



# Figure out a Competitive Research Project Proposal

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# Self-Introduction

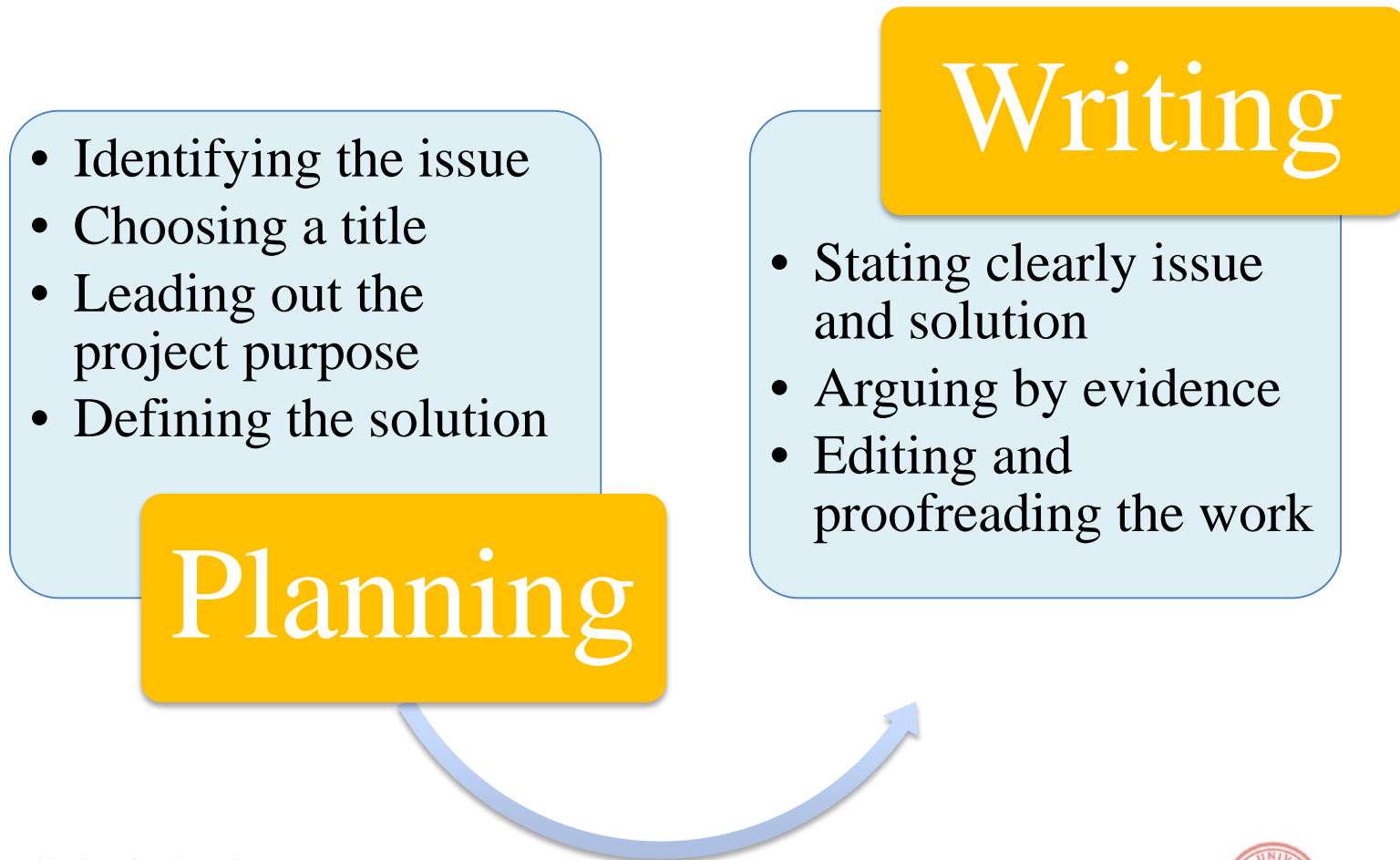
- Zhi Jin, Ph.D, Professor
  - Peking University, Chinese Academy of Sciences
  - Deputy Director, Key Lab. Of HCST (MoE)
  - Chair, TCSE of China Computer Federate
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- Research Interests:
  - Requirements Engineering, Knowledge Engineering
- Research Funding Leader:
  - Project Chief Scientist: National Basic Research Program
  - Project Leader:
    - 3 National Basic Research Program
    - 1 National High-Tech Project
    - 3 Key Projects of Natural Science Foundation
    - More .....



