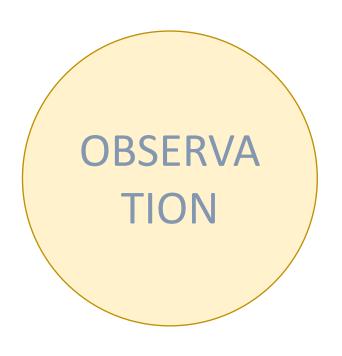
RESEARCH

- Broadly defined, the purpose of research is to answer questions and acquire new knowledge.
- Research is the primary tool used in virtually all areas of science to expand the frontiers of knowledge.
- For example, research is used in such diverse scientific fields as psychology, biology, medicine, physics, and botany, to name just a few of the areas in which research makes valuable contributions to what we know and how we think about things.
- Among other things, by conducting research, researchers attempt to reduce the complexity of problems, discover the relationship between seemingly unrelated events, and ultimately improve the way we live.

PRIORITY OF EMPIRICAL RESEARCH

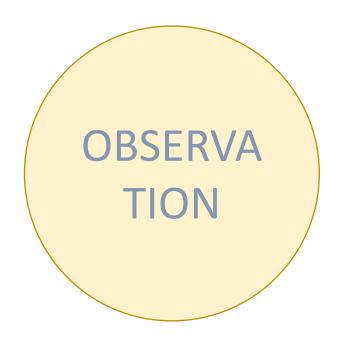


PRIORITY OF EMPIRICAL RESEARCH

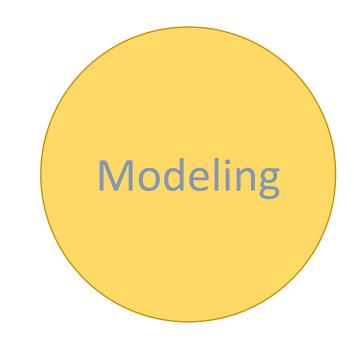




PRIORITY OF EMPIRICAL RESEARCH







RESEARCH

- In all types of science, research is frequently used for describing a thing or event, discovering the relationship between phenomena, entailing making predictions about future events.
- In short, research can be used for the purposes of description, explanation, and prediction, all of which make important and valuable contributions to the expansion of what we know and how we live our lives.
- In addition to sharing similar broad goals, scientific research in virtually all fields of study shares certain defining characteristics, including
- (1) testing hypotheses, (2) careful observation and measurement,
- (3) systematic evaluation of data, and (4) drawing valid conclusions.

SCIENTIFIC RESEARCH

- In simple terms, science can be defined as a methodological and systematic approach to the acquisition of new knowledge. This definition of science highlights some of the key differences between how scientists and nonscientists go about acquiring new knowledge. Specifically, rather than relying on mere casual observations and an informal approach to learn about the world, scientists attempt to gain new knowledge by making careful observations and using systematic, controlled, and methodical approaches. By doing so, scientists are able to draw valid and reliable conclusions about what they are studying.
- In addition, scientific knowledge is not based on the opinions, feelings, or intuition of the scientist. Instead, scientific knowledge is based on objective data that were reliably obtained in the context of a carefully designed research study. In short, scientific knowledge is based on the accumulation of empirical evidence.

SCIENTIFIC RESEARCH METHODOLOGY

- Research methodology simply refers to the practical "how" of any given piece of research. More specifically, it's about how a researcher systematically designs a study to ensure valid and reliable results that address the research aims and objectives.
- For example, how did the researcher go about deciding:
- What data to collect (and what data to ignore)
- ☐ Who to collect it from (in research, this is called "sampling design")
- ☐ How to collect it (this is called "data collection methods")
- ☐ How to analyse it (this is called "data analysis methods")

SCIENTIFIC RESEARCH METHODOLOGY

- Importantly, a good methodology chapter in a research paper or thesis explains not just **what** methodological choices were made, but also explains **why** they were made.
- In other words, the methodology chapter should **justify** the design choices, by showing that the chosen methods and techniques are the best fit for the research aims and objectives, and will provide valid and reliable results. A good research methodology provides scientifically sound findings, whereas a poor methodology doesn't.

- Qualitative, quantitative and mixed-methods are different types of methodologies, distinguished by whether they focus on words, numbers or both.
- Qualitative research refers to research which focuses on collecting and analysing words (written or spoken) and textual data, whereas quantitative research focuses on measurement and testing using numerical data.
- Qualitative analysis can also focus on other "softer" data points, such as body language or visual elements.

- Qualitative, quantitative and mixed-methods are different types of methodologies, distinguished by whether they focus on words, numbers or both.
- It's quite common for a **qualitative methodology** to be used when the research aims and objectives are **exploratory** in nature. For example, a qualitative methodology might be used to understand peoples' perceptions about an event that took place, or a candidate running for president.

