TPO 50

Integrated

The reading states that although sending humans to Moon were successful projects, sending humans to Mars could be very challenging. The lecturer points out some solutions for each problem that are mentioned in the reading.

First of all, the writer mentions that the capacity of the spacecraft is not enough for the amount of food and water that the astronauts need during the mission, which takes around 2 years. Conversely, the lecturer points out that they can use hydroponic method to grow their own food. In this way the root of the plant grows in the water instead of soil. This methods needs a lot less space, so they can grow all the food they need in this way. There are also some techniques to recycle wasted water to clean it and make it drinkable and also to make fresh air to breath.

Secondly, the author mentions that the long term journey in the zero-gravity environment will have some negative effects on the astronauts' muscles and bones. On the contrary, the lecturer argued that there are some techniques that the Moon astronauta learned to avoid these damages.For example some regular exercises will help the muscles. Also they use some extra Vitamins and minerals to prevent bone damages.

Finally, the author concerns that the astronauts may be exposed to hazardous radiation. In contrast, the lecturer points out that the radiation happens occasionally. So if there is a detection equipment is the spacecraft and a small room with protection shields, the astronauts will go inside that room whenever a radiation occured and it will not add too much weight to the vehicle.

(271 words in 20 minutes)