Balancing training techniques for Flight Controller Certification

Training of ground control teams has been a difficult task in space operations.  There are several intangible skills that must be learned to become the 'steely eyed' men and women of mission control who respond to spacecraft failures that can lead to loss of vehicle or crew if handled improperly.  And as difficult as training is, it can also be costly.  Every day, month or year an operator is in training, is a day that not only they are being trained without direct benefit to the organization, but potentially an instructor or mentor is also being paid for hours spent assisting them.   Therefore, optimization of the training flow is highly desired.  Recently the Expedition Division (DI) at Johnson Space Flight Center has recreated their training flows for the purpose of both moving to an operator/specialist/instructor hierarchy and to address past inefficiencies in the training flow.  This paper will discuss the types of training DI is utilizing in their new flows, and the balance that has been struck between the ideal learning environments and realistic constraints.

Specifically, the past training flow for the ISS Attitude Determination and Control Officer will be presented, including drawbacks that were encountered.  Then the new training flow will be discussed and how a new approach utilizes more training methods and teaching techniques .  We will look at how DI has integrated classes, workshops, checkouts, module reviews, scenarios, OJT, paper sims, Mini Sims, and finally Integrated Sims to balance the cost and timing of training a new flight controller.