

**Learning to Land: A Qualitative Examination of Pre-Flight and In-Flight Decision-Making
Processes in Expert and Novice Aviators**

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Abstract

The National Transportation Safety Board has cited deficiencies in judgement and decision-making as contributing factors in numerous general aviation accidents. Several studies have also indicated that some pilots exhibit *hazardous attitudes* in their decision-making processes. Although decision-making and judgment training is mentioned by the Federal Aviation Administration as areas that should be taught to aspiring pilots, there are relatively few current guidelines to assist flight or ground school instructors.

This study centers on the decision-making characteristics of expert and novice pilots. Four expert and four novice pilots were selected by the researcher. All of the subjects were interviewed about their decision-making processes as they related to four aeronautical decision-making scenarios. Experts exhibited characteristics and themes that differed noticeably from that of the novices. One of the more pertinent differences involved what some writers have referred to as *cognitive maps*. These mental guides appeared to be used effectively by experts in attempting to cope with problems associated with the scenarios. Novices also appeared to make use of cognitive maps in their decision-making processes. Their maps, however, were primitive in comparison to the experts and resulted in difficulties when attempting to address specific scenarios.

The findings regarding the decision-making thought processes of experts were consistent with previous studies (e.g., decisions were based on pertinent mental cues from their experiences). The findings related to novices revealed five themes that included: a. the quantity and quality of information acquired to assess risk was often deficient; b. the interpretation of the risks associated with each scenario reflected a lack of attention to pertinent issues related to the scenarios; c. decision-making was often based on recognition of familiar conditions with which novice subjects could relate; d. decision-making often reflected an emphasis on rules and procedures that novices had been taught or acquired through independent research and e. novices exhibited hazardous attitudes in their decision-making processes. The researcher reviewed significant findings and areas in need of further research. A brief conclusion and recommendations conclude the study.

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Dedication

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Their support, encouragement, patience and love
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