- Qualitative, quantitative and mixed-methods are different types of methodologies, distinguished by whether they focus on words, numbers or both.
- The mixed-method methodology attempts to combine the best of both qualitative and quantitative methodologies to integrate perspectives and create a rich picture

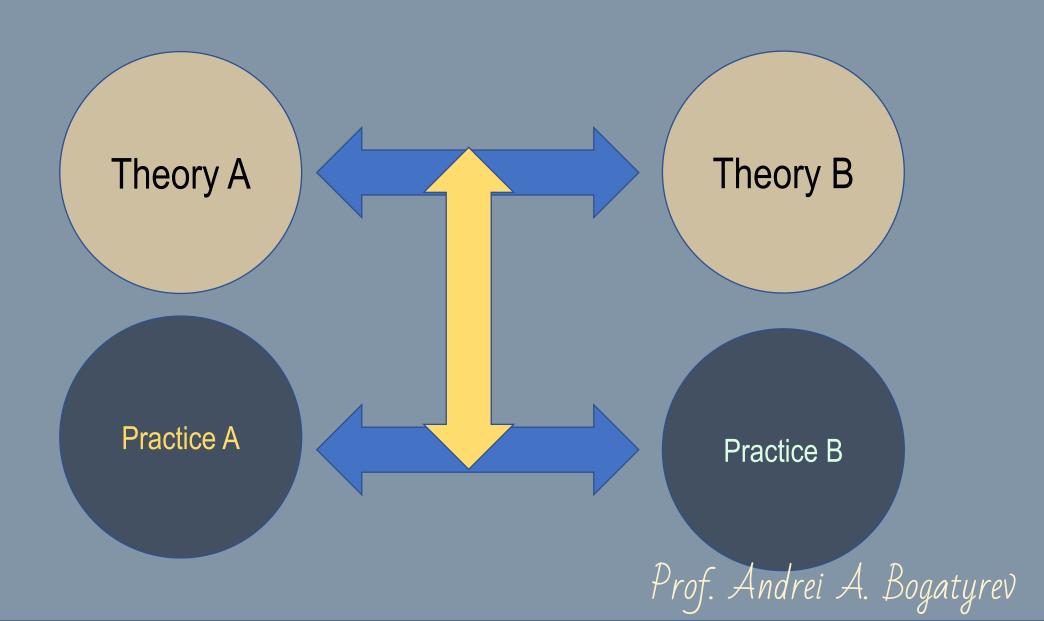
- Qualitative, quantitative and mixed-methods are different types of methodologies, distinguished by whether they focus on words, numbers or both.
- Contrasted to this, **a quantitative methodol**ogy is typically used when the research aims and objectives are **confirmatory** in nature. For example, a quantitative methodology might be used to *measure the relationship between two variables* (e.g. personality type and likelihood to commit a crime) or *to test a set of hypotheses*.

Quantitative: distinct methods Inductive, apriori hypotheses, Positivism, Durkheim, functionalism, researcher separate from participants	Qualitative: fluid lines btw methods Deductive, no apriori hypotheses, Interpretivism, Weber, Symbolic Interactionism, researcher interacts with participants
Experiments: true, quasi quasi ['kweɪzaɪ], ['kwɑːzɪ]	Observation: participant, non-participant
Surveys: f-to-f, mail, phone	In-depth interviews: structured, unstructured
Cross-sectional vs. Longitudinal	Advanced Qualitative Methods
Longitudinal:	case study, extended case study
a. trend: follow 1 variable over time	Ethnography (critical observation of a culture)
b. cohort: follow a pop over time c. panel: follow same group over time	ethnomethodology: study small interactions (moments, situations), look for rules/methods of interaction
d. Time series	phenomenology: study experiences

Features of A Good Problem Statement

- 1. It should be clear and precise.
- 2. It should be able to identify the problem, examine the problem, its key fact and perimeter to be studied.
- 3. It deals with the gap in information.
- 4. The statement of problem should be short and snappy
- 5. It should be adequately important to add to the available body of the work.
- 6. It should lead to further research.
- 7. The problem statement should be for the audience.
- 8. The problem should submit itself for inquiry during the data collection.
- It should be importance to the researcher and go well with his/her skills, time, and resources
- 10. The advance towards resolving the problem should be fair.
- 11. The writing style should be dignified.
- 12. Your terminologies should be well explained.
- 13. The range of the problem statement should be kept under control.
- 14. The problem statement should be compelling and researchable.
- 15. It should be able to address the five Ws (who, when, why, where, and what)

Research Problem highlights a contradiction

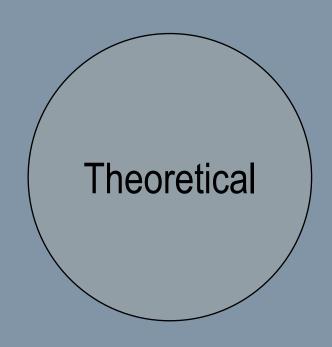


There are various types of research that are classified according to their objective, depth of study, analysed data, time required to study the phenomenon and other factors.

It's important to note that a research project will not be limited to one type of research, but will likely use several.

Theoretical





Theoretical

Theoretical research, also referred to as pure or basic research, focuses on generating knowledge, regardless of its practical application. Here, data collection is used to generate new general concepts for a better understanding of a particular field or to answer a theoretical research question.

Results of this kind are usually oriented towards the formulation of theories and are usually based on documentary analysis, the development of mathematical formulas and the reflection of high-level researchers.

Theoretical

For example, a philosophical dissertation, since the aim is to generate new approaches from existing data without considering how its findings can be applied or implemented in practice.

Theoretical

Basic research

Basic research is the research to find the basic knowledge or to refine the basic knowledge. Basic research is also called pure research and fundamental research.

For example, an airplane is already flying but now today we want to research how airplane can fly.

Applied

Here, the goal is to find strategies that can be used to address a specific research problem. Applied research draws on theory to generate practical scientific knowledge, and its use is very common in STEM fields such as engineering, computer science and medicine.

Applied

This type of research is subdivided into two types:

1. Technological applied research: looks towards improving efficiency in a particular productive sector through the improvement of processes or machinery related to said productive processes.