- **Fail, and disappointed**
- **Why ? What ? How? Why? What?**
- **Logical, systematical, rational, reasonable, .....** not only itemized following the structure
- **After .....**



# General Messages

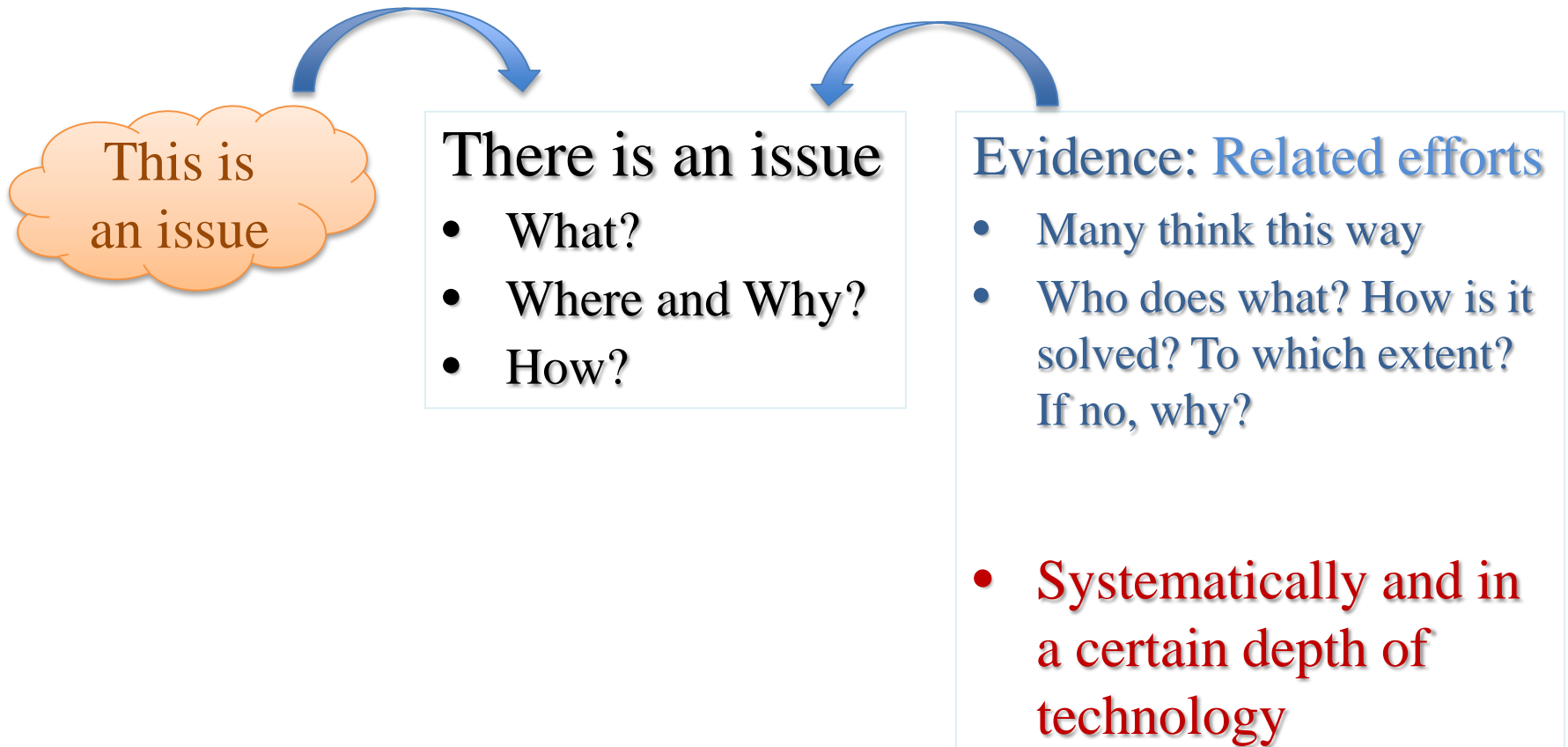


# Defining the Issue: Motivation

This is  
an issue

- There is an issue
  - What? **Is it too small or too big?**
  - Where and Why? **Is it important ?**
  - How? **Are you sure?**
- **With great confidence  
in tone**

