HUMAN SPACE ENDEAVOURS SYMPOSIUM (B3)
Astronauts: Those Who Make It Happen (5)

Author: Ms. Marianthi Liapi
Aristotle University of Thessaloniki, Greece, marianthi.liapi@gmail.com

Prof. Konstantinos-Alketas Oungrinis
Technical University of Crete, Greece, kouggrinis@isc.tuc.gr
Ms. Elli Gkologkina
Greece, elligkologkina@gmail.com
Ms. Anna Kelesidi
Greece, nakelan@yahoo.com
Ms. Despoina Linaraki
Technical University of Crete, Greece, dlin.arch@gmail.com
Mrs. Mariana Paschidi
Technical University of Crete, Greece, mariana_paschidi@hotmail.com
Mr. Leonidas Gargalis
Technical University of Crete, Greece, lgargalis@gmail.com
Mr. Aggelos Klothakis
Technical University of Crete, Greece, aklothakis@gmail.com
Mr. Dimitris Mairopoulos
Technical University of Crete, Greece, iamdimo2000@yahoo.gr

THE ASTRONAUT'S PLAYSCAPE: SUPPORTING CREATIVITY THROUGH PLAY IN LONG-TERM MISSIONS BEYOND EARTH ORBIT.

Abstract

This paper presents selected design strategies for creating playscapes within habitable spacecraft modules targeting not only to enhance the everyday living patterns of the astronauts in long-term missions but moreover to trigger the mindsets most commonly associated with the creative process. Those playscapes are built up by using reconfigurable spatial settings that promote play and channel problem-solving along with a better mood. Their design scope is the nonchalant intrusion of the playful within the confined environment of the spacecraft that can positively function as a catalyst of instantaneous mood shifting. This research is grounded upon the design strategies employed by developmental psychology and the structuralists' pedagogical approach with the analogies identified made applicable in a spacecraft environment.

Play is one of the most important activities people are engaged with in order to properly develop their cognitive and physiological abilities and skills. The positive impact of play in people's lives is well documented but there is very little implementation of playscapes (environments specialized in assisting and empowering play activities) in adult environments. Especially for astronauts, playing is an essential activity since it provides them with an appropriate mind-drifting task and also, as the biologist Marc Bekoff puts it, it can train them for the unexpected. Play not only channels creativity but moreover it is known to cultivate mental readiness, confidence, positive framing and commitment. There are also reports indicating that playing also provides skills in exercising a measure of control in dreams, specifically in reducing some of the negative effects (lack of rest, fatigue or stress) produced by anxiety dreams.

The contemporary approach regarding play in spacecraft environments is limited to certain devices

and kits but there is no spatial support. Whenever astronauts have used a spatial arrangement for such activities they did it by employing their own imagination within a given environment, such as the Skylab. Recognizing this gap and in relation with the importance of play, this paper also presents techniques for implementing these strategies by creating small multi-functional objects and using the existing interior infrastructure to create the appropriate environment for play and help astronauts see the world afresh.