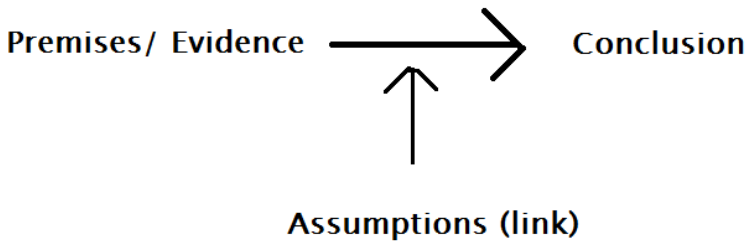
Go Higher Module 3- Strengthening and Weakening Statements

Strengthening and weakening statements are another technique for problem-solving. In games, they are tools to decode the other player's plan. We can use them to assess the effects of moves. We can apply the same understanding of strengthening and weakening decisions to build the relative strength of our own plan.

Strengthening and weakening statements bring in factors external to an argument to act on it.

Structure of an Argument



How can an argument be weakened?

Ways to Weaken an Argument:
A weakening statement is a piece of information that exposes a gap or highlights a flaw within the argument. It breaks the link between the evidence and the conclusion.

Specifically, a weakening statement would perform any of the following functions:

1. Promote an alternative possibility to the conclusion or the evidence.

   For example:

   a. When the evidence is that events A and B coincide, and the conclusion is that A causes B, promote that event C causes B, or that event C causes A and B.

   b. In a causal argument, in which it is stated that an event A caused B, an assertion that event B caused A would weaken the argument.

2. Provide facts to deny the relevance of the evidence to the conclusion.

3. Provide data to attack the validity of the evidence by showing that it is not on solid ground. In case of arguments based on research, the research methods can be questioned. Example- the research was not done using a representational sample.

4. Provide additional evidence to attack the conclusion.

   For example, the truthfulness of a conclusion that generalizes by using inductive logic can be challenged. Such a conclusion is wider than the specific evidence it is extrapolated from. Consequently, it is only a logical possibility.

Example of a Weakening Statement

Argument-
A drug that is highly effective at treating infections can be obtained only from the bark of the ibora, a tree that is quite rare in the wild. It takes the bark of 5,000 trees to make one kilogram of the drug. Therefore, continued production of the drug will lead to the ibora's extinction.

Which of the following, if true, weakens the argument the most?

A. The drug made from ibora bark is distributed to doctors from a central authority.
B. The drug made from ibora bark is expensive to produce.
C. The leaves of the ibora are used in a number of medicinal products.
D. The ibora can be propagated from cuttings and grown under cultivation.
E. The ibora grows in high altitude terrain.

Explanation:

Read the argument slowly and carefully. Understand every aspect of it. The argument highlights the threat to a tree species posed by using it to produce a drug.

Evidence- An effective drug can be obtained only from the bark of the ibora. The ibora is a tree that is rare in the wild. One kilogram of the drug is made by using the bark of 5,000 ibora trees.

Conclusion- Production of the drug will lead to the extinction of the ibora tree.

A. "The drug made from ibora bark is distributed to doctors from a central authority."

This is not the answer. The method of distributing the drug is not relevant to the existence of the ibora tree.

B. "The drug made from ibora bark is expensive to produce."

This is not the answer. The existence of the ibora will still be threatened. The effective drug may be subsidised for consumers or there may be enough consumers with the purchasing power to buy the drug. So, consumption and production of the drug will continue.

C. "The leaves of the ibora are used in a number of medicinal products."

This is not the answer. This increases the threat of extinction of the ibora as the leaves also have a use.

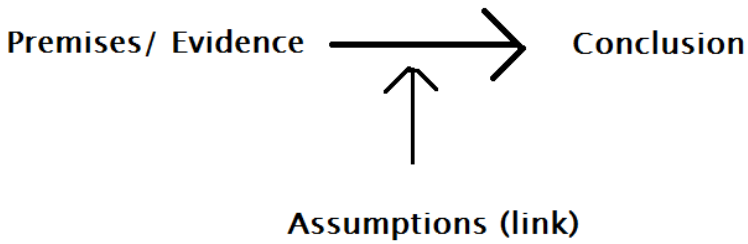
D. "The ibora can be propagated from cuttings and grown under cultivation."