# Defining the Issue: Motivation



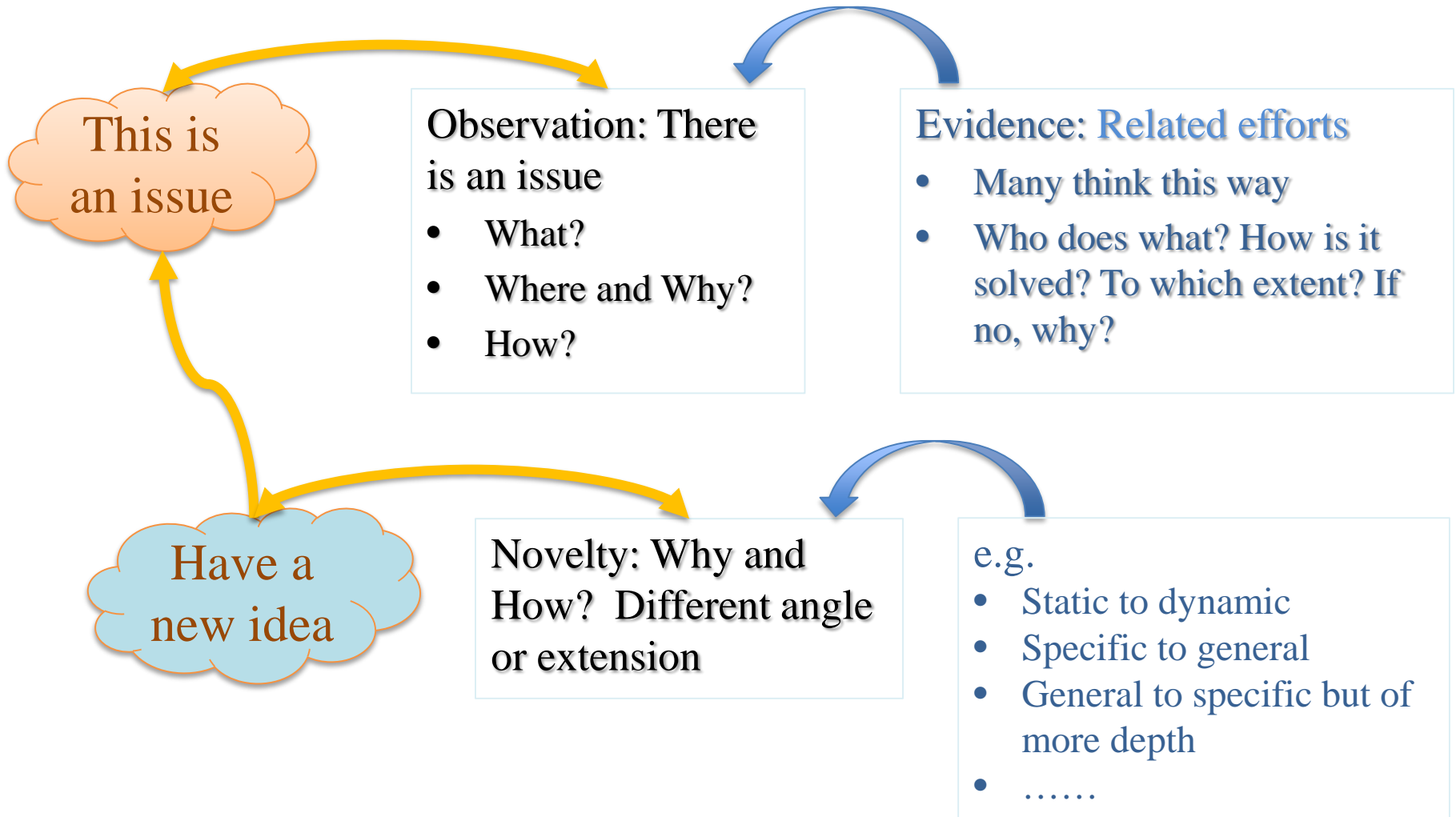


# Defining the Issue: Motivation

- Think of this as the "state of affairs"
  - What is the issue?
  - What is causing the issue?
  - What effects does this issue have?
- Emphasize
  - why the issue needs to be solved now?
  - How will it affect the world/community/... if it is left alone?

