

The background features a series of concentric circles in light gray, some solid and some dashed, creating a ripple effect. A large, solid red speech bubble is centered on the page, pointing downwards.

# Research Topics & Research Questions

# Contents

- What is a Research Question?
- Types of Research Questions
- Good and Bad Research Questions
- Steps to Develop a Good Research Question

# What is a research question?

- **Definition:**
  - A research question is a question that a study or research project aims to answer through its thesis statement.
- **Key Points:**
  - Addresses an issue or problem
  - Outlines various aspects of the study (population, variables)
  - Dynamic and can change during literature review
  - Guides the study's scope, methodology, and analysis

# Importance of the Research Question

- **Importance of the Research Question**
  - **Primary Importance:**
    - Narrows down a broad topic into a specific area of study (Creswell, 2014)
    - Serves as a guiding framework for research
  - **Influences:**
    - Research methodology
    - Sample size
    - Data collection
    - Data analysis (Lipowski, 2008)

# Focused

- **A focused research question** narrows down a broad topic to a specific aspect that is manageable and clearly defined. It avoids being too broad or vague, which helps in conducting a more detailed and structured investigation.
- **Example:**
  - **Too Broad:** What are the effects of technology on education?
  - **Focused:** How does the use of interactive whiteboards in middle school classrooms affect student engagement and learning outcomes?
- **Explanation:** The focused question specifies a particular aspect of technology (interactive whiteboards), a specific educational level (middle school), and specific outcomes (student engagement and learning outcomes). This allows for a more in-depth and manageable study.

# Challenging

- **A challenging research question** requires critical thinking, analysis, and the synthesis of information. It should provoke thought and invite debate, avoiding simple factual answers or descriptions.
- **Example:**
  - **Too Simple:** How many students use interactive whiteboards in their classrooms?
  - **Challenging:** Does the use of interactive whiteboards enhance the critical thinking skills of middle school students compared to traditional teaching methods?
- **Explanation:** The challenging question goes beyond mere description and requires an investigation into the impact of interactive whiteboards on critical thinking skills. It invites analysis and comparison, making it more engaging and intellectually stimulating.

# Grounded

- **A grounded research question** is based on existing knowledge and literature. It is realistic and feasible, avoiding speculative or overly hypothetical queries. Grounded questions are informed by empirical evidence and can be investigated through available methods.
- **Example:**
  - **Too Speculative:** Should interactive whiteboards be used in all schools worldwide to improve education?
  - **Grounded:** What factors influence the successful implementation of interactive whiteboards in middle school classrooms in urban areas?
- **Explanation:** The grounded question is based on practical considerations and can be investigated using empirical methods. It focuses on specific factors that can be studied and analyzed, making the research achievable and relevant.

# **“FINER” CRITERIA**

- **F Feasible**
  - within the researcher's ability to investigate.
  - realistic about the scale of their research, their ability to collect data, complete the research with their skills and the resources available to them.
- **I Interesting**
  - interesting not only to the researcher but also to their peers and community => boosts the researcher's motivation
- **N Novel**
  - bring new insights to the field of study
  - Eg: confirm or extend previous findings on the topic you are researching
- **E Ethical**
  - review boards and the appropriate authorities approve.
- **R Relevant**
  - relevant to the scientific community
  - be relevant to the public's interest (if possible)

# Types of Research Questions

- **Types of Research Questions**
- **Categories:**
  - Quantitative Research Questions
  - Qualitative Research Questions
  - Mixed-Methods Research Questions

# Quantitative Research Questions

## ■ Quantitative Research Questions

### • Characteristics:

- Precise and structured
- Include population, variables, research design
- Not answerable with “yes” or “no”

### • Types:

- Descriptive
- Comparative
- Relationship
- Causal
- Predictive

# Qualitative Research Questions

## ■ Qualitative Research Questions

### • Characteristics:

- Broad or specific areas of study
- Adaptable, non-directional, flexible

### • Aims:

- Discover, explain, or explore phenomena

### • Types:

- Exploratory
- Interpretive
- Critical

# **Mixed- Methods Research Questions**

## ■ **Mixed-Methods Research Questions**

Characteristics:

Combine quantitative and qualitative elements

Types:

Evaluative Questions

Explanatory Questions

Example:

How does participation in extracurricular activities affect academic performance (quantitative) and personal development (qualitative) of high school students?

## **Examples of Good and Bad Research Questions**

### ■ **Examples of Good and Bad Research Questions**

- **Bad:**

- How does social media affect people's behavior?

- **Good:**

- What effect does the daily use of YouTube have on the attention span of children aged under 16?

