DEVELOPMENT OF A HUMAN BEHAVIOUR AND PERFORMANCE TRAINING CURRICULUM FOR ISS ASTRONAUTS

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BACKGROUND and PURPOSE: Since the beginning of the International Space Station Program, behavioural training for ISS astronauts has largely been completed independently by each agency for their own crew members.. While many organizational and cultural challenges have prevented advancement and collaboration in this area, the Spaceflight Human Behaviour and Performance Working Group (SHBP WG) came to a consensus on important categories of behavioural training necessary for all ISS crews. In 2004, the Multilateral Crew Operations Panel (MCOP) stated their support for behavioural training and the need for a common curriculum to be developed. The MCOP levied two actions for the SHBP WG and the International Training Control Board (ITCB) to develop concise, internationally approved recommendations for a training curriculum.

METHODS: To this end, a group of behavioural, training, and astronaut office representatives were assembled to complete a develop a curriculum (DACUM) process for behavioural training. This structured approach to curriculum design was facilitated by an experienced NASA instructor, and participants included representatives from all agencies. A detailed list of competencies that incorporate- a core set of knowledge, skills and attitudes (KSA) important for crew members performing an ISS mission was defined. After completion of work by the large DACUM group, a smaller subset of behavioural and training design experts was assigned the follow-on task of creating the recommended curriculum.

RESULTS: The paper will describe the DACUM process and summarize the core competencies that were agreed upon, internationally, as important for ISS astronauts. The paper will further discuss the ongoing work being completed by the subgroup, Human Behaviour and Performance Training Working Group, including defining the competencies and behavioural markers. Finally, an overview of remaining work will be provided, including determining which competencies require formal training and which require no formal training, developing training objectives, sequencing the training, and establishing how to assess training effectiveness. DISCUSSION: Designing a common set of goals for behavioural training has been the desire of the SHBP WG since its inception in 1998. This group, along with training specialists and astronauts, are making great strides toward defining these competencies. The road ahead will be exceedingly challenging as training objectives are defined and a training flow is proposed to the MCOP; with proposed ISS crews increasing to six people in the near future, such enhanced behavioural training may be all the more essential for mission success.