That's IrrELEPHANT: Children's Judgments of Relevant and Irrelevant Animal Observations

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BACKGROUND
When learning about science, children encounter a lot of information and they need to decide what is most helpful.

When hearing explanations about the same topic (e.g., cars), 7-year-olds rate true and relevant evidence as more helpful than false and irrelevant evidence (Johnston, Sheskin, & Keil, 2019).

However, when the topic is unfamiliar, even older children have difficulty evaluating evidence (Rinehart, Duncan, & Chinn, 2014).

CENTRAL RESEARCH QUESTIONS
Do children discriminate between relevant and irrelevant information in the domain of biology?

Are there developmental differences in children’s judgements of the helpfulness of evidence?

METHODS
Participants:
24 7- and 8-year-olds (12 females, \( M_{age} = 8.04, SD = 0.59 \))
26 9- and 10-year-olds (13 females, \( M_{age} = 9.93, SD = 0.50 \))

Procedure:
Introduction: Participants were told they were going to play a game with animals and their job was to judge the helpfulness of different observations (using the following scale) for figuring out if an explanation was correct. Children were trained and had practice on the rating scale.

Test Trials: Participants completed 5 test trials with different animals represented in each trial.

Observations:
Same Animal-irrelevant:
“Scientists have observed that a snapping turtle prefers to live in lakes, rivers, or streams that have a muddy bottom. How helpful is the scientists’ observation for figuring it out if Sue’s explanation is correct?”

Different Animal-relevant:
“A different group of scientists have observed that predators who see a blowfish who has expanded to twice its usual size will swim away. How helpful is the scientists’ observation for figuring it out if Sue’s explanation is correct?”

RESULTS
Children rated observations that were irrelevant as less helpful than observations that were relevant, \( F(1, 48) = 30.27, p < .001 \)

Younger children were more likely to rate both observations as more helpful than older children, \( F(1, 48) = 4.93, p = .031 \)

DISCUSSION
By age 7, children can distinguish between relevant and irrelevant information and can decide which is more helpful when learning about biology.

Children were not influenced by the topic and instead rely on the relevance of the information.

Classroom experience may contribute to the children’s ability to evaluate the helpfulness of different types of evidence.

Although children are capable of evaluating information, their ability to do so may continue to improve over time and they may still benefit from adult support.

REFERENCES


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