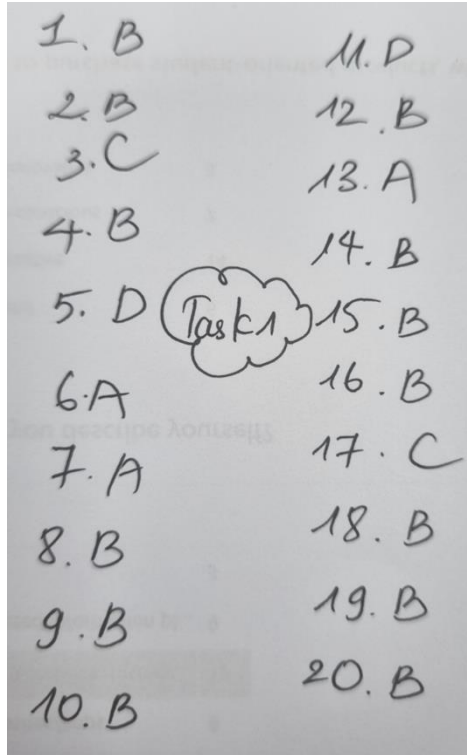
## Examples of Good and Bad Research Questions

- **Bad:**
  - Has there been an increase in childhood obesity in the US in the past 10 years?
- **Good:**
  - How have school intervention programs and parental education levels affected the rate of childhood obesity among 1st to 6th-grade students?

## Exercise 1:

- Choose the best answer
- <https://quizizz.com/admin/quiz/67bd30a6e455c89fd3602258>

1. What is the primary purpose of a research question in a research project?
- A. To summarize the research findings
  - B. To define the scope and direction of the study
  - C. To list the references used in the study
  - D. To provide background information on the topic
2. Which of the following is a characteristic of a good research question?
- A. It is broad and general
  - B. It is specific and focused
  - C. It has a yes or no answer
  - D. It can be answered in one sentence
3. A research question that is too broad can be problematic because:
- A. It is easier to answer
  - B. It requires fewer resources
  - C. It can lead to a lack of depth in the analysis
  - D. It is more engaging for the audience
4. What type of research question is designed to explore relationships between variables?
- A. Descriptive
  - B. Analytical
  - C. Exploratory
  - D. Comparative



5. Which of the following is NOT a type of research question?

- A. Descriptive
- B. Analytical
- C. Predictive
- D. Narrative

6. When formulating a research question, which of the following should be avoided?

- A. Questions that are too vague
- B. Questions that challenge existing theories
- C. Questions that are relevant to the field
- D. Questions that are based on existing literature

7. A research question that asks "What are the effects of social media on academic performance?" is an example of

- A. Descriptive question
- B. Analytical question
- C. Predictive question
- D. Comparative question

8. What does it mean for a research question to be "grounded"?

- A. It is speculative and imaginative
- B. It is based on facts and existing knowledge
- C. It is broad and open-ended
- D. It is controversial and debatable

|       |       |
|-------|-------|
| 1. B  | 11. D |
| 2. B  | 12. B |
| 3. C  | 13. A |
| 4. B  | 14. B |
| 5. D  | 15. B |
| 6. A  | 16. B |
| 7. A  | 17. C |
| 8. B  | 18. B |
| 9. B  | 19. B |
| 10. B | 20. B |

9. Which of the following is a focused research question?

A. What causes climate change?

B. How does the use of renewable energy sources impact greenhouse gas emissions in urban areas?

C. Why is climate change important?

D. What are the benefits of reducing carbon emissions?

10. What is the significance of a "challenging" research question?

A. It is easy to answer

B. It provokes thought and engages readers in a debate

C. It is based on simple facts

D. It is broad and general

11. A good research question should be:

A. Speculative

B. Factual

C. Broad

D. Relevant

12. Why is it important for a research question to be flexible?

A. To allow for easy completion of the research

B. To permit a variety of possible answers and approaches

C. To make the research question longer

D. To avoid addressing complex issues

Handwritten answer key for 20 questions, labeled "Task 1" in a cloud. The answers are listed in two columns:

|       |       |
|-------|-------|
| 1. B  | 11. D |
| 2. B  | 12. B |
| 3. C  | 13. A |
| 4. B  | 14. B |
| 5. D  | 15. B |
| 6. A  | 16. B |
| 7. A  | 17. C |
| 8. B  | 18. B |
| 9. B  | 19. B |
| 10. B | 20. B |

13. Which question would be considered too factual for a good research question?

- A. What is the history of the internet?
- B. How has the internet influenced modern communication?
- C. What factors have contributed to the growth of the internet?
- D. How can the internet be used to enhance education?

