

INTERVIEW GUIDE
FOR
A QUALITATIVE STUDY OF DESIGNATED FLIGHT EXAMINERS
EXPERIENCES WITH PILOT CERTIFICATION IN ADVANCED
TECHNOLOGY AIRCRAFT

By
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Introduction

This research study is investigating the impact or potential impact on safety with the introduction of advanced technology in general aviation aircraft. These advances include entirely new designs for general aviation aircraft and the retrofit of advanced display technology in conventional aircraft.

Various organizations have speculated on the impact of this technology on the process for certifying/re-certifying our aviation professionals. Specifically, this research examines the pilot certification process from the Designated Pilot Examiner's perspective. Since the DPEs are the final step in the certification of new pilots, it is imperative that their thoughts on the impact of this new technology be heard.

This research hopes to further assess what changes are needed, if any, to the pilot certification process as a result of the new technology.

Preparation

Ten (10) to twelve (12) interviews are planned to be conducted either in person, via telephone, or video teleconferencing with or without messaging depending upon the preferences of the interviewee. Internet messaging has the distinct advantage of user transcription of their responses. The internet messaging programs also permit automatic recording of the messages. A combination of phone/teleconferencing and messaging would allow the benefit of face-to-face communication plus automatic transcription.

Location Considerations

In the event that several interviewees are co-located and within a reasonable driving distance and a mutually agreeable schedule can be determine, then personal interviews may be conducted. The geographical region for potential interviews shall be an area bounded by Dallas/Ft. Worth Texas (south boundary), Wichita Kansas (north boundary), Ft. Smith Arkansas (east boundary), and Amarillo Texas (west boundary).

Geographic time zones will be considered with all direct communication with potential or actual participants. Unless requested by the participants, direct contact will be accomplished only between 8AM and 8PM participant's local time.

Supplies & Equipment

The following supplies and equipment are envisioned to be required to conduct the interviews.

- 1) Personal computer with internet capability
- 2) Messaging and teleconferencing software
- 3) Audio (Sony ICD-PX820) and Video recorders
- 4) Extra video tapes
- 5) Extra AAA batteries
- 6) Tripod
- 7) Tablets
- 8) Pens
- 9) Watch

Scheduling

The interviewee will be contacted by phone or email in advance of the interview to determine their willingness to participate. The Telephone Interview Participation Script will be utilized. If verbal intent to participate is given, a convenient time, method for conducting the interview, and email address will be requested. The confirmation of appointment will be accomplished via email. If teleconferencing or messaging is the preferred method of communication, then the interviewee's USERID and application program will be requested.

After the scheduling session(s), the applicable teleconferencing/messaging software will be installed by the researcher on the researcher's personal computer and the interviewee's USERID added to the application program's directory.

Interviews

The interviewer will attempt to accommodate the participant's preferences for exchange.

A face-to-face interview may be performed if the participant is within the geographic region of the interviewer. The physical location of the interview would be at a mutually agreed upon location where the interview could be held without interruption, distractions or disturbances. These interviews would be recorded with a video recorder, if agreed upon by the interviewee.

For convenience, most interviews are likely to be held via telephone. An audio recorder will be used to record the interview.

If the participant is computer savvy and equipped, internet teleconferencing may be utilized. Yahoo and Skype are two typical application programs. These also have the advantage of allowing bi-directional texting for automatic recording. This teleconferencing interview would also be video recorded.

Interview Instructions

Time: 30 - 45 minutes (nominal) – DO NOT EXCEED 60 MINUTES!

Timing: Target 5 minutes per question.

Verify recorder is operating.

Select appropriate recorder folder.

Record beginning interview time.

Read Informed Consent (attachment A)

Request verbal consent to participate.

Questioning (attachment B):

Sequence question based upon order of importance.

Do not intentionally infer anything more than is listed in the questions.

Use additional probing questions only as necessary.

Take manual condensed notes during the interview for each question.

Verify interview was recorded.