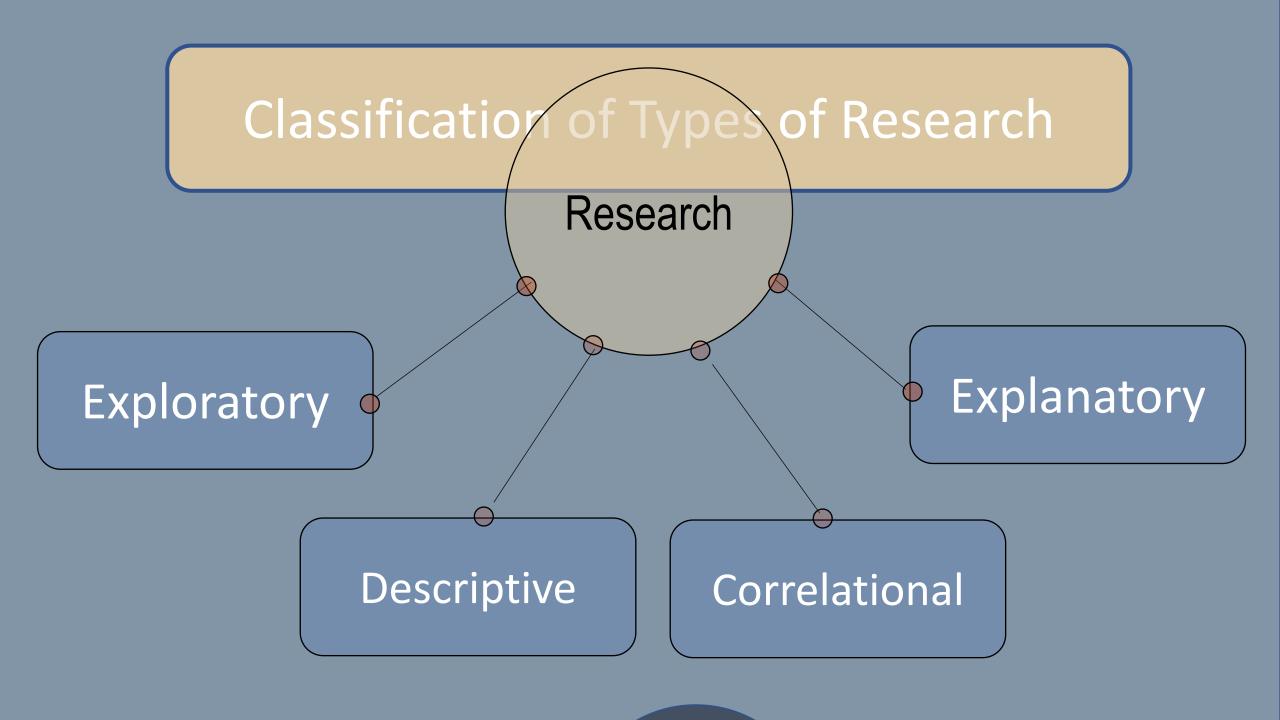
Applied

This type of research is subdivided into two types:

2. Scientific applied research: has predictive purposes. Through this type of research design, we can measure certain variables to predict behaviours useful to the goods and services sector, such as consumption patterns and viability of commercial projects.

Applied

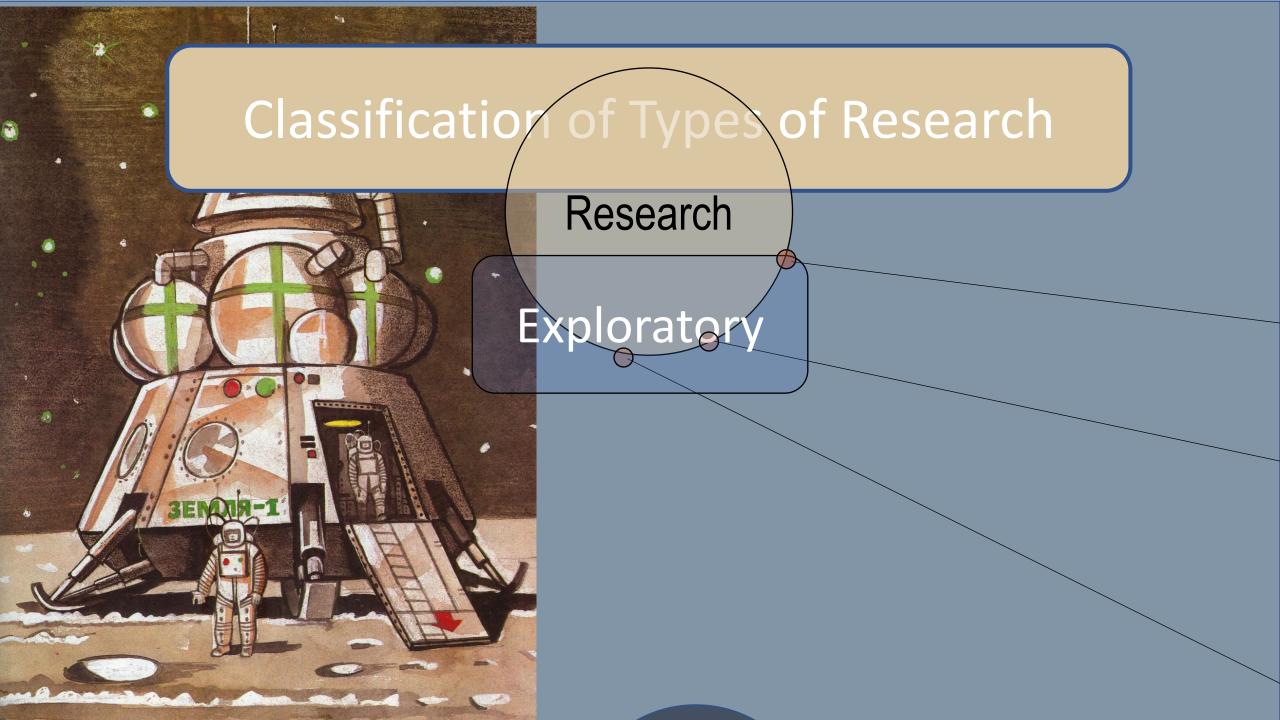
Note: In fact, it is common for research projects to first establish the theoretical framework both to define the field of study and to identify possible theories that could be tested or applied to solve the specific problem posed in the project.