14. Which research question is likely to lead to a comprehensive analysis

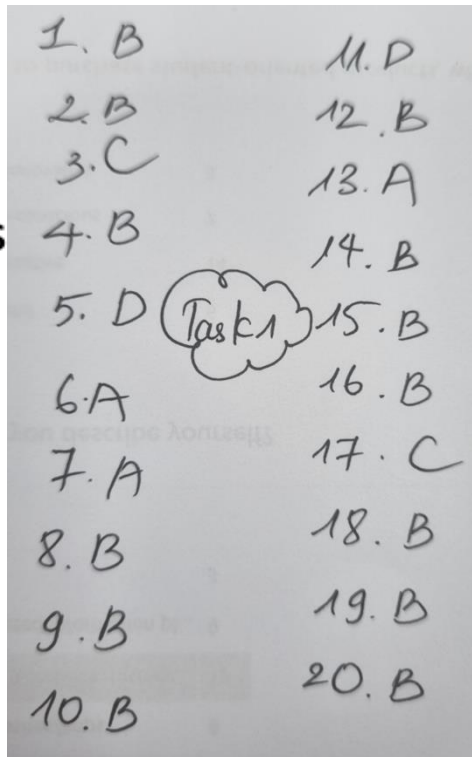
- A. What are the different types of renewable energy?
- B. How can renewable energy be utilized to reduce carbon footprints in
- C. Is renewable energy beneficial?
- D. What is renewable energy?

15. When selecting a research question, it is important to consider:

- A. The length of the research paper
- B. The interest of the researcher and the audience
- C. The ease of finding references
- D. The availability of online resources

16. Which of the following best describes a "comparative" research question?

- A. It seeks to find out the relationship between two variables.
- B. It compares two or more groups or phenomena.
- C. It predicts future outcomes based on current data.
- D. It describes the characteristics of a single group.



|       |       |
|-------|-------|
| 1. B  | 11. D |
| 2. B  | 12. B |
| 3. C  | 13. A |
| 4. B  | 14. B |
| 5. D  | 15. B |
| 6. A  | 16. B |
| 7. A  | 17. C |
| 8. B  | 18. B |
| 9. B  | 19. B |
| 10. B | 20. B |

17. Why is it important for a research question to be recent and relevant?

- A. To ensure that it has already been answered
- B. To make the research easier to conduct
- C. To contribute new knowledge to the field and address current issues
- D. To avoid using outdated research methods

18. Which of the following is an example of a well-formulated research question?

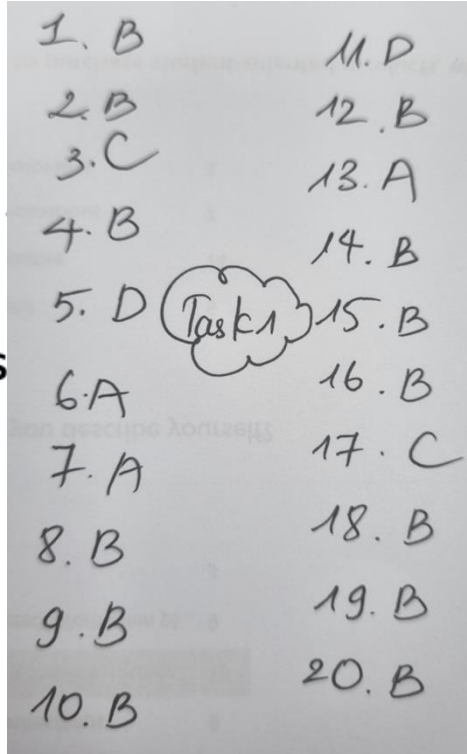
- A. Why is education important?
- B. How do interactive learning tools impact student engagement in high school s
- C. What are the benefits of online education?
- D. Is online education better than traditional education?

19. A good research question should:

- A. Be answerable with a simple yes or no
- B. Require an in-depth investigation and analysis
- C. Be based solely on personal opinions
- D. Be broad enough to cover multiple topics

20. What should a researcher do if their research question seems too speculative?

- A. Continue with the speculative question
- B. Narrow the focus to make it more grounded in facts
- C. Change the question to a completely new topic
- D. Ignore feedback from peers and advisors



|       |       |
|-------|-------|
| 1. B  | 11. D |
| 2. B  | 12. B |
| 3. C  | 13. A |
| 4. B  | 14. B |
| 5. D  | 15. B |
| 6. A  | 16. B |
| 7. A  | 17. C |
| 8. B  | 18. B |
| 9. B  | 19. B |
| 10. B | 20. B |

