Matching Workforce Skills to NextGen Capabilities | TTO

Over the next nine years, the Federal Aviation Administration (FAA) plans to hire approximately 12,000 new controllers while at the same time introducing the Next Generation Air Transportation System (NextGen). Current controller training may not adequately address NextGen’s changing technology and philosophy.

Air Traffic Management comprises two major functions for managing operations in the National Airspace System (NAS): Air Traffic Control (ATC) and Traffic Flow Management (TFM).

**ATC & TFM**

For the ATC function, the FAA, private industry, and the scientific community have studied training effectiveness and controller selection in depth. Primary education avenues are available through a number of programs, such as the Air Traffic Collegiate Training Initiative (AT-CTI) program. According to FAA data, 30 percent of the new hire controllers in fiscal year 2011 were from the AT-CTI program.

TFM, as a function, is generally not an entry-level position. TFM training has largely been done through on-the-job training. The knowledge required to perform the TFM task is passed on by experienced Traffic Management Specialists (TMSs). This method of learning can be both inconsistent and costly due to the variety of approaches employed and variable levels of knowledge by the TMS performing the training. The need for consistent and standardized TFM training has been recognized by the FAA, and, over the past decade, the FAA has placed increased emphasis on such programs.

**A framework of knowledge**

This research project is exploring the expansion of TFM learning objectives to entry level candidates by providing a framework of TFM knowledge that can be used throughout their career. The project is developing a theory-based curriculum, including TFM ideas and concepts, system integration, crew resource management, and decision models, with accompanying textbook and laboratory simulations.

If successful, this research will introduce an important new dimension of TFM training for use by AT-CTI programs. To measure success and long term impact, students will be tracked through the curriculum and, with their consent, through their subsequent career. It is hoped that by taking this curriculum students will have a shorter learning curve on new technology and a better understanding of the NAS as a whole.

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