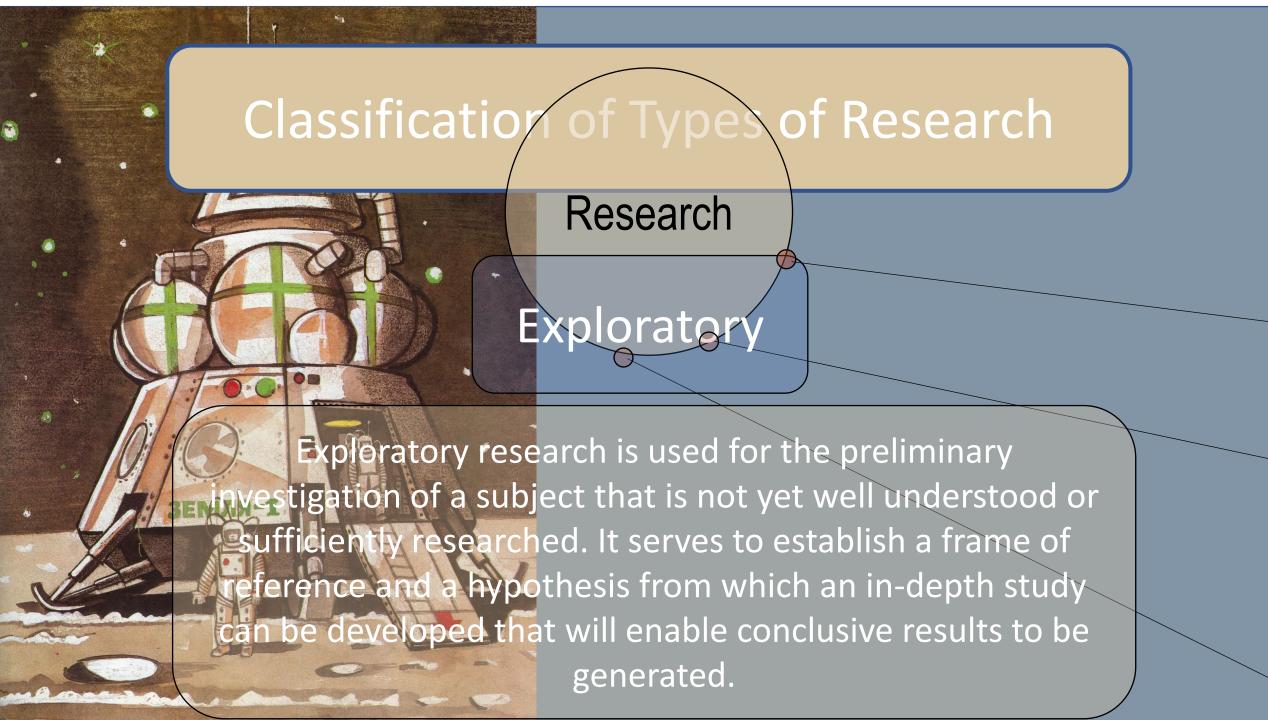


Research

Exploratory







Research

Exploratory

Exploratory research is used for the preliminary investigation of a subject that is not yet well understood or sufficiently researched. It serves to establish a frame of reference and a hypothesis from which an in-depth study can be developed that will enable conclusive results to be generated.

Research

Exploratory

Because exploratory research is based on the study of littlestudied phenomena, it relies less on theory and more on the collection of data to identify patterns that explain these phenomena.

For example, an investigation of the role social media in the perception of self-image.

Research

Descriptive

The primary objective of descriptive research is to define the characteristics of a particular phenomenon without necessarily investigating the causes that produce it.

Research

Descriptive

In this type of research, the researcher must take particular care not to intervene in the observed object or phenomenon, as its behaviour may change if an external factor is involved.

For example, investigating how the public census of influential government officials differs between urban and non-urban areas.