1. Which of the following is a focused research question for the topic of technology in education?

A. How do students use technology in their daily lives?

B. What are the benefits of using technology in classrooms?

C. How can the integration of technology in classrooms enhance student learning outcomes?

D. Why is technology important in modern education?

2. Which research question is most suitable for studying the impact of telemedicine?

A. How does telemedicine work?

B. What are the benefits of telemedicine?

C. How does the use of telemedicine affect patient satisfaction and outcomes in rural areas?

D. Why is telemedicine becoming popular?

3. What is an appropriate research question for investigating renewable energy sources?

A. What are renewable energy sources?

B. How do renewable energy sources compare to fossil fuels?

C. What are the challenges in implementing renewable energy sources in urban areas?

D. Why is renewable energy important?

4. Which question best suits research on cognitive behavioral therapy (CBT) for depression?

A. What is cognitive behavioral therapy?

B. How effective is CBT in treating depression in teenagers compared to traditional therapy?

C. Why do people choose CBT over other therapies?

D. How does CBT work?

1. C

2. C

3. C

4. B

5. C

6. C

7. B

8. B

9. C

10. B

11. B

12. B

13. B

14. B

15. B

16. C

17. B

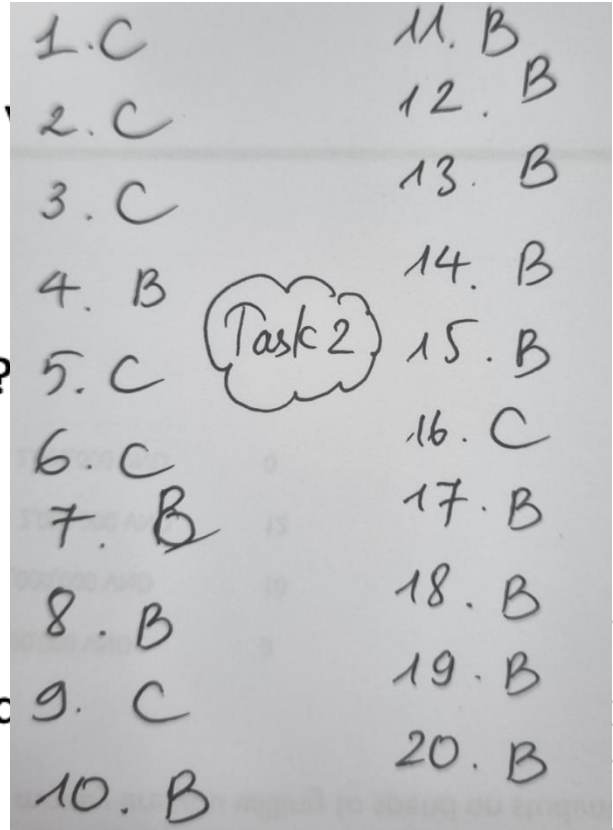
18. B

19. B

20. B

Task 2

5. What is a well-focused research question for the topic of corporate social responsibility (CSR)?
- A. What is corporate social responsibility?
  - B. How does CSR benefit companies?
  - C. How do CSR initiatives impact consumer trust and loyalty in the retail industry?
  - D. Why do companies implement CSR initiatives?
6. Which research question is best for exploring the effects of social media on relationships?
- A. How do people use social media?
  - B. What are the benefits of social media?
  - C. How does social media usage impact the quality of relationships among...
  - D. Why is social media popular?
7. What is an appropriate research question for studying voting behavior?
- A. What is voting behavior?
  - B. How do different factors influence voting behavior in national elections?
  - C. Why do people vote?
  - D. What are the benefits of voting?
8. Which question is suitable for researching the impact of minimum wage
- A. What is the minimum wage?
  - B. How do minimum wage laws affect employment rates among low-skilled...
  - C. Why is the minimum wage important?
  - D. How is the minimum wage determined?

- 
- Handwritten answers for 20 questions, with 'Task 2' circled in the center.
- |       |       |
|-------|-------|
| 1. C  | 11. B |
| 2. C  | 12. B |
| 3. C  | 13. B |
| 4. B  | 14. B |
| 5. C  | 15. B |
| 6. C  | 16. C |
| 7. B  | 17. B |
| 8. B  | 18. B |
| 9. C  | 19. B |
| 10. B | 20. B |

