

Pilot Source Study Summary  
April 4, 2010

On February 20, 2010, at a combined meeting of the Aviation Accreditation Board International (AABI) and the University Aviation Association (UAA), a study was commissioned to research the success of new pilot indoctrination for first officers in part 121 operations.

The study was completed April 4, 2010. The research project studied the performance of 2156 new pilot hires in the years 2005 – 2009. Five independent university researchers from Arizona State University, Auburn University, Embry-Riddle Aeronautical University, Southern Illinois University, and University of North Dakota were engaged for the research project. Six regional airlines participated by providing access to their human resource and pilot indoctrination files; they were: American Eagle Airlines, Atlantic Southeast Airlines, Cape Air, Horizon Air, Mesa Airlines, and Trans States Airlines.

Extensive demographic data were gathered for the subject pilots, including: year hired, college degree, name of college, name of degree, military background, where the advanced (beyond private pilot) pilot training occurred, whether the pilots had experience as a flight instructor, the total flight hours at the time of indoctrination, and previous experience in aviation employment. To de-identify the data, two variables (whether the degree was in an aviation concentration, and whether the degree was in an AABI accredited flight education program) were derived so that the "name of college" and "name of degree" data could be removed. The outcomes studied were: 1) how many times did the pilot need to repeat the elements of indoctrination training, and 2) whether the pilot succeeded in completing full employment by the airline. The individual pilot and airline information are de-identified in the study.

The researchers are experienced in statistical analysis and express their results in the following terms:

**The best performing pilots from a cohort of 2,156 demonstrated fewer extra training events and fewer non-completions in regional airline training.**

- First officers with flight instructor experience at a very high significance level**
- First officers who graduated from collegiate accredited flight programs at a very high significance level**
- First officers who received advanced pilot training in college at a very high significance level**
- First officers who graduated with collegiate aviation degrees (any aviation discipline) at a high significance level**
- Graduates from general collegiate programs (no aviation component) at no significance level**
- Effect of pre-employment flight hours, in order of performance**
  - 1<sup>st</sup> group: 500 to 1,000 hours**
  - 2<sup>nd</sup> group: 178 to 500 hours**
  - 3<sup>rd</sup> group: 1,000 to 1,500 hours**
  - 4<sup>th</sup> group: more than 1,500 hours**

A detail analysis is attached. A multi variant analysis, phase 2 of the study, is under consideration.

A presentation of the study is available; please call Dr. Guy Smith, Principal Investigator, Pilot Source Study at (386) 236-8494 or (612) 840-5019 (mobile)