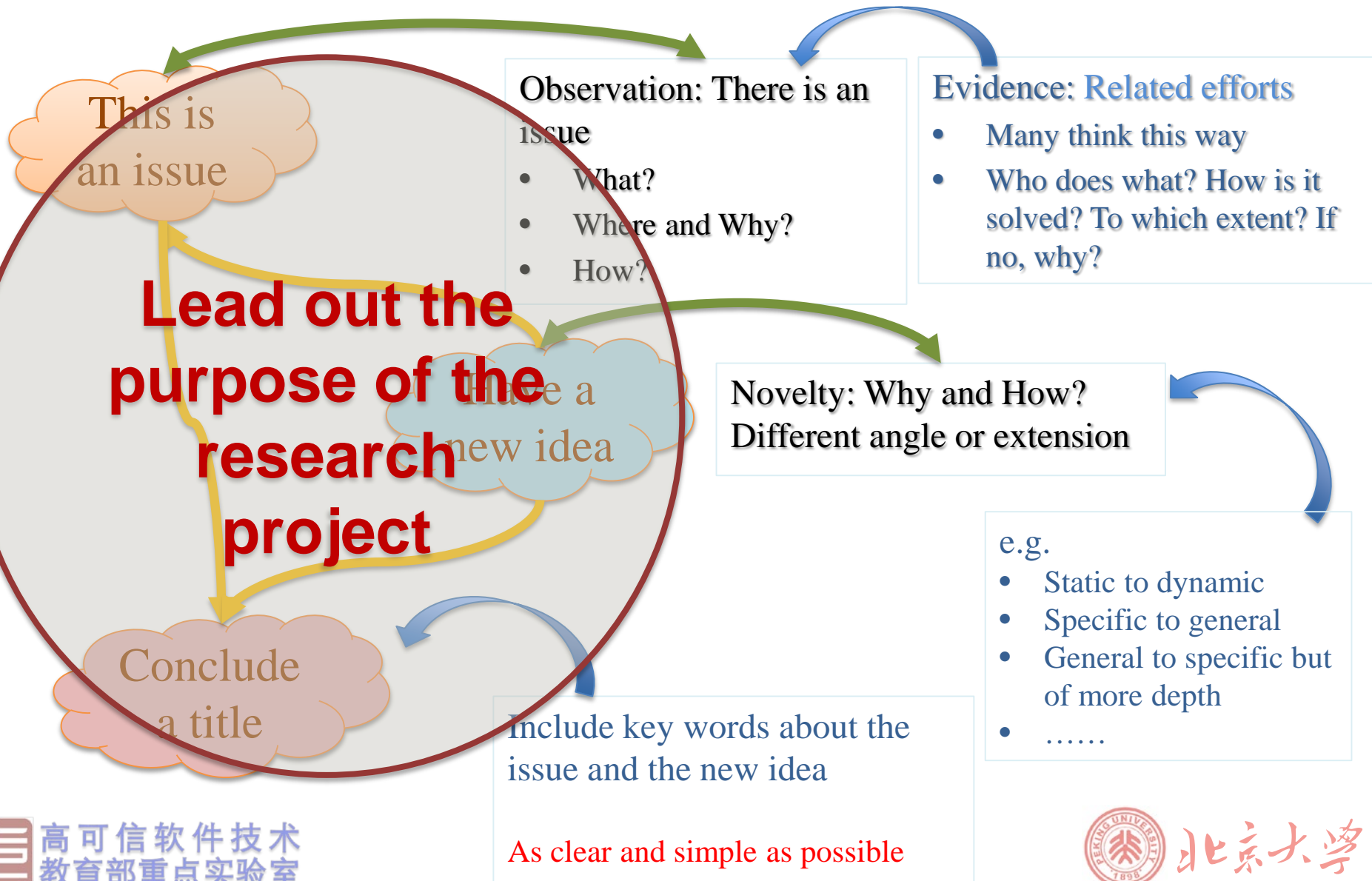
Make sure to answer all questions and cover them with research and facts. Use credible sources liberally