9. What is a focused research question for the topic of cybersecurity in businesses?

A. What is cybersecurity?

B. How do businesses implement cybersecurity measures?

C. What are the most effective cybersecurity strategies to protect small businesses from data breaches?

D. Why is cybersecurity important?

10. Which research question is appropriate for studying the effects of vaccination programs?

A. What are vaccination programs?

B. How do vaccination programs impact public health outcomes in developing countries?

C. Why are vaccinations important?

D. How do vaccines work?

11. Which research question is best for exploring inclusive education?

A. What is inclusive education?

B. How do inclusive education practices affect academic performance of students with disabilities in schools?

C. Why is inclusive education important?

D. What are the benefits of inclusive education?

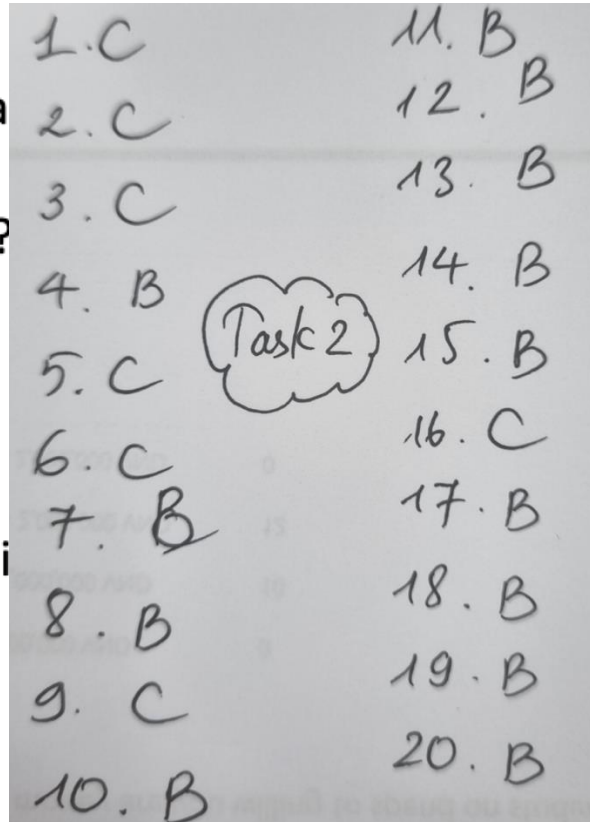
12. What is a suitable research question for the study of cultural practices?

A. What are cultural practices?

B. How do traditional cultural practices influence modern societal norms in indigenous communities?

C. Why are cultural practices important?

D. How are cultural practices preserved?



|       |       |
|-------|-------|
| 1. C  | 11. B |
| 2. C  | 12. B |
| 3. C  | 13. B |
| 4. B  | 14. B |
| 5. C  | 15. B |
| 6. C  | 16. C |
| 7. B  | 17. B |
| 8. B  | 18. B |
| 9. C  | 19. B |
| 10. B | 20. B |

13. Which question best suits research on juvenile delinquency?

A. What is juvenile delinquency?

B. How do family dynamics influence juvenile delinquency rates in urban areas?

C. Why does juvenile delinquency occur?

D. What are the consequences of juvenile delinquency?

14. What is an appropriate research question for the topic of sustainable construction?

A. What is sustainable construction?

B. How do sustainable construction practices impact the long-term costs of commercial buildings?

C. Why is sustainable construction important?

D. How is sustainable construction implemented?

15. Which research question is best for exploring the impact of a historical event?

A. What happened during World War II?

B. How did World War II affect the economic development of European countries in the post-war period?

C. Why did World War II start?

D. What are the key events of World War II?

16. Which research question is most suitable for studying consumer behavior in online shopping?

A. What is online shopping?

B. How do online shopping platforms work?

C. How do social media reviews influence consumer purchasing decisions on e-commerce websites?

D. Why do people shop online?

|       |       |
|-------|-------|
| 1. C  | 11. B |
| 2. C  | 12. B |
| 3. C  | 13. B |
| 4. B  | 14. B |
| 5. C  | 15. B |
| 6. C  | 16. C |
| 7. B  | 17. B |
| 8. B  | 18. B |
| 9. C  | 19. B |
| 10. B | 20. B |

