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# Research activities

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# Researcher

- “a science person who is dedicated to research”



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# Researcher activities

- Stay informed
  - Innovate
  - Proving
  - Review
  - Write research funding proposals
  - Guide and evaluate papers and activities
  - Participate to scientific meetings
  - Disseminate
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# RAE (<http://www.rae.ac.uk/>)

- Research Assessment Exercise
  - The main aim of RAE is to produce quality profiles for the research activities of various institutions
  - The research and education funding institutions are using quality profiles to establish the research grants addressed to the funded units
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# Research

- [RAE 2001]

*"...original investigation done to gain knowledge and understanding "*

- Includes:

- The activities with direct relevance for commercial and industrial needs, as well as for the public sector and volunteers
  - Scholarship- the creation, development and maintenance of the intellectual infrastructure of subjects and disciplines, in the form of dictionaries, catalogues and major contributions to the research databases
  - Invention, generate ideas and images, performance and facts including design, when they lead to a new and substantial improvement of the content
  - Existing knowledge usage in the experimental development to produce materials, devices, products and processes that are new or substantially improved, including the design and construction
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The research is  
an **ORGANIZED** and **SYSTEMATIC** way  
to find **ANSWERS** to **QUESTIONS**

- **SYSTEMATIC** since there is a set of procedures and steps that need to be followed
  - **ORGANIZED** since there is a structure or method that is available to do the research. It is focused and limited to a specific aim.
  - **FINDING THE ANSWER** is the purpose of the research. Whatever is an answer to a hypothesis or a simple question, the research is successful if the answers are found. Sometimes the answer is no, but still it is an answer.
  - **THE QUESTIONS** are the center of the research. If there are no questions, the answer is unnecessary. The research is focused on relevant and important. Without a question, the research is not focused, useful or incentive.
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# It is NOT research

- ❑ Testing and the routine analysis of materials, components and processes, for example to maintain the national standards, distinct from the development of new analytic techniques
  - ❑ Development of teaching materials which do not include original contributions
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# Research and experimental development

- *Includes the creative work on a systematic base to enhance the knowledge, including the knowledge about humanity, culture, society and the usage of this knowledge to invent new applications*
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- Any activity that is classified as experimental research and development is characterized by **originality**;
  - Should have the **investigation** as main objective and should have the potential to produce results that are sufficiently general for the **knowledge set** (theory and/or practice) to be recognized as bringing its increase.
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# Classification based on the activity type

- Pure basic research
  - Strategical fundamental research
  - Applied research
  - Experimental development
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## *Pure basic research*

- Is the theoretical and experimental activity done to obtain new knowledge without aiming to get benefits on long term except the knowledge advancement
  - This type of activity is often a pure theoretical one with the intention to raise the understanding of certain phenomena and behaviors, but it does not search to solve or treat these problems
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## *Strategical fundamental research*

- Is the theoretical and experimental activity done to achieve new knowledge directed towards large and specific fields in the hope of useful discoveries
  - Offers a large base of knowledge for the solution of known practical problems
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# *Applied research*

- Is the original activity that is done to obtain new knowledge having in mind a specific application
  - Is done to
    - Find the potential utility of the base research, or
    - Find new ways to achieve certain specific objectives
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# *Experimental development*

- Is the systematic activity that uses the existing knowledge gained from the research or practice experience, which is directed to produce materials, products or new devices, to install new processes, systems or services, or to substantially improve the ones already produced and installed
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# Support activities that can be considered research

- Professional and technical support for the research personnel directly involved in research and experimental development
  - Management of the personnel directly involved in research and experimental development
  - Student activities that are related to postgraduate stages;
  - Development of research activity plans for postdocs;
  - Supervision of the post-graduate students with research activities.
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# Publications/activities that are excluded from research definition

- Teaching material that is primarily used by students, like lecture notes or audio-video materials;
- Literature and artistic creations
- Feasibility study
- Technical indexing, data and information compiling, except the case when they are produced to support the academic research;
- Standard creations and routine testing reports;
- Patent, copyright and licence preparation
- Routine computer programming, software and hardware maintenance.