# Defining the Issue: Motivation





# Defining the Issue: Motivation

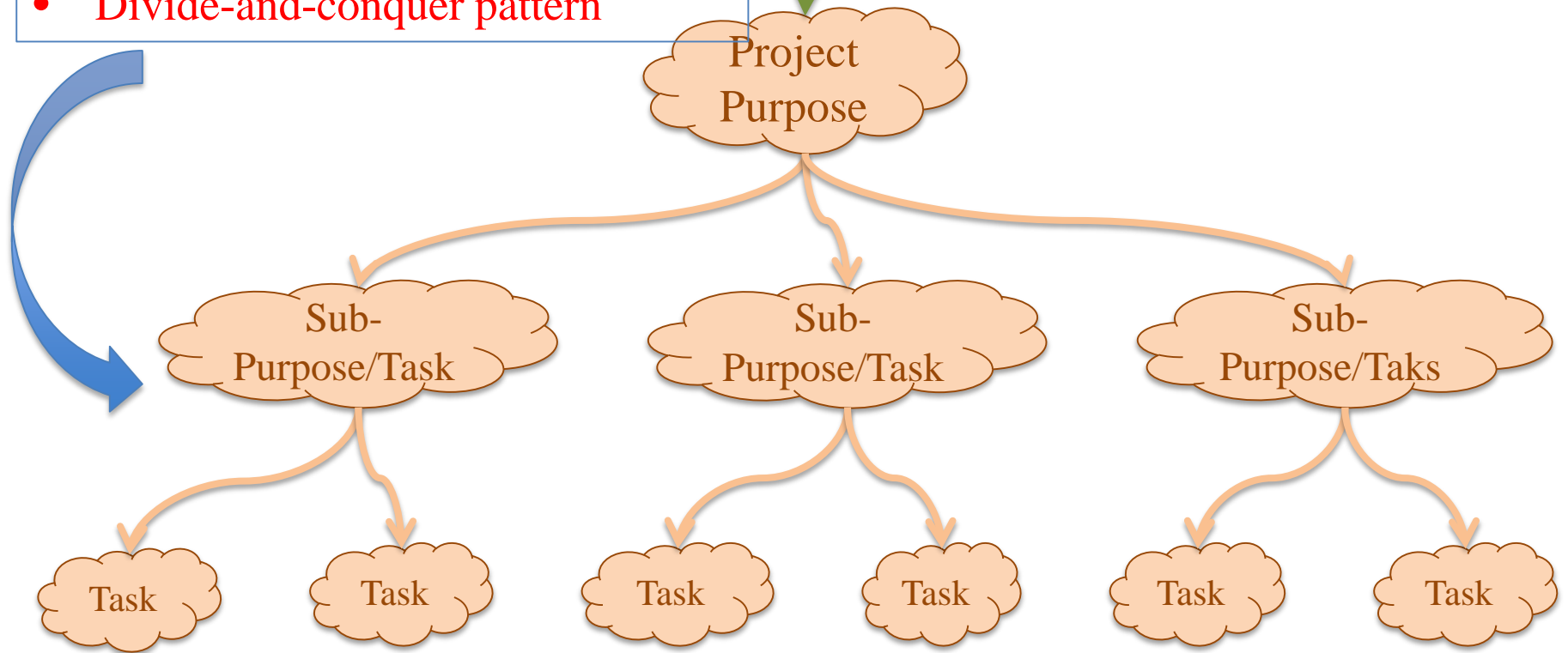


# Making the Plan: Research Content

- Milestone-driven refinement
- Case-driven refinement
  - Decomposition-by-case
  - Guard-introduction pattern
- Divide-and-conquer pattern

Top-Down:

- Objective and task decomposition
- From objective to the research tasks?



# Making the Plan: Research Content

- describe the solution
  - *how* you will address the issue
  - *why* you will do it in this way, and
  - *what* the outcomes will be
- Discuss the larger impact of your ideas

- Addressing why you will do something is as important as stating what you will do
- Show that you've considered your idea from all angles

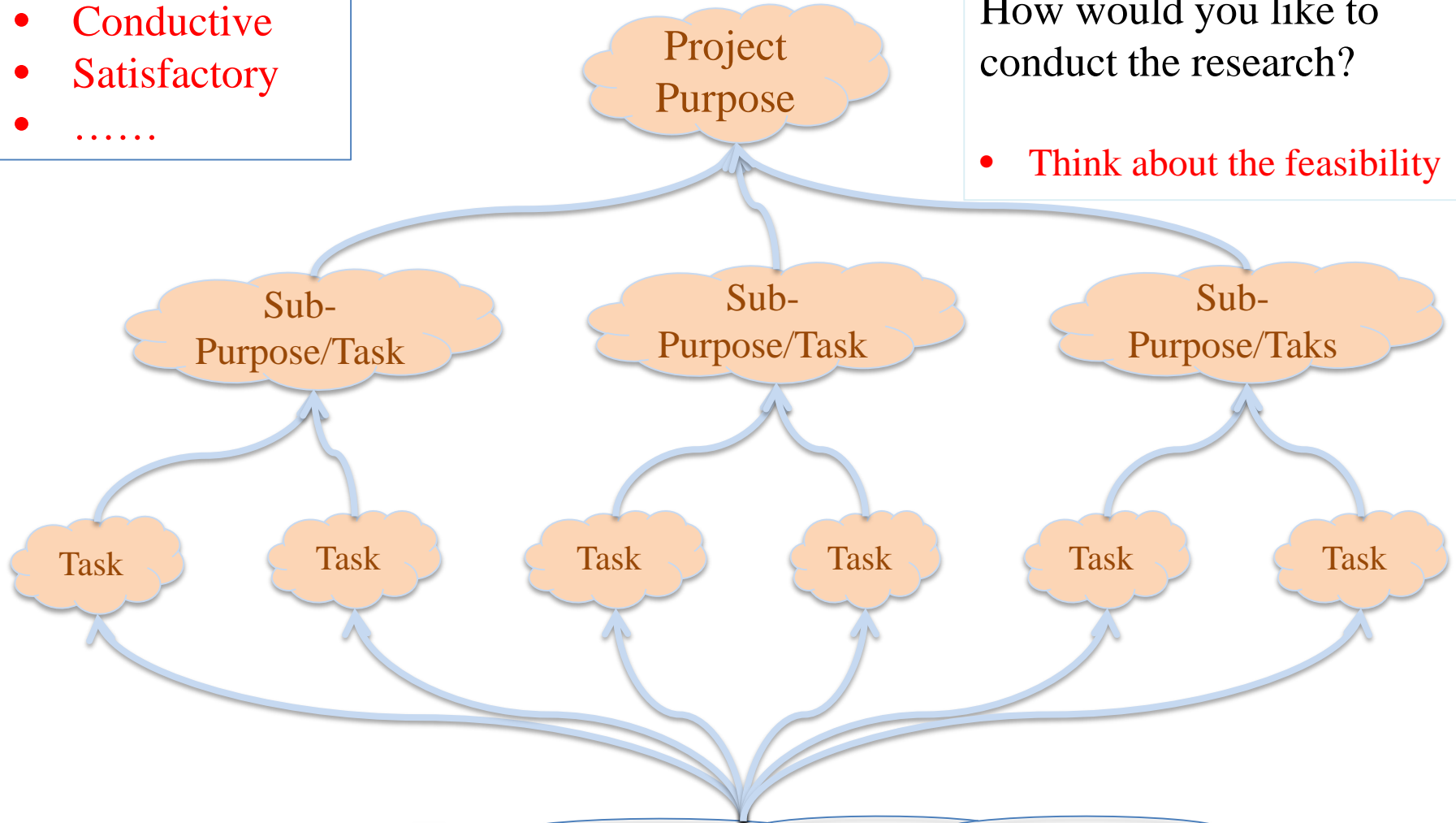
# Making the Plan: Research Strategy

## Bottom-Up:

- Conductive
- Satisfactory
- .....