17. Which question best suits research on early childhood education methods?

A. What is early childhood education?

B. How do different early childhood education methods impact the cognitive development of children aged 3-5 years?

C. Why is early childhood education important?

D. What are the benefits of early childhood education?

18. What is an appropriate research question for studying smart cities?

A. What is a smart city?

B. How do smart city initiatives improve the quality of life for residents in metropolitan areas?

C. Why are smart cities important?

D. What technologies are used in smart cities?

19. Which research question is suitable for investigating dietary habits?

A. What are dietary habits?

B. How do dietary habits influence the prevalence of obesity among teenagers in urban areas?

C. Why is diet important?

D. What are healthy dietary habits?

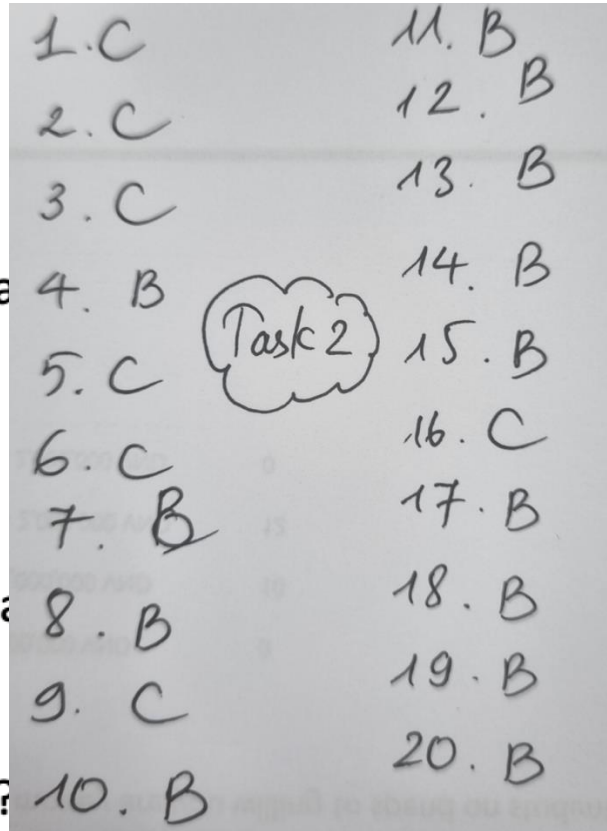
20. Which question is appropriate for studying the impact of financial literacy programs?

A. What is financial literacy?

B. How do financial literacy programs affect saving and investment behaviors among young adults?

C. Why is financial literacy important?

D. What are the benefits of financial literacy programs?



|       |       |
|-------|-------|
| 1. C  | 11. B |
| 2. C  | 12. B |
| 3. C  | 13. B |
| 4. B  | 14. B |
| 5. C  | 15. B |
| 6. C  | 16. C |
| 7. B  | 17. B |
| 8. B  | 18. B |
| 9. C  | 19. B |
| 10. B | 20. B |

## Steps to Find a Good Research Topic and Research Question

- **Step 1:** Identify Areas of Interest
- **Step 2:** Explore Specific Topics
- **Step 3:** List Potential Topics
- **Step 4:** Pose Preliminary Questions
- **Step 5:** Choose a Focused Question
- **Step 6:** Choose a Challenging Question
- **Step 7:** Choose a Grounded Question
- **Step 8:** Test the Research Question

# Steps to Finding a Good Research Topic and Research Question

- **Steps to Finding a Good Research Topic and Research Question**
- **Step 1: Identify Areas of Interest**
  - **Personal Interest:** Identify fields you are passionate about or have foundational knowledge in. This helps maintain motivation throughout the research process.
    - **Example:** You are interested in education and information technology.



## ■ **Step 2: Explore Specific Topics**

- **Use Resources:** Seek inspiration from reliable sources like books, journals, academic magazines, and reference materials such as “The Writer’s Reference”.
  - **Example:** You read various materials about the use of information technology in education and find this topic interesting.



### ■ **Step 3: List Potential Topics**

- **Exercise Sheets:** Use exercise sheets to list potential topics and note the strengths and weaknesses of each topic.
  - **Example:** You list topics such as "impact of information technology on learning skills", "designing curriculum using technology", "impact of online learning on critical thinking development".



- **Step 4: Pose Preliminary Questions**

- **Use Journalist's Questions:** Use questions like What? Who? Why? When? Where? How? to identify potential research questions.

- **Examples:**

- What: What are the benefits of using information technology in education?
- Why: Why is information technology important for students' learning?
- How: How can teachers effectively integrate information technology into their lessons?

