



Organization and planning of scientific research

Lecture 14 week




Critical thinking in research





Understanding Critical Thinking

Critical thinking involves **analyzing**, **interpreting**, and **evaluating** information to make informed decisions. It enables researchers to **question assumptions** and consider alternative perspectives, leading to **deeper insights**.



Importance of Curiosity

Curiosity is a driving force behind critical thinking. It encourages researchers to **ask questions, explore new ideas, and challenge existing paradigms**. Curiosity fuels the quest for **innovation** in scientific research.



Analyzing Research Data

Critical thinking enables researchers to **scrutinize data**, identify **patterns and trends**, and **draw meaningful conclusions**. It empowers them to make **evidence-based decisions**.





Promoting Innovation

Critical thinking fosters a culture of **innovation** in scientific research by encouraging researchers to **challenge conventions, explore new approaches,** and **push boundaries.** It leads to **groundbreaking discoveries.**



Forms and means of CT development

data collection

text analysis

comparison of alternative points of
view

brainstorming

different types of pair and group work

debate

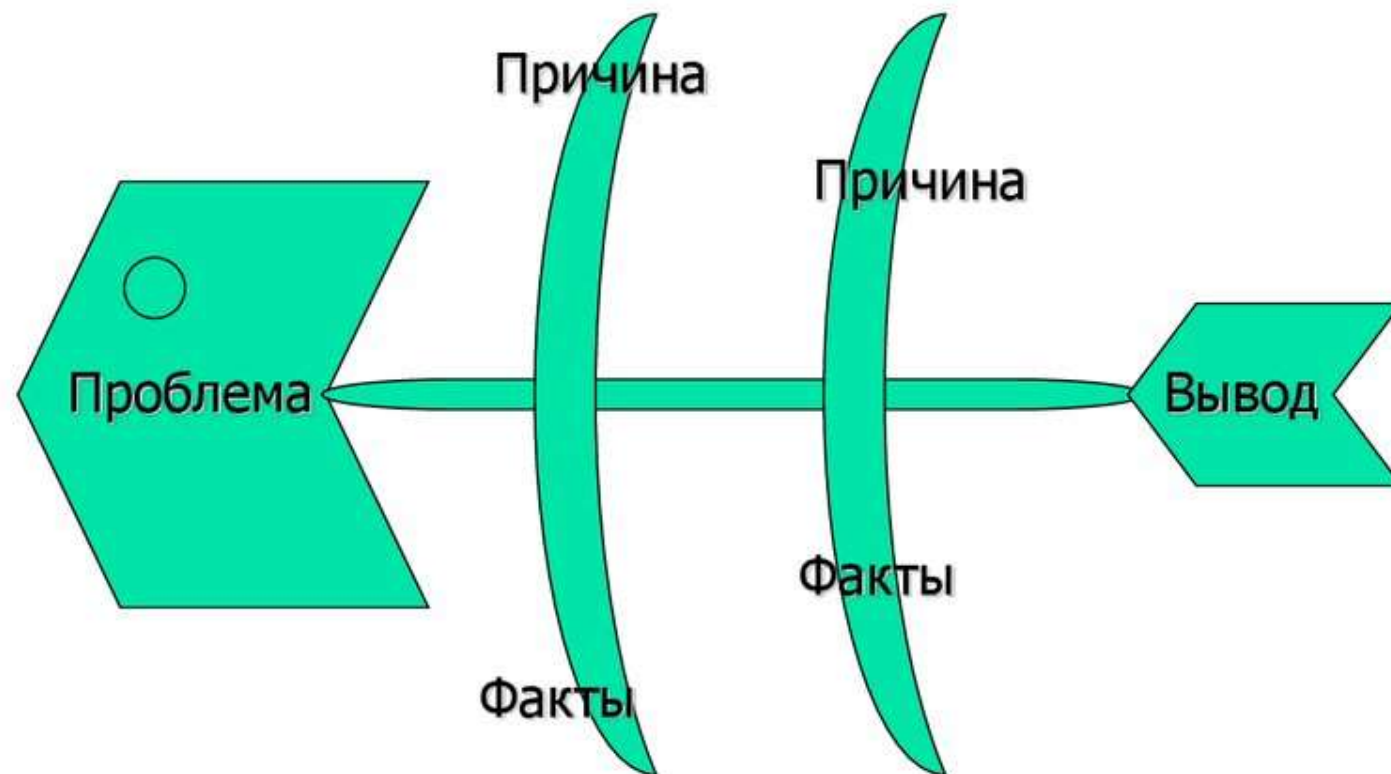
discussions

Инсерт

(условные значки)

V <i>(осознать новые знания)</i>	+ <i>(исправить неверные предположения)</i>	- <i>(исправить неверные предположения)</i>	? <i>(побудить дальнейший интерес к теме)</i>
Я это знал	Это для меня абсолютно новое	Это противоречит тому, что я знал	Я хочу знать об этом больше

