**Quiz**

**Improve World War II Airplane Design**

By Harsh Sharma

If I were to suggest the Navy place to armor on a specific part of the fighter plane it would be the central body of it. One reason I would do so is simple, it has a higher chance of getting hit. The surface area of the central part of the plane should be more than the area combined of wings and tail. Because of this larger area, it is more likely that a gunshot hits it compared to the rest of the body.

A second reason for picking it would be that the cockpit is also situated to front to central part of the plane. And keeping the pilot safe should be of utmost priority. If a bullet hits wings or tail and the plane is damaged it can't be handled or controlled then at least the pilot could safely eject themselves, saving a human life. And obviously, saving a human life is more precious than a plane. I think that should be in-debatable.

Also, I'm assuming that the fragile components like navigation, fuel tanks, etc., would be situated in central part of the plane compared to the wings or tail. Keeping these components safe is also of utmost importance to keep the plane functioning optimally.

All the above is not to say that the rest of the body parts of the plane are disposable. I'm not much of an expert in aerodynamics but the wings and tail are also a crucial part of plane as they provide the maneuverability to plane. The pilot can't handle the plane if one of these components is damaged. And obviously, the plane won't fly with only one wing intact; so keeping these components safe is also important.

**Survivorship Bias**

I also learnt about survivorship bias after watching the video that the professor mentioned in the class: 21 Mind Traps[1]. The Navy only has images of planes which survived, we can't really decide on watching the images. Since none of these images contain the planes which actually got destroyed by the bullets. And since most of the survivor planes had bullets on central part, it's obvious to protect that part. On the contrary, the images don't have many bullets on the wings and barely on the tail meaning they are the most vulnerable parts of the plane as they are the spots which caused the planes to actually fall from the red sky. But I'm able to tell this only after learning about survivorship bias. Without it, the central part makes sense but with it, the tail should be the one to be protected.

It’s not like I’m conflicting myself, but rather I’m explaining my both choices before and after learning about a new fact/information, survivorship bias in this case.

***REFERENCES***

1. *21 Mind Traps : The Ultimate Guide to your most common Thinking errors https://www.youtube.com/watch?v=nYYkRaU0xh8&t=140*