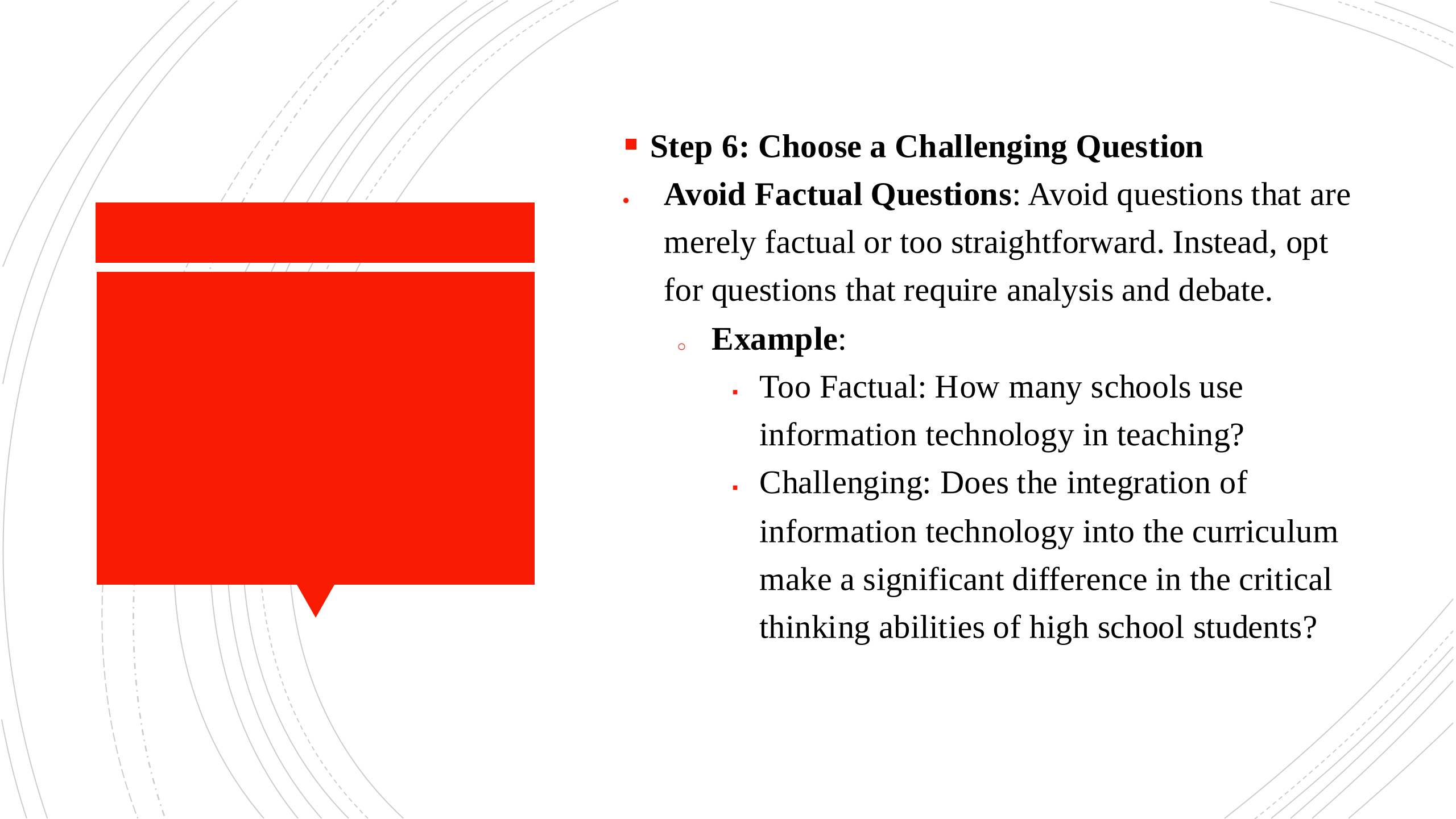


- **Step 5: Choose a Focused Question**

- **Limit Scope:** If the initial question is too broad, look for ways to limit its scope.

- **Example:**

- Too Broad: What is the impact of information technology on education?
- Narrowed: How can the use of information technology in the classroom improve high school students' problem-solving skills?



## ■ **Step 6: Choose a Challenging Question**

- **Avoid Factual Questions:** Avoid questions that are merely factual or too straightforward. Instead, opt for questions that require analysis and debate.

- **Example:**

- Too Factual: How many schools use information technology in teaching?
- Challenging: Does the integration of information technology into the curriculum make a significant difference in the critical thinking abilities of high school students?

