Summary of Final Report, BD550-04
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COMPUTER-BASED EXAMINER TRAINING AND CERTIFICATION PROGRAM

PROBLEM STATEMENT

The problems addressed with this research concern the shortage of state motor carrier compliance officers, also referred to as safety inspectors. This is a critical issue because the job duties of these officers have expanded at a time when there is an extreme shortage of qualified and trained personnel.

The current training for these inspectors involves traditional teaching methods that demand a thorough understanding of the extensive federal regulations set forth by the Federal Motor Carrier Safety Administration (FMCSA). In addition to learning thousands of complicated regulations written in legalese, safety inspectors must, during a vehicle inspection, apply that knowledge using the North American Standard Out-of-Service criteria. They must also know when "exceptions" to the regulations occur. Regulations, out-of-service criteria, and exceptions change based on the type of vehicle being inspected. This standard teaching model currently experiences a 21% failure rate.

Training also requires safety inspectors to adapt constantly to changes in the regulations, which can occur as a result of new laws or interpretations in court rulings. For example, today's safety inspectors must be aware of new laws passed by the federal government since 9/11 that deal with security and anti-terrorism. Furthermore, training requires experienced safety inspectors to share their knowledge and experience with newcomers in the field. The job performance of a safety inspector requires extensive and complex knowledge and skills, but the current training system is not fully preparing inspectors for success.

OBJECTIVES

The goal of this research is to design an innovative program to supplement the training and recertification of novice and experienced safety inspectors, as well as federal agents. The new training program has the following objectives:

- Prepare safety inspectors, both novice and experienced, to perform safety inspections thoroughly so that all travellers are all safer on our roads.
- Minimize the failure rate of students by providing them with supplemental individualized training on topics or skills in which they show weaknesses, while offering the opportunity for additional practice.
- Make the class more effective and learner-oriented
- Build a system that not only trains but provides job aids to all personnel involved in the inspection process
- Build a training/recertification system that is robust, engaging, and easy to use.

FINDINGS AND CONCLUSIONS

The program will be completed in a follow-on study, so the initial findings are limited to the iterative formative evaluation process / subject matter review. A test situation with a control group and an experimental group will be performed in the second phase of the study.

However, during this phase of study, the research team has shown the current work to subject matter experts, sponsors, and potential students. Based on their positive response, the research team anticipates that the Computer-based Safety Inspector Training and Certification Program will be able to improve and enhance the training and recertification of safety inspectors, higher-ranked officers, and federal agents.

BENEFITS

Potential benefits from this new training system include providing a simulation of an inspection that allows trainees to study commercial motor vehicle mechanical parts and practice doing an inspection before they train in the field. With practice scenarios, quick reference aids, simulated walk-around inspections, and thoughtful questions in an online web environment, students will experience learning that enhances the traditional teaching and memorization method. Students can study photos of separated brake linings, brake lights that do not function, and a variety of non-compliant problems and test their knowledge in the process. As a result, when novices later receive training in the field, their experienced mentor/trainer should not have to spend as much time with them. They will already know what pieces and parts look like, where these pieces and parts exist on the CMV, how each works, and what to look for during an inspection.

In addition to online training that is realistic and engaging, the program contains quick reference tools so that inspectors do not have to memorize regulation numbers and out-of-service definitions. They can use a laptop computer or hand-held device to retrieve regulation numbers and out-of-service definitions by typing in the non-compliant issues they discover during an inspection.

Currently, the reaction and formal feedback from representatives of the FMCCO community is supportive and enthusiastic about the opportunity this program provides. We hope that state and federal government will adopt this blended learning intervention. With the increased amount of traffic on the roads, as well as potential terrorist threats involving CMVs, safety inspectors must identify potential safety hazards in an accurate and efficient manner. An effective Computer-based Training (CBT) program along with an effective in-the-field job aid will greatly improve inspectors' abilities to conduct timely and accurate inspections. Additionally, higher ranked officers along with federal agents (who do not conduct weekly inspections) will have the opportunity to keep up with the latest regulatory changes and inspection procedures without having to leave their offices.

This research was conducted by Ronald W. Tarr, of the Institute for Simulation and Training (IST) and the Center for Advanced Transportation System Simulation (CATSS) at the University of Central Florida. For more information, Lt. Col David Binder, Project Manager, at (850) 245-7900, david.binder@dot.state.fl.us.