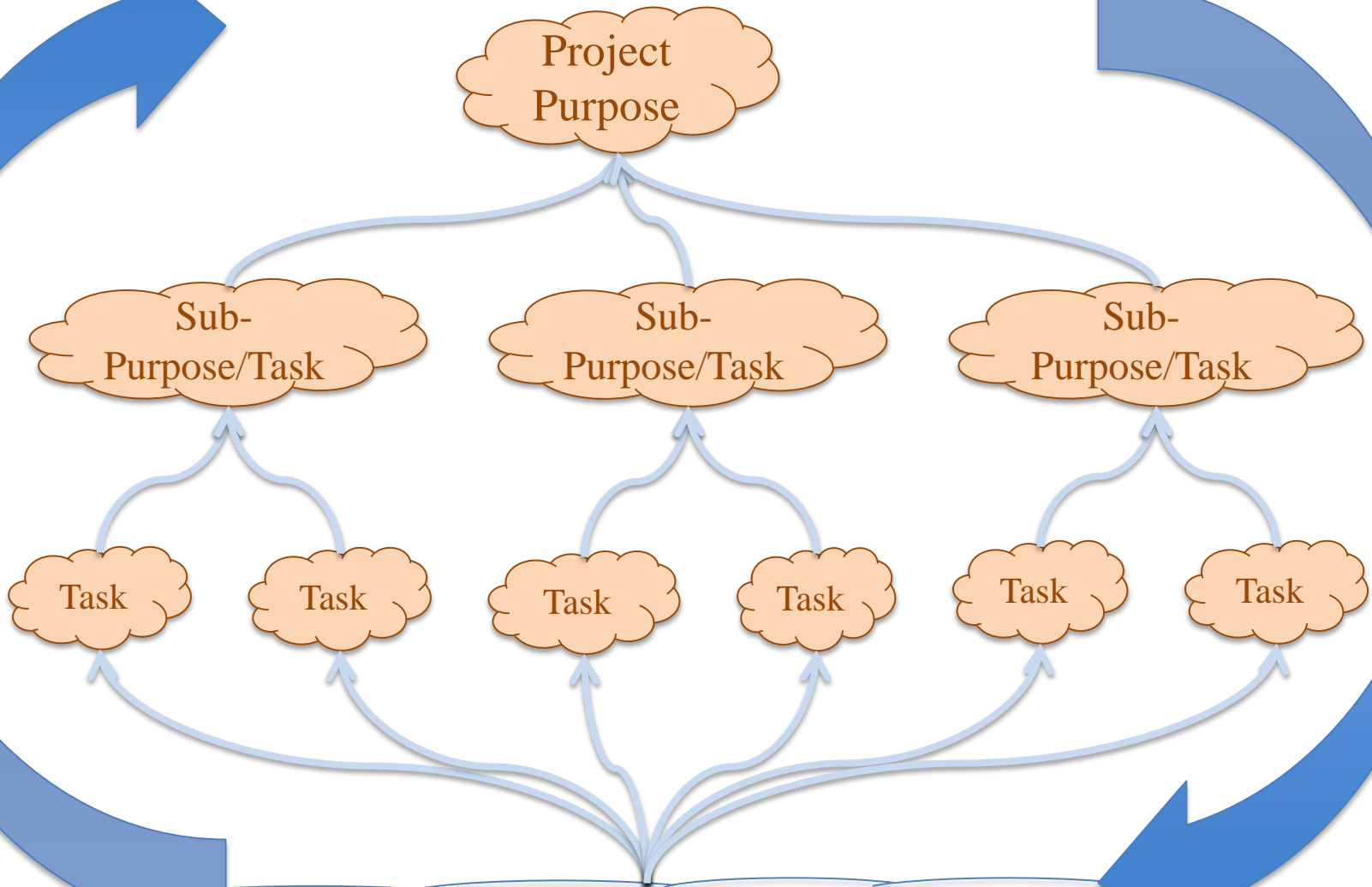
How would you like to conduct the research?