Closing Remarks (interviewer):

Confidentiality: All interview transcriptions documented in the research report will be sanitized with names and/or personal identifier information removed. The OSU IRB has the authority to inspect consent records and data files to assure compliance with approved procedures.

Contacts: *If you have any questions about the research or your rights as a research volunteer, please feel free to contact Michael Friday at (405) 642-9535, Dr. Steve Marks from Oklahoma State University at (405) 744- 7015, or you may also contact the Oklahoma State University Institutional Review Board (IRB) Chair Dr. Shelia Kennison, 219 Cordell North, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu.*

Inquire if the participant is interested in receiving the result of the research study.

Thank participant for taking time to participate.

Record interview ending time.

Record number of questions asked.

Post Interview

Determine actual interview time. If interview time exceeded 45 minutes, consider whether number of questions be reduced in future interviews.

Ensure that recording media and/or data files are accurately label/identified.

Reflect on the interview and make manual notes of key points not noted earlier.

Reflect on the effectiveness of the interview instrument (question set). Manually note on the apparent effectiveness or potential improvements to the interview process, procedures, or instrument.

Interview Participation Script

&

Interview Consent Script

(Attachment A)

Telephone Script for Participation

(Version: 2 Sep 2010)

Hello, my name is Michael Friday. I am a doctoral student at Oklahoma State University working on a research study investigating Designated Pilot Examiners' perception about the current Private Pilot certification process with Advanced Display Technology (ADT) and Technically Advanced Aircraft (TAA). Since you, the DPE, are the final step in the certification of new pilots it is imperative that your thoughts on the impact of this new technology be heard.

The purpose of this study is to investigate FAA Designated Pilot Examiners (DPEs) perception of the adequacy of the current process for certifying private pilots in Technically Advanced Aircraft or convention aircraft equipped with Advanced Display Technology. As key participant in this process, you are being asked to help us understand specific issues or concerns that you may have related to this new technology.

[Choose a for questionnaire or b for interview]

- a. The method used to collect data for this research study will be a voluntary questionnaire that should take approximately 30 minutes to complete. The survey has some questions about your flight times and ratings, exposure and experiences with TAA and ADT, type and number of flight examinations given, and perception of the current pilot certification process. Please return your questionnaires as your view on this subject are important to the aviation community. If you require an additional copy of the questionnaire, it can be mail to you immediately.
- b. I'm in the final phase of this research study and request your participation in a 30 minute telephone interview. The interview probes deeper into DFE's experiences with TAA and ADT and perceptions of the current pilot certification process.

To maintain confidentiality, no individual's responses will be reported. The results of the questionnaires will be reported in aggregate only.

It is expected that this research will gain valuable information from DFE community that will help the industry improve the process for developing and certifying future aviation professionals.

Would you be willing to participate? YES/NO

What would be a convenient time for conducting the interview? [Interview]

Would telephone or teleconferencing be preferable? [Interview]

May I get an email address to expedite future contact? YES/NO _____

If you have any questions about the research or your rights as a research volunteer, please feel free to contact Michael Friday at (405) 642-9535, Dr. Steve Marks from Oklahoma State University at (405) 744-7015, or you may also contact the Oklahoma State University Institutional Review Board (IRB) Chair Dr. Shelia Kennison, 219 Cordell North, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu.

Thank you for taking your time to speak with me on my research study today. Your future voluntary participation is much appreciated.



Interview Consent Script

Hello, my name is Michael Friday. I am a doctoral student at Oklahoma State University working on a research study investigating Designated Pilot Examiners' perception about the current Private Pilot certification process with Advanced Display Technology (ADT) and Technically Advanced Aircraft (TAA). As key participant in this process, you are being asked to help us understand specific issues or concerns that you may have related to this new technology.

I want to thank you for your participation in the initial questionnaire phase of this research and for agreeing to be contacted for the second, interview phase. I am now beginning this phase of the research study and request your participation in a 30 minute telephone interview. The interview probes deeper into DFE's experiences with TAA and ADT and perceptions of the current pilot certification process.