Прием «ФИШБОУН»




Ромашка Блума




Methods to Improve Critical Thinking:

- *Actively* listen/look
- Ask questions
- Follow evidence
- Be curious and relate
- Be flexible and creative

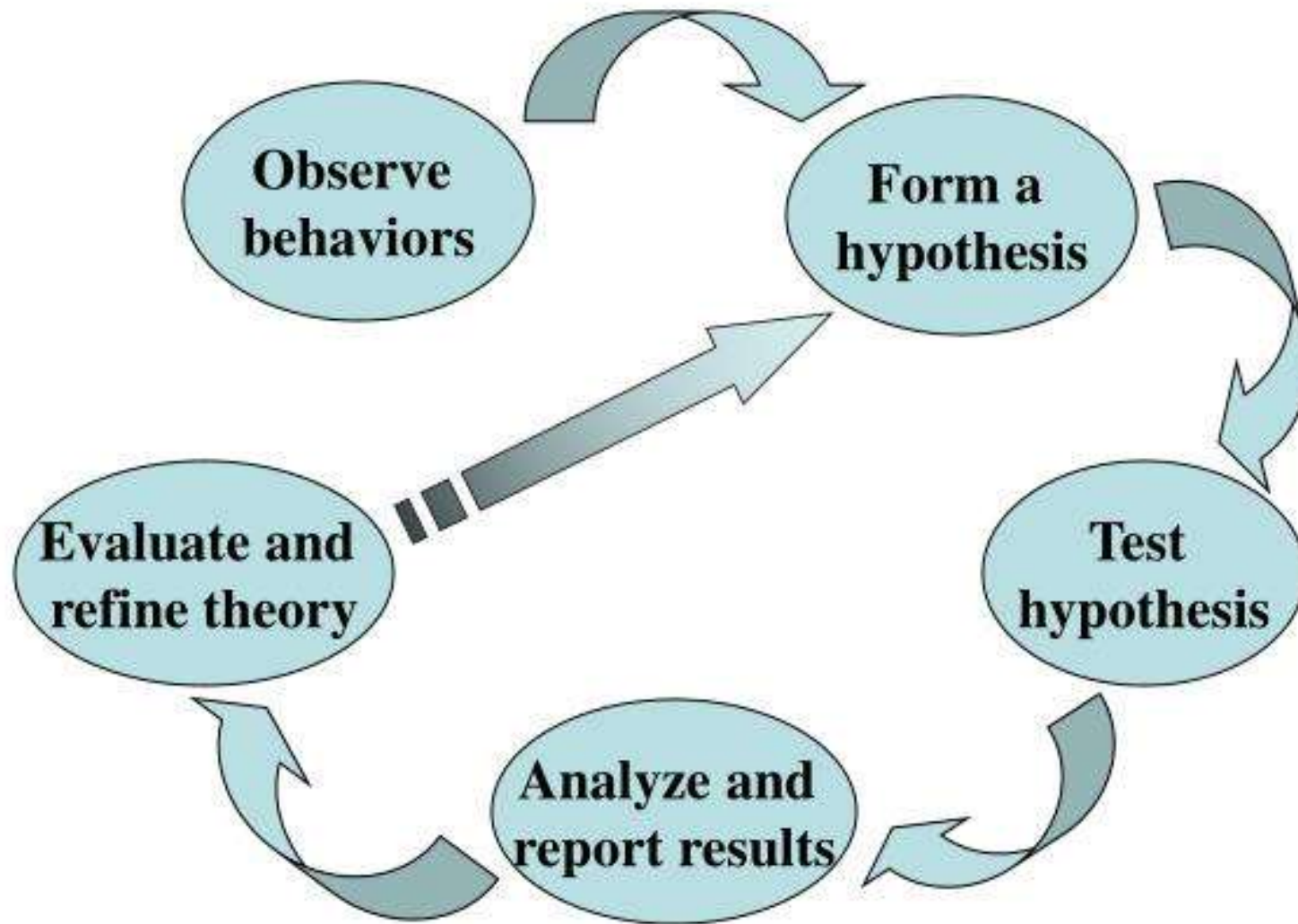





Thinking like a scientist

- Begins with a **scientific attitude**
 - Curiosity
 - Skepticism
 - Humility
- 


Scientific method






What is the primary goal of critical thinking in scientific research?

- A) To confirm existing beliefs
 - B) To promote innovation and discovery
 - C) To eliminate the need for evidence
 - D) To rely solely on authority
- 




Which of the following is a strategy to enhance critical thinking in scientific research?

- A) Encouraging confirmation bias
 - B) Promoting skepticism
 - C) Avoiding open-mindedness
 - D) Ignoring alternative explanations
- 



Critical thinking is essential for ensuring the validity and reliability of research findings.

TRUE
FALSE





True or False:

Promoting open-mindedness can help researchers explore new ideas and perspectives.

