

Quality of Evidence – Level of Public Verifiability		
<small>(Wendy Adams and Joe Elkins, University of Northern Colorado adapted from Browne and Keeley)</small>		
Low	Med	High
Personal observation	Analogy	Peer-reviewed study
Personal Testimony	Appeal to authority	Survey
Personal Experience	Case Study	Statistics
Intuition		Meta-analysis of peer-reviewed studies

Level of Public Verifiability - LOW

Personal Observation / eye witness report

“I saw a bear on the other side of the lake late last night!” Not publically verifiable.

Personal Testimony

On UNC site about things to do in Greeley: *“There are so many things to do – you can’t get bored.”*
 ~Hannah, UNC Student. It is likely that this quote was stated by Hannah; but, it represents one person’s view, not the entire campus’ view.

Personal Experience

“My friend Sara does really well on exams after she stays up all night studying; so I don’t think I need much sleep before tomorrow’s big test” partially publically verifiable (if you have access to Sara’s grades) and Sara is only one example and there could be other factors that influenced her success. She may have done even better if she had a good night’s sleep.

Intuition

“I can tell this slot machine is going to be a winner!”, *“I know the Broncos will win the Super bowl.”* *“I just know Ronny is guilty.”* Some intuition may seem like wishful thinking but at other times it’s based on knowledge that we have and our brains have done some processing subconsciously. However, that makes it very hard to explain to someone else so it’s not have high public verifiability. But can be very powerful for the individual who experiences the intuition.

Level of Public Verifiability - MEDIUM

Analogy

More common in the humanities. *“The war in Iraq is akin to the war in Vietnam.”* Unless a person knows a fair amount about both wars, it’s very hard to identify the value of this analogy.

Appeal to authority

“One of the best ten movies of the year!”, Joe Critic, New Haven Star

“Women should not consume alcohol during pregnancy due to increased risk of birth defects.” – Surgeon General

Each of these is from an authority figure but you will likely put more trust into the second one since it’s based on research rather than opinion and we know the Surgeon General is very careful about releasing statements publically.

Case study

An undergraduate science department says our students can move on to graduate school at top institutions. For example, Becky Sue was accepted to Cornell and Yale. She's currently at Cornell and doing very well. Case studies can be very emotionally appealing and they are publically verifiable; however, it's only one example. How about the rest of the department's graduates?

Level of Public Verifiability - HIGH

Peer-reviewed study

Researchers perform a study, write a paper describing the study and the outcomes and submit it to a peer-reviewed journal. The journal sends the paper to 2-3 reviewers who are expert in the same research area. Each reviewer provides feedback and recommendation about publication. Often takes several iterations.

This is publically verifiable but it's certainly not at the level of proof. Researchers are encouraged to attempt to duplicate results that have been published in peer-reviewed journals. Until outcomes are reproducible, it's not wise to assume they are facts.

Survey

Family Feud "100 people were asked for their favorite ice cream flavor. Survey says..."
Ice cream manufacturers were asked to report the top flavor sold. 85% reported vanilla is the most popular flavor in the USA.

Two very different level surveys. Family feud survey is probably drawn from audience members. Much stronger than one person's opinion but maybe not representative of USA The second example is not only a large survey across the entire country, it's a survey of manufacturers which means they respond based on the amount of ice cream sold. This is very strong evidence that can be verified by the public by checking with the ice cream manufacturers.

Statistics

Well established set of rules; however, you are responsible for looking closely and understanding how the statistics were collected.

Meta-analysis of peer-reviewed studies

Researchers read and evaluate 10's – 100's of studies on the same topic to deduce common outcomes. The studies have all been published so a person can read each one to verify the claims made in the meta-analysis if they like. Often a meta-analysis result in a lack of evidence to support a claim such as *"A student learns better when taught to his/her personal Learning Style."* Other times the result of the meta-analysis is to find that nearly all studies support a claim. For example, *"Inquiry strategies are more effective than lecture for student learning."*