Research

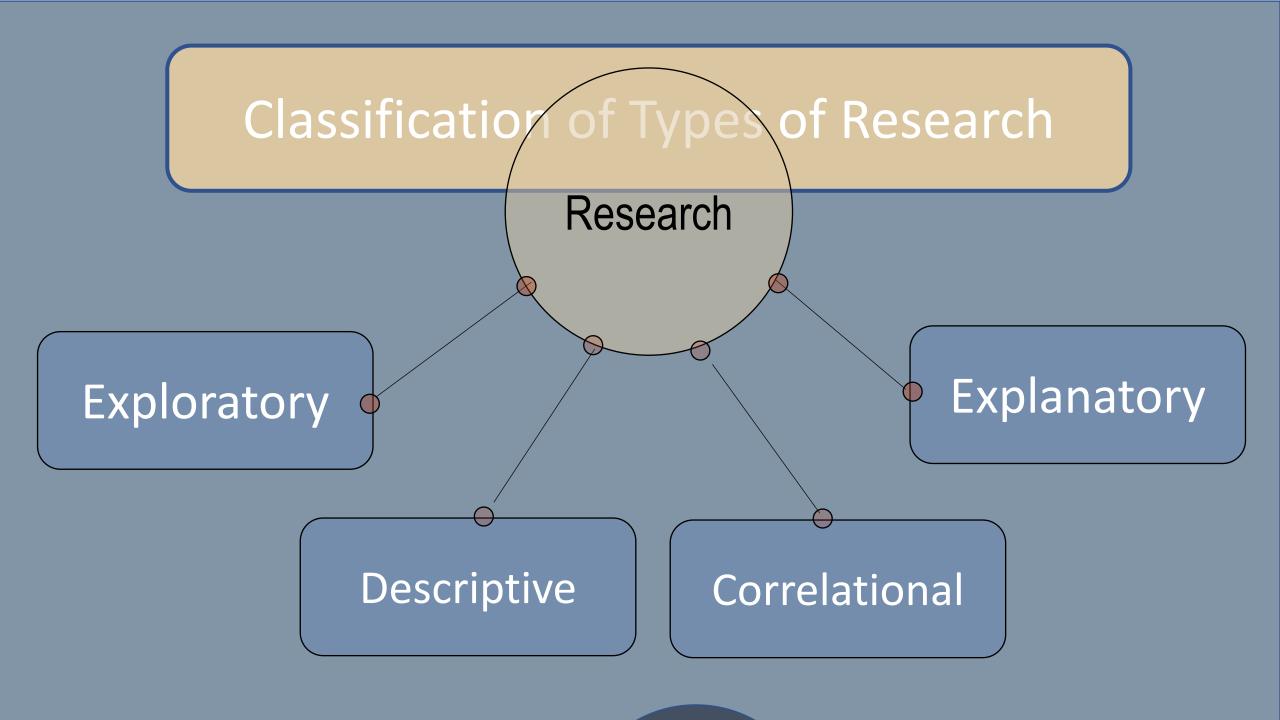
Correlational

The purpose of this type of scientific research is to identify the relationship between two or more variables. A correlational study aims to determine whether a variable changes, how much the other elements of the observed system change.

Research

Explanatory

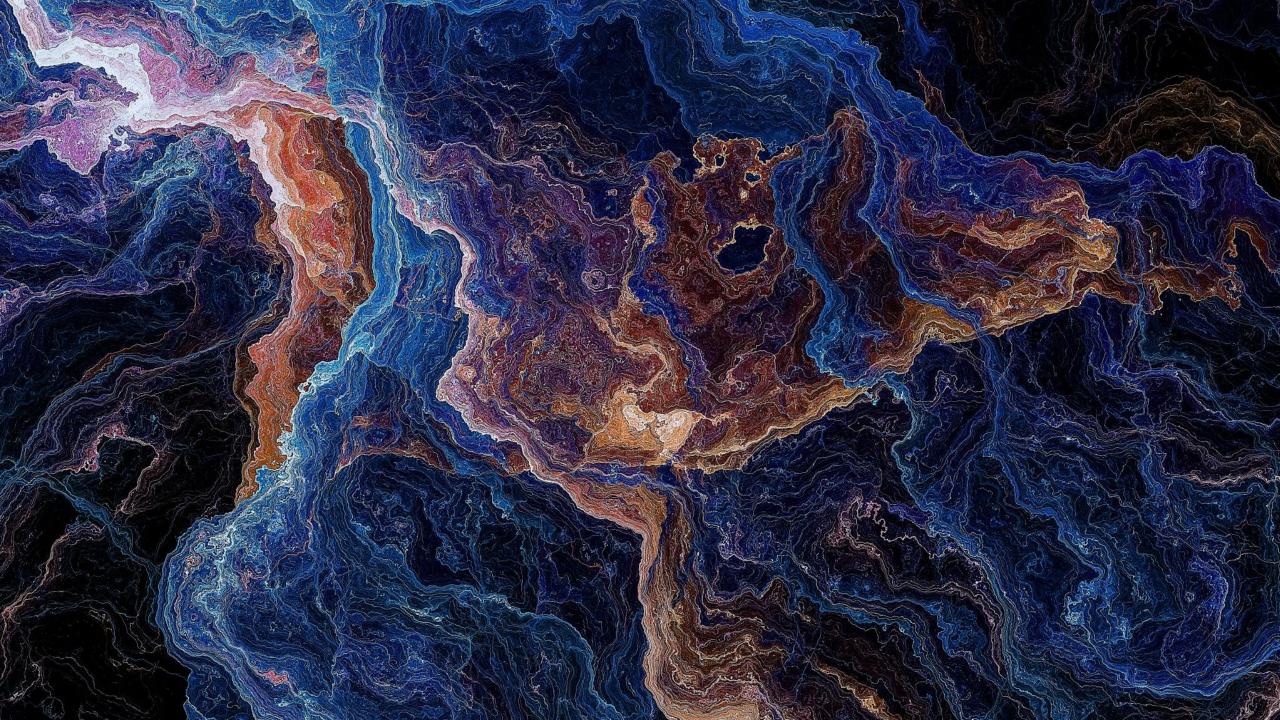
Explanatory research is the most common type of research method and is responsible for establishing cause-and-effect relationships that allow generalisations to be extended to similar realities. It is closely related to descriptive research, although it provides additional information about the observed object and its interactions with the environment.