There are no known risks associated with this project which are greater than those ordinarily encountered in daily life.

The interview will be audio recorded and transcribed by the researcher without personal identifier information. Only the principal investigator will have access data with personal identifier information. All interview transcriptions documented in the research report will be sanitized with names and/or personal identifier information removed. This researcher will take great care to ensure that any response quoted will NOT be identifiable to any individual. At the conclusion of the study, the recorded interviews and any personal identifiers will be destroyed. Only aggregate data and sanitized transcription records will be retained for future research studies. The OSU IRB has the authority to inspect consent records and data files to assure compliance with approved procedures.

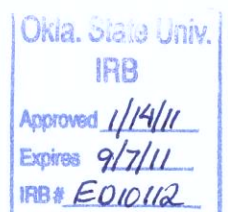
It is expected that this research will gain valuable information from DFE community that will help the industry improve the process for developing and certifying future aviation professionals.



If you have any questions about the research or your rights as a participant in this study, please feel free to contact Michael Friday at (405) 642-9535 / mafriday1956@gmail.com or Dr. Steve Marks from Oklahoma State University at (405) 744- 7015 / steve.marks@okstate.edu. If you have questions about your rights as a research volunteer, you may contact Dr. Shelia Kennison, IRB Chair, 219 Cordell North, Stillwater, OK 74078, 405-744-3377 or irb@okstate.edu.

Your participation in this phase of the research is appreciated and completely voluntary. You may choose not to participate at any time without any penalty or problem.

Are you willing to participate? YES/NO



Interview Questions

(Attachment B)

FAA REGULATIONS

Results from the DPEs questionnaire indicate that 64% of DPE were satisfied with the current FAA guidance and regulations for certifying new airmen in Advanced Display Technology equipped aircraft. What changes, if any, do you perceive may be needed?

[Follow-up if not addressed above] Specifically with respect to "pilot experience requirements", what changes, if any, do you perceive may be needed as a result of advances in technology?

SAFETY

Results from the DPEs questionnaire indicate that 81% of DPEs perceive conventional navigation skills have been degraded as a result of Advanced Display Technology. How should training and continuing training be changed to ensure proficiency with conventional navigations skills?

Advanced Display Technology has the ability to alert and aid pilots in potentially serious situations. At the private pilot level, what features and capabilities should be taught and tested?

How might training and testing address issues like "automation surprise"?

Results from the DPEs questionnaire indicate that 70% of DPEs perceive that Advanced Display Technology has created an environment for "risk taking behavior" i.e. flying in lower visibility or over reliance on technology. How could training be modified to reduce this "risk taking behavior"?

PILOT TRAINING & KNOWLEDGE

Results from the DPEs questionnaire indicate that 85% of DPEs perceive that more emphasis should be placed on teaching "higher order" pilot skills. What specific "higher order" pilot skills should be taught and tested at the private pilot certificate level?

Should training and testing require applicants to understand "how the system works"? If so, to what level of depth of understanding should a private pilot be required to know?

FLIGHT DEMONSTRATION

According to questionnaire results 93% of DPEs require demonstration of specific features or tasks associated with Advanced Display Technology. What specific features/tasks do you require or think should be demonstrated during a Practical Test?

Should applicants be required to demonstrate system failures and troubleshooting procedures? If so, what should be demonstrated?

72% of DPEs expressed difficulty performing certain Practical Test tasks/procedures (e.g. partial panel) with Advanced Display Technology. Specifically, what tasks or procedures are difficult to perform/demonstrate in Advanced Display Technology equipped aircraft?

EXAMINER NEEDS

55% of DPEs responding to the questionnaire think the FAA should provide Advanced Display Technology examination training to DPEs. What specific training elements, if any, could improve the DPEs ability to certify pilots in advanced technology equipped aircraft?

CLOSING COMMENTS (All participants)

Do you have any further comments, recommendations, or concerns you care to offer regarding this research topic or pilot certification in ADT or TAA?