



COE SOAR

Solutions for Operational Aviation Research

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ENHANCED AT-CPC TRAINING

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What is the focus of the research project?

Content Management and Delivery
Simulation and Part Task Training
Human Factors

What are the Goals of the research project?

Preliminary development of recurrent skill enhancement and proficiency training for CPCs.

Challenges

Low response rate from on-line survey
Out dated technology
Lack of staff
Lack space to conduct training

Recommendations

Increase bandwidth
Update online course
Place an emphasis on site specific training

How were the Goals of the research project approached?

An extensive literature review, online survey, face-to-face and telecom interviews provided data used to complete the following tasks.

Task 1: Research and inventory the current FAA's advanced training program for ATCS.

Task 2: Examine current methods of advanced training.

Task 3: Compare centralized training with facility oriented training

Task 4: Prepare a preliminary document on suggested changes and enhancements to the FAA's skill enhancement and proficiency training for CPCs.

Why is this research valuable to the FAA?

Reduction in training cost.

Cloud based part task training applications are:
effective in classroom ATC training.
effective in online ATC training.

Cloud based part task training provides:
the ability to present images, video, text, and text-to-speech driven audio prompts.
interactivity and voice recognition and response capabilities.
simulation creates a more realistic training product.

Possible cost savings through:
reduced need for high fidelity training simulators.
reduced staffing.

Improving training efficiency

The use of cloud-based applications allows:
mobile devices to be leveraged and introduced as training devices.
the integration of voice recognition and response capabilities.

These speak directly to the four main themes from the data.

Technology:

technology for training is improving at rapid rates.
the use of cloud-based part task training applications and self-assessment tools.
high-fidelity training outcome from a low fidelity device.

Space:

reduced need for high fidelity training simulators reduces the required space.

Staffing:

reduced need for high fidelity training simulators reduces staffing.

Relevance to facility:

reduces the staffing.
reduces the relevance of the technology at a facility.
leverages the user's own devices to build upon and enhance their training.

How can the FAA use this information to improve the current state of the problem or need?

Benefits can include:
reduction in training cost.
enhanced access to knowledge.
increased efficiency and safety.
optimized knowledge retention.

What is recommended for future research or prototypes?

Determine the efficacy of gamification for part task training.

Scanning approaches using new visualization technologies and techniques such as STEGC.

Applying simulation/gamification PT training to UAS/USSS and other future UAS control centers integrating with FAA NAS.

Investigate using "transference" through common imagery and techniques to extend applicability from centralize centers to diverse and remote facilities.

Create an annual evaluation assessment gamification tool for reviewing and improving knowledge acquisition and skills.

Develop an agile approach addressing training improvements on an ongoing basis.