- Think about the feasibility

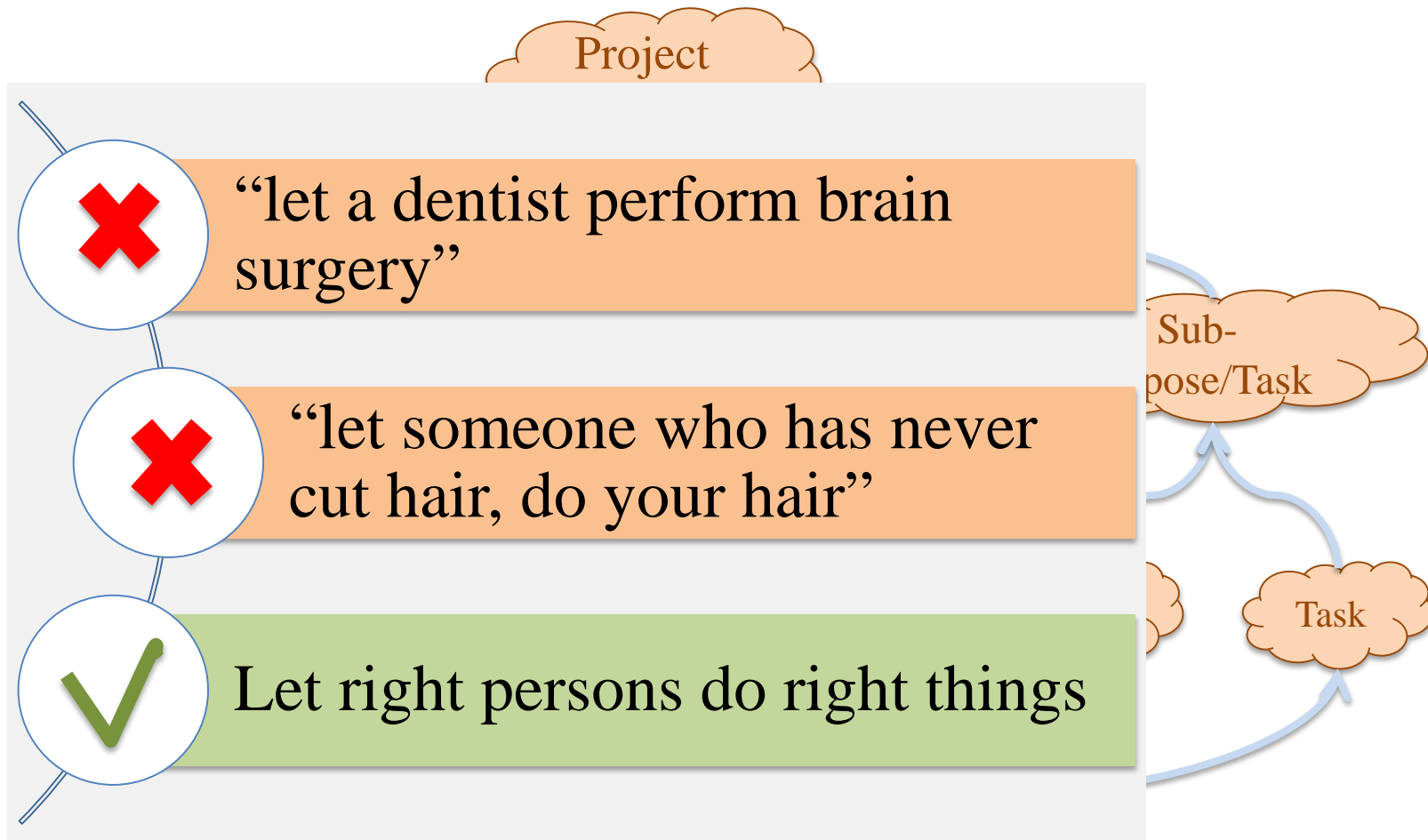


With obtainable facts / results

# Making the Plan: Task Assignment



# Making the Plan: Task Assignment



With obtainable facts / results

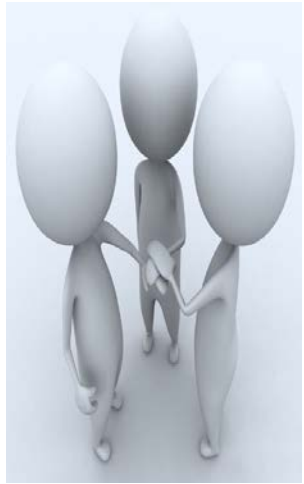
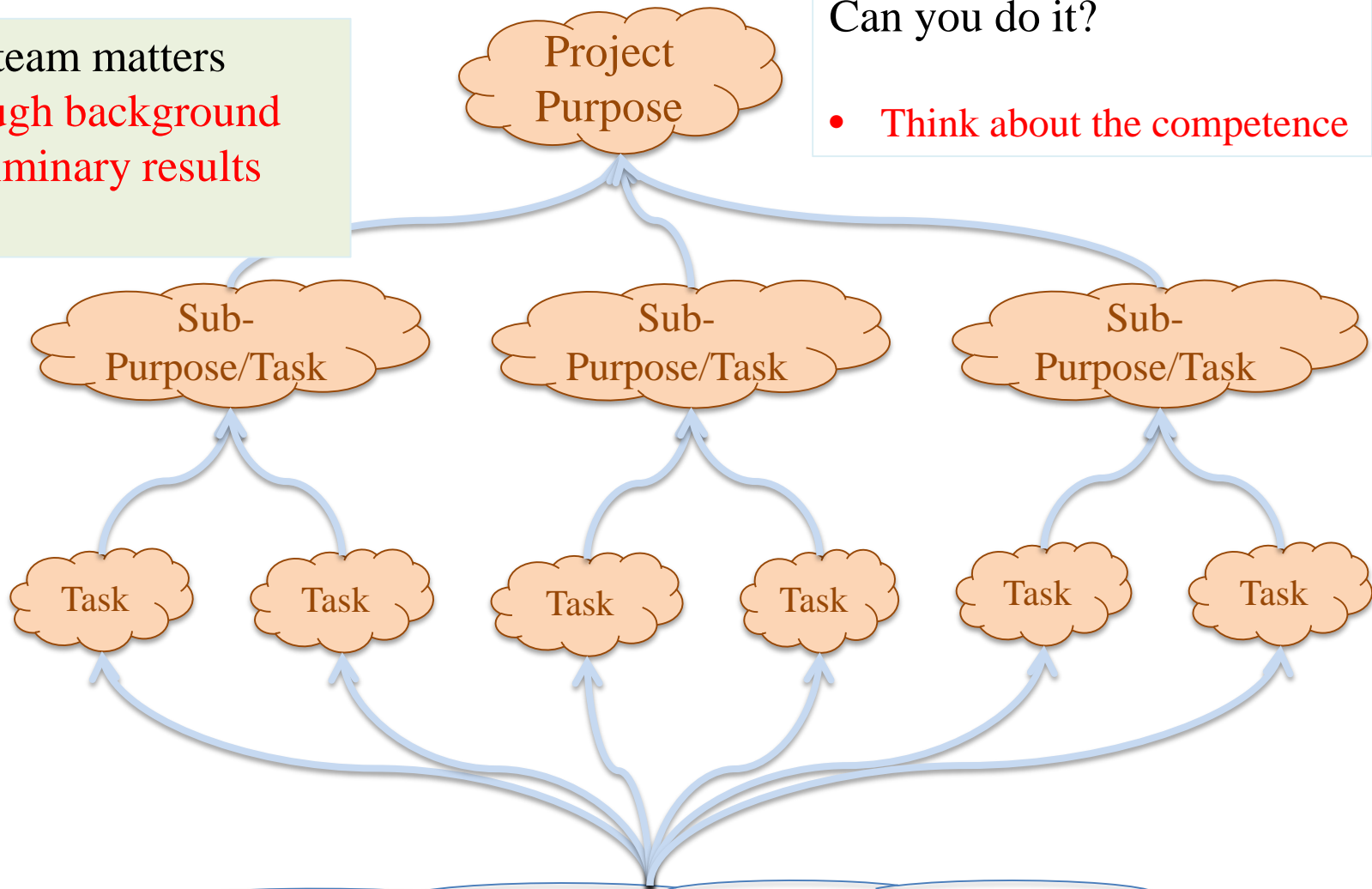
# Making the Plan: Task Assignment

A competent team matters

- Have enough background
- Have preliminary results
- .....

Can you do it?

- Think about the competence



With obtainable facts / results



# Just Like to Conduct a Requirements Engineering (W5H1) Process





# Making the Plan: How this contributes

- Summarize the potential contributions in a systematic way
- Make this clear that these contributions will achieve the project objective
- State them briefly but not too brief
- Use simple language

# Writing the Proposal: Check on Outline

- **Make a list to organize the thoughts**
  - **Check through the outline to make sure it consists of**
    - **the issue, the objective**
    - **the solution, the strategies, the competence**
    - **The outcome, the deliverables/contributions**



**Make sure not miss any of the relevant details**



# Writing the Proposal: Tips for Writing

- State them briefly but not too brief
- Use simple language
- Emphasize on the possibility of the research's influences
- Stress on the feasibility of your research in your research proposal



# Writing the Proposal: Editing

- Following the structure (if there is)
- Edit the work
  - Be meticulous in writing, editing, and designing the proposal.
  - Revise as necessary to make it clear and concise
  - ask others to critique and edit it, and
  - make sure the presentation is attractive and engaging as well as well organized and helpful

# Writing the Proposal: Proofreading

- Proofread the work
  - Get the content as clear and concise
  - Make sure to be free of mistakes
    - Any mistakes will make you look less educated and less credible, **reducing the likelihood of getting approved**
    - Make sure that the formatting is in line with whatever the guidelines require



# Take Home Message (A<sup>5</sup>-Success)

A Proper  
Topic

A Good  
Understanding



A Novel Idea  
and Rational  
Strategy

A Nice Story with  
Significant  
contributions

A Competitive  
Researcher/Team