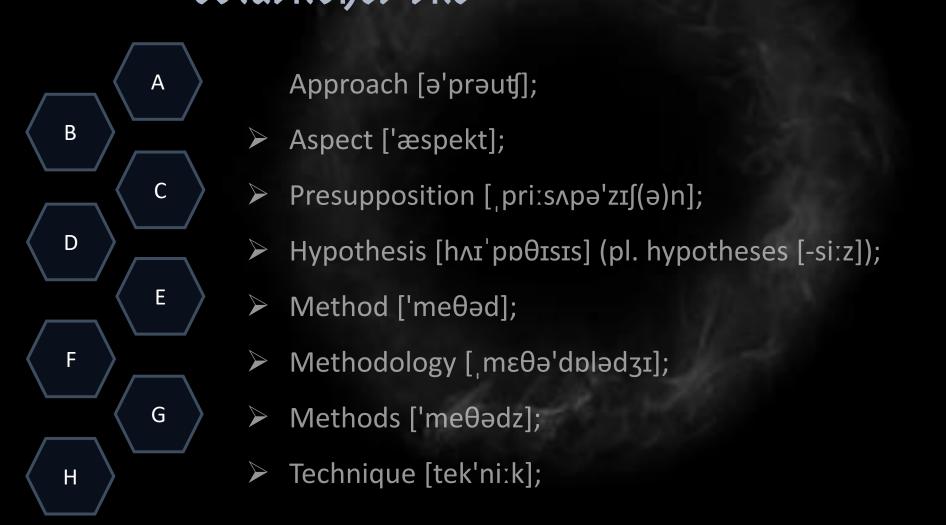


CHECK YOURSELF!

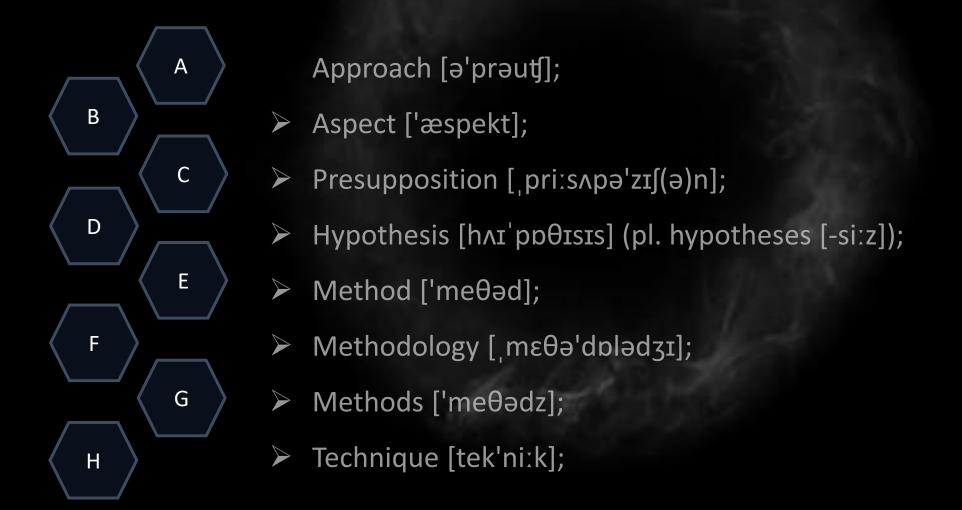




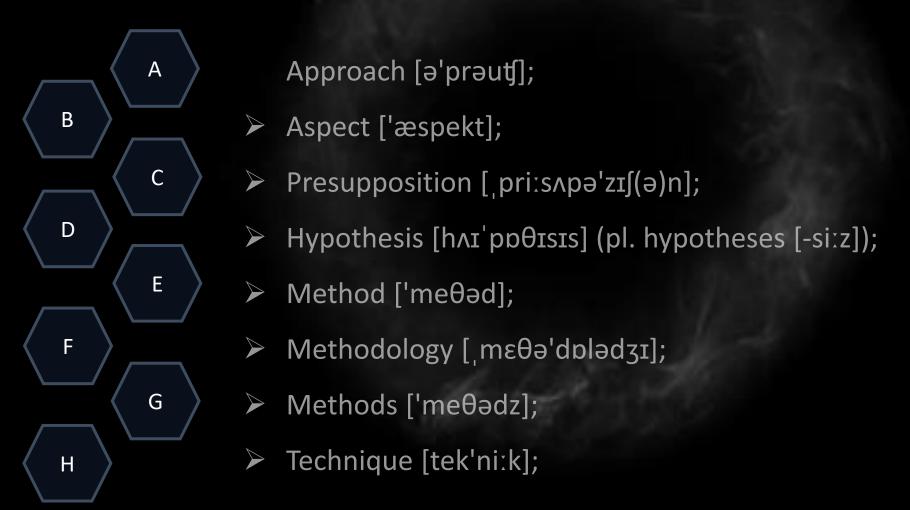
It is a particular procedure for accomplishing or approaching something, especially a systematic or established one



A distinct feature or element in a problem, situation, etc. (a facet ['fæsɪt] of some object) is called a/an ...

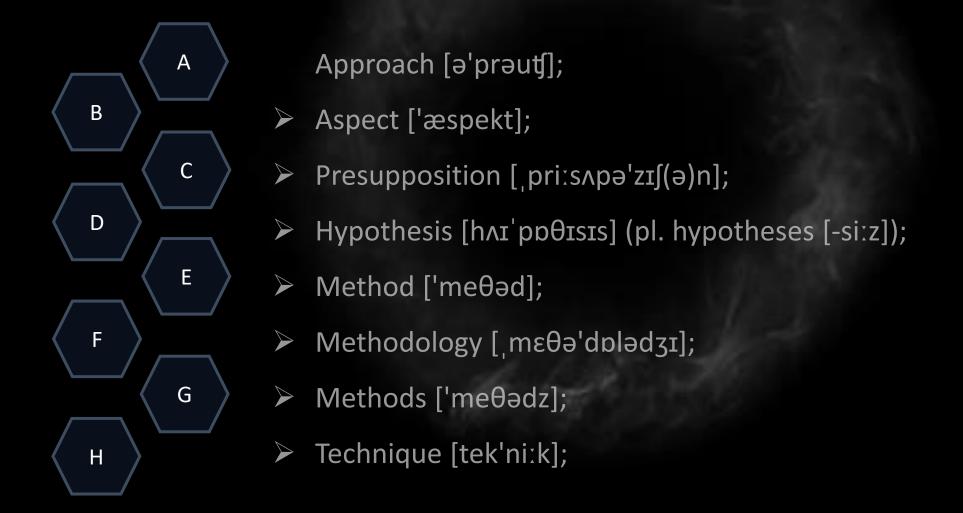


It is a supposition or proposed explanation made on the basis of limited evidence as a starting point for further investigation