This is the answer. The threat of extinction is reduced as the ibora tree can be cultivated with cuttings. The cultivation with cuttings allows for the ibora's existence along with its use for drug production. This option promotes an alternative possibility to the evidence.

E. "The ibora grows in high altitude terrain."

This is not the answer. This can make it difficult to procure the ibora tree for drug production. Though we do not know to what extent it will be difficult. Even so, the production of the effective drug may continue at a threatening pace for the ibora tree.

<u>Ways to Strengthen an Argument:</u>
A strengthening statement would be a piece of information that fills the gap or precludes any flaw within the argument. It strengthens the link between the evidence and the conclusion.



Specifically, a strengthening statement would perform any of the following functions:

1. Deny an alternative possibility to the conclusion or the evidence. (For example, when the evidence shows that factors A and B coincide and the conclusion is that A caused B, deny that any factor C caused B, or that C caused A and B).

2. Promote the relevance of the evidence to the conclusion.

3. Support the validity of the evidence.

4. Provide additional evidence to support the conclusion.

Example of a Strengthening Statement

Airline: Even though not fully tested, newly-developed collision—avoidance systems must be installed immediately in passenger planes. Their warnings enable pilots to avoid crashes.

Pilots: Pilots will not fly planes with collision-avoidance systems that are not fully tested. Malfunctioning systems could mislead pilots and cause crashes.

Which of the following, if true, most strengthens the pilots' objection?

A. It is always possible for mechanical devices to malfunction.
B. Jet engines, although not fully tested when first put into use, have achieved exemplary performance and safety records.
C. Although collision-avoidance systems will enable pilots to avoid some crashes, the likely malfunctions of the not-fully-tested systems will cause even more crashes.
D. Many airline collisions are caused in part by the exhaustion of overworked pilots.
E. Collision-avoidance systems, at this stage of development, have worked better in passenger planes than in cargo planes during the six-month testing period.

Explanation:

Read the argument slowly and carefully. Understand every aspect of it. The argument highlights a disagreement between airlines and pilots about the use of the new collision-avoidance systems. Is there a possibility for one side prevailing?

Airlines' argument-

Evidence: Newly-developed collision-avoidance systems will enable pilots to avoid crashes.

Conclusion: Newly-developed collision-avoidance systems must be installed immediately in passenger planes.

Pilots' argument-

Evidence: Malfunctioning collision-avoidance systems could mislead pilots and cause crashes.

Conclusion: Pilots will not fly planes with collision-avoidance systems that are not fully tested.

A. *"It is always possible for mechanical devices to malfunction."*

This is not the answer. It weakens the pilot's stance by implying that even after testing, devices can malfunction. So, there is no need to wait for the new collision-avoidance systems to be fully tested.

B. *"Jet engines, although not fully tested when first put into use, have achieved exemplary performance and safety records."*

This is not the answer. It reports a favorable outcome of using insufficiently tested equipment. Hence, it is additional evidence to attack the pilots' conclusion.

C. *"Although collision-avoidance systems will enable pilots to avoid some crashes, the likely malfunctions of the not-fully-tested systems will cause even more crashes."*

This is the answer. It provides additional evidence to support the pilot's decision of not flying planes with collision-avoidance systems that are not fully tested. It is saying that there will actually be an increase in the number of crashes due to likely malfunctions in collision-avoidance systems.

D. *"Many airline collisions are caused in part by the exhaustion of overworked pilots."*

This is not the answer. It attacks the validity of the pilot's evidence by shifting the blame for crashes onto pilots.

E. *"Collision-avoidance systems, at this stage of development, have worked better in passenger planes than in cargo planes during the six-month testing period."*

This is not the answer. It reduces the validity of the evidence of the pilots' argument. Option E. presents a somewhat favourable outcome of using the not-fully-tested collision-avoidance systems.