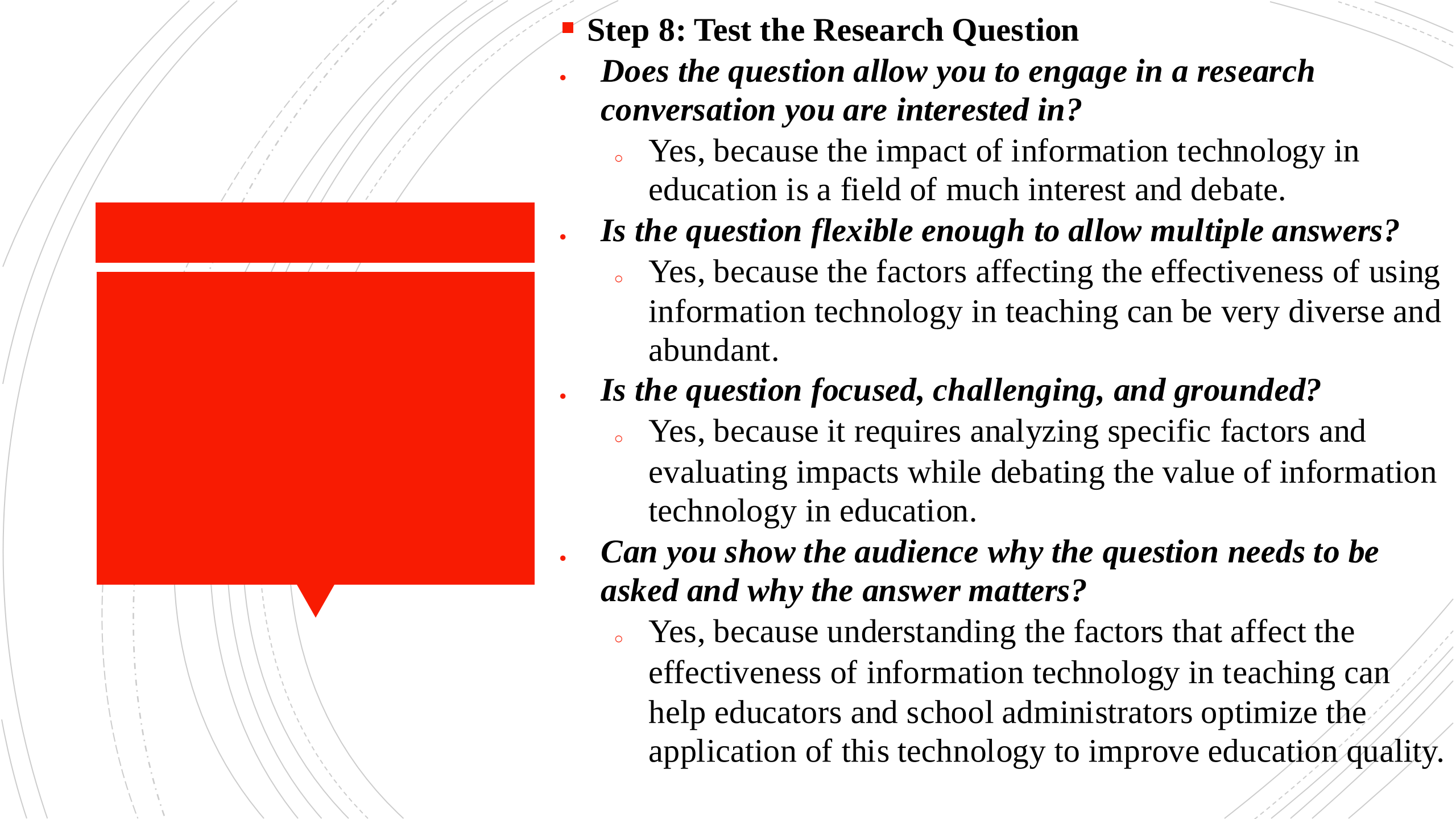


- **Step 7: Choose a Grounded Question**

- **Avoid Speculative Questions:** Ensure the question is grounded in facts and not entirely based on beliefs or ethics.

- **Example:**

- Too Speculative: Should we use information technology in education?
    - Grounded: What factors influence the success of implementing information technology in teaching at urban high schools?



## ■ Step 8: Test the Research Question

- ***Does the question allow you to engage in a research conversation you are interested in?***
  - Yes, because the impact of information technology in education is a field of much interest and debate.
- ***Is the question flexible enough to allow multiple answers?***
  - Yes, because the factors affecting the effectiveness of using information technology in teaching can be very diverse and abundant.
- ***Is the question focused, challenging, and grounded?***
  - Yes, because it requires analyzing specific factors and evaluating impacts while debating the value of information technology in education.
- ***Can you show the audience why the question needs to be asked and why the answer matters?***
  - Yes, because understanding the factors that affect the effectiveness of information technology in teaching can help educators and school administrators optimize the application of this technology to improve education quality.

## Exercise 2:

- Complete the handout



## Q & A

- **1. What is a research question?**

- A research question is a query that a study aims to answer, often addressing an issue or problem. It outlines the study's focus, including the population, variables, and problem being investigated.

- **2. Why is developing a research question important?**

- Developing a research question is crucial because it narrows down a broad topic into a specific area of study. It also guides the research framework, methodology, and analysis, ensuring the study's cohesion and relevance.



## Q & A

- **3. What are the different types of research questions?**
- Research questions can be categorized into quantitative, qualitative, and mixed-methods. Quantitative questions are precise and structured, qualitative questions are flexible and exploratory, and mixed-methods questions combine both approaches.
- **4. How do you start developing a research question?**
- Start by choosing a broad topic of interest. Conduct preliminary research to learn about current issues and gaps in existing literature. Narrow down the topic to a specific area of study and identify potential research questions.

A red speech bubble graphic with a white border, containing the text 'Q & A'. The bubble has a tail pointing towards the bottom left.

## Q & A

- **5. What criteria should a good research question meet?**
- A good research question should be **FOCUSED, CHALLENGING AND GROUNDED**. Other criteria: **FINER** (feasible, interesting, novel, ethical, and relevant.)