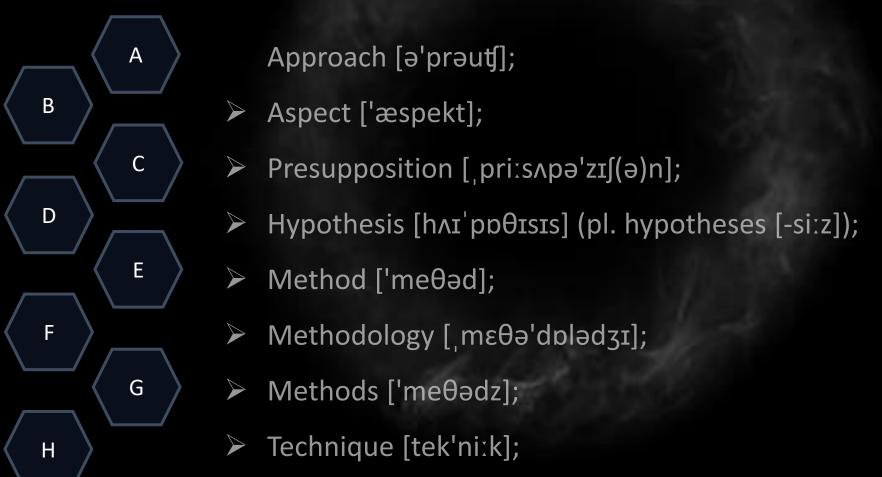


It is the system of methods and principles used in a particular discipline, in some particular area of study or activity. It is called ...

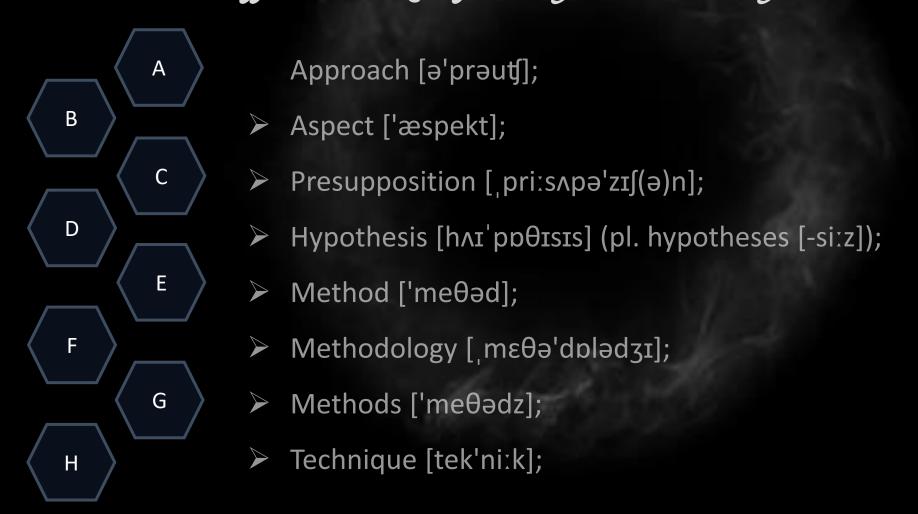




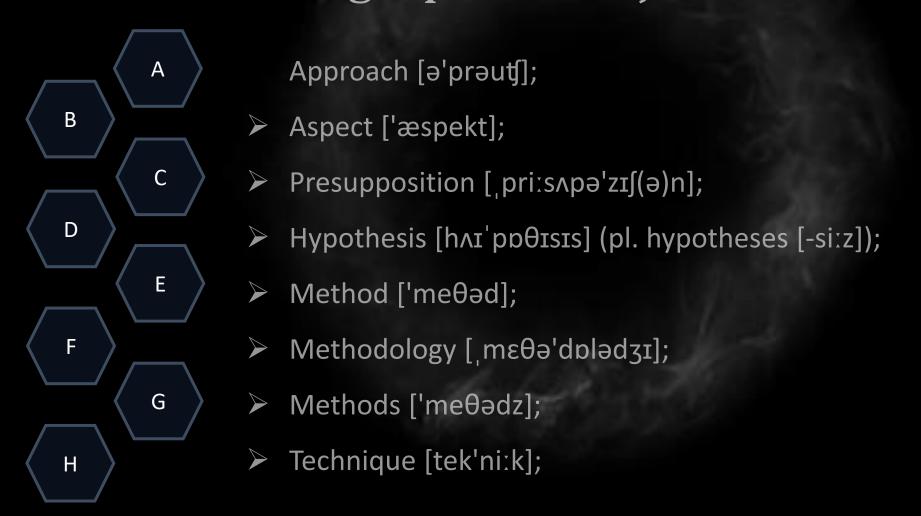
OF A LINE OF ARGUMENT. IT IS A PART OF A SENTENCE, PRECONDITIONING ITS MEANINGFUL INTERPRETATION.



