**Introduction**

Research comprises "creative work undertaken on a systematic basis in order to increase the stock of [knowledge](https://en.wikipedia.org/wiki/Knowledge), including knowledge of humans, culture and society, and the use of this stock of knowledge to devise new applications." It is used to establish or confirm facts, reaffirm the results of previous work, solve new or existing problems, support [theorems](https://en.wikipedia.org/wiki/Theorem), or develop new [theories](https://en.wikipedia.org/wiki/Theory). A research project may also be an expansion on past work in the field. To test the validity of instruments, procedures, or experiments, research may replicate elements of prior projects, or the project as a whole. The primary purposes of [basic research](https://en.wikipedia.org/wiki/Basic_research) are [documentation](https://en.wikipedia.org/wiki/Documentation), [discovery](https://en.wikipedia.org/wiki/Discovery_(observation)), [interpretation](https://en.wikipedia.org/wiki/Interpretation_(philosophy)), or the [research and development](https://en.wikipedia.org/wiki/Research_and_development) (R&D) of methods and systems for the advancement of human knowledge. Approaches to research depend on [epistemologies](https://en.wikipedia.org/wiki/Epistemology), which vary considerably both within and between humanities and sciences.

Creswell states that - "Research is a process of steps used to collect and analyze information to increase our understanding of a topic or issue". It consists of three steps: Pose a question, collect data to answer the question, and present an answer to the question.

Educational researchers have come to the consensus that, educational research must be conducted in a rigorous and systematic way. There are a variety of disciplines which are each present to some degree in educational research. These include [psychology](https://en.wikipedia.org/wiki/Psychology), [sociology](https://en.wikipedia.org/wiki/Sociology), [anthropology](https://en.wikipedia.org/wiki/Anthropology), and [philosophy](https://en.wikipedia.org/wiki/Philosophy). The overlap in disciplines creates a broad range from which [methodology](https://en.wikipedia.org/wiki/Methodology) can be drawn. The findings of educational research also need to be interpreted within the context in which they were discovered as they may not be applicable in every time or place.

Gary Anderson outlined ten aspects of educational research:

1. Educational research attempts to solve a problem.
2. Research involves gathering new data from primary or first-hand sources or using existing data for a new purpose.
3. Research is based upon observable experience or empirical evidence.
4. Research demands accurate observation and description.
5. Research generally employs carefully designed procedures and rigorous analysis.
6. Research emphasizes the development of generalizations, principles or theories that will help in understanding, prediction and/or control.
7. Research requires expertise—familiarity with the field; competence in methodology; technical skill in collecting and analyzing the data.
8. Research attempts to find an objective, unbiased solution to the problem and takes great pains to validate the procedures employed.
9. Research is a deliberate and unhurried activity which is directional but often refines the problem or questions as the research progresses.
10. Research is carefully recorded and reported to other persons interested in the problem.

**Approaches**

There are two main approaches in educational research. The first is a basic approach. This approach is also referred to as an academic research approach. The second approach is applied research or a contract research approach. Both of these approaches have different purposes which influence the nature of the respective research.

**Basic approach**

**Basic research** (also called **pure research**, **fundamental research**, and **discovery research**) is a systematic study directed toward greater [knowledge](https://en.wikipedia.org/wiki/Knowledge) or understanding of the fundamental aspects of [phenomena](https://en.wikipedia.org/wiki/Phenomena). Basic research is executed without thought of a practical end goal, without specific applications or products in mind. Basic or academic research focuses on the search for truth or the development of educational [theory](https://en.wikipedia.org/wiki/Theory). Researchers with this background “design studies that can test, refine, modify, or develop theories”. Generally, these researchers are affiliated with an academic institution and are performing this research as part of their graduate or doctoral work.

Basic research has been described as arising out of [curiosity](https://en.wikipedia.org/wiki/Curiosity) Basic research is contrasted with [applied research](https://en.wikipedia.org/wiki/Applied_research), which is research focused on a particular problem or application. Basic research lays the foundation for advancements in knowledge that lead to applied gains later on, occasionally as a result of [unexpected discoveries](https://en.wikipedia.org/wiki/Serendipity).

**Applied approach**

**Applied research** is a form of [systematic inquiry](https://en.wikipedia.org/wiki/Scientific_method) involving the practical application of [science](https://en.wikipedia.org/wiki/Science). It accesses and uses some part of the research communities' (the[academia](https://en.wikipedia.org/wiki/Academia)'s) accumulated theories, knowledge, methods, and techniques, for a specific, often [state-](https://en.wikipedia.org/wiki/State_(polity)), [business-](https://en.wikipedia.org/wiki/Commerce), or [client-driven](https://en.wikipedia.org/wiki/Customer) purpose. Applied research is contrasted with [pure research](https://en.wikipedia.org/wiki/Pure_research) (basic research) in discussion about research ideals, methodologies, programs, and projects.

Applied research deals with solving practical problems and generally employs [empirical](https://en.wikipedia.org/wiki/Empirical) methodologies. Because applied research resides in the messy real world, strict research protocols may need to be relaxed. For example, it may be impossible to use a [random sample](https://en.wikipedia.org/wiki/Random_sample). Thus, transparency in the [methodology](https://en.wikipedia.org/wiki/Methodology) is crucial. Implications for interpretation of results brought about by relaxing an otherwise strict canon of methodology should also be considered. Since Applied Research has a provisional close to the problem and close to the data orientation it may also use a more provisional [conceptual framework](https://en.wikipedia.org/wiki/Conceptual_framework) such as [working hypothesis](https://en.wikipedia.org/wiki/Working_hypothesis) or pillar questions . The goal of this research is “to determine the applicability of educational theory and principles by testing hypotheses within specific settings”.

**Comparison of basic and applied research**

The following are several defining characteristics that were written by Gary Anderson to compare basic (academic) and applied (contract) research.

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|  | Basic (Academic) Research | Applied (Contract) Research |
| 1 | Is sponsored by an agency committed to the general advancement of knowledge. | Is sponsored by an agency with a vested interest in the results. |
| 2 | Results are the property of society and the research community. | Results become the property of the sponsor. |
| 3 | Studies rely on the established reputations of the researchers and are totally under their control. | Studies follow explicit terms of reference developed by the sponsor to serve the sponsor’s needs. |
| 4 | Budget allocations are generally based on global proposals and accounting is left to the researchers. | Budget accountability is directly related to the sponsor and relates to agreed terms of reference, time frames and methodologies. |
| 5 | The conduct of research is based on ‘good faith’ between funder and researcher. | The work is contractual between sponsor and researcher. |
| 6 | The research produces findings and conclusions, but rarely recommendations except those related to further research needs. | The research includes applied recommendations for action. |
| 7 | Academic research tends to extend an identifiable scholarly discipline. | By its nature, contract research tends to be interdisciplinary. |
| 8 | Academic research is typically focused on a single set of testable hypotheses. | Contract research frequently analyzes the consequences of alternative policy options. |
| 9 | Decision-rules relate to theoretically-based tests of statistical significance. | Decision-rules relate to predetermined conventions and agreements between the sponsor and the researcher. |
| 10 | Research reports are targeted to other specialized researchers in the same field. | Research reports are intended to be read and understood by lay persons. |

**Reference**:[*www.wisegeek.org*](http://www.wisegeek.org)*,*

*www.wikipedia.org/applied-research*

[www.wikipedia.org](http://www.wikipedia.org)/wiki/ basic-research