Tt is a way of carrying out a particular task, especially the execution or performance of a scientific procedure, some skillful or efficient way of doing or achieving something.



This term implies either an approximation to something or a means adopted in tackling a problem, job of work, etc.



IT INCLUDES YOUR STUDY DESIGN, STUDY MATERIALS, INDICATORS, VARIABLES, MEASUREMENTS, RESEARCH TECHNIQUES AND



PROCEDURES, IT IS CALLED ...

- A
- Approach [ə'prəutʃ];



Aspect ['æspekt];



Presupposition [prixsnpə'zɪʃ(ə)n];



 \triangleright Hypothesis [hʌɪˈpɒθɪsɪs] (pl. hypotheses [-siːz]);



Method ['meθəd];

F

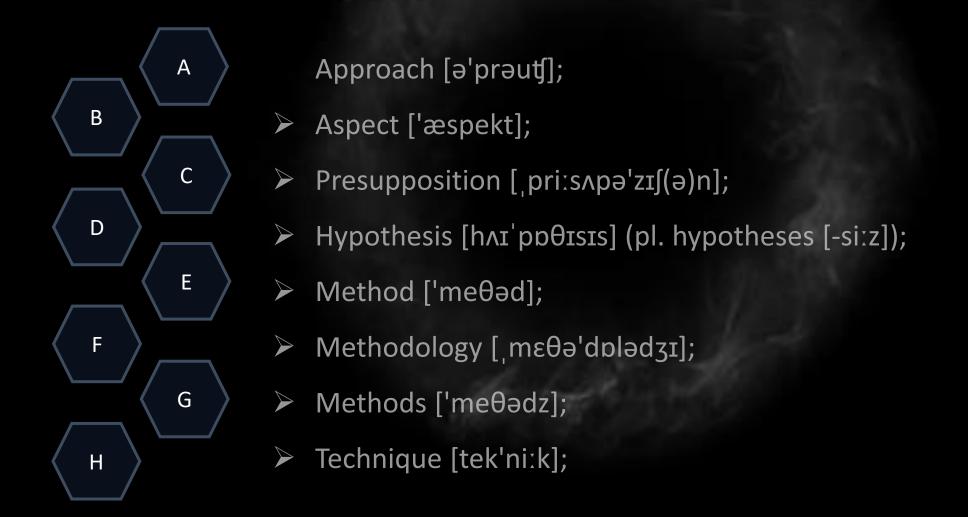
Methodology [ˌmεθə'dɒlədʒɪ];



Methods ['meθədz];

Н

Technique [tek'niːk];







Go to the STRART PAGE

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MORE TESTING FUN



Typical Sections of an English Research Manuscript

For manuscripts that describe empirical studies, the following sections are typically included:

- 1. Title
- 2. Abstract (brief summary of the study)
- 3. Introduction (rationale and objectives for the study; hypotheses)
- 4. Method (description of research design, study sample, and research procedures)
- 5. Results (presentation of data, statistical analyses, and tests of hypotheses)
- 6. Discussion (major findings, interpretations of data, conclusions, limitations of study, and areas for future research).

IMRAD Стандартная структура нау	учной статьи / презентации по результатам КР
Title	Указывается тема исследования, автор, аффилиация.
(Название статьи)	В студенческих сборниках также научный руководитель.
Annotation	Конкретизирует содержание статьи и кратко отражает
(Аннотация)	структуру IMRAD
Key Words	Указываются ключевые термины и понятия исследования
(Ключевые слова)	
Introduction	Проблема, актуальность, новизна, объект и предмет; цели и
(Введение)	задачи;
	Аналитический обзор литературы; ключевые понятия
	исследования.
Methods	Методы, материал анализа, условия эксперимента,
(Методы)	методики и средства проведения исследования
Results	Анализ, интерпретация и первичное обобщение
(Результаты)	полученных в результате исследования новых данных.
Discussion (Обсуждение)	Полученные ответы, их достоверность, значение,
Conclusion (Заключение)	Обобщение полученных результатов и выводов по ним;
	перспективы дальнейших исследований.
References (Литература)	Библиографические данные статей оформляются по
	требованиям издания (e.g. ГОСТ, APA etc.).
	Указываются все процитированные и проанализированные
	источники.

WRITE YOUR OWN ARTICLE IN ENGLISH BASED ON ANALYTICAL REVIEW AND DO NOT FORGET TOI FOLLOW IMRAD STRUCTURE

DO EXERCISES AT

https://wansbaa.jimdofree.com/research-in-english/

FIND MORE READING AT

https://wansbaa.jimdofree.com/research-in-english/

ANSWER THE QUESTIONS /IN ENGLISH /

UNIT ONE. Try and answer / discuss the questions.

- 1. What is Scientific Knowledge? What features seem specific for it?
- 2. What is a scientific method? Why do we need it?
- 3. What features should scientific results have to fit a notion of a method-based study?
- 4. What is methodology? What meaning does English word 'methodology' have?
- 5. What levels of methodological thought can you name?
- 6.Are all possible methodological approaches just the same?
- 7. What is a scientific approach? Is it just a system of belief? Is it a sort of a model?
- 8. What is Meta-Language? Why do we need it?
- 9. Are all methods equivalent in Research?
- 10. What are key stages of scientific research?
- 11. What is the difference between theory analytical review and empirical research?
- 12. What is the difference between qualitative and quantitative methods in English Research tradition?
- 13. Can you name various qualitative and quantitative methods in English Research tradition?
- 14. What role should an observer play in the research? Should one stay visible or invisible? Can observer influence research results?
- 15. Can you tell the difference between educational scientific research methods and general research methods? $Prof. \ Andrei \ A. \ Bogatyrev$