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TITLE: Application of Audio-Visual Presentation and Various Feedback Methods to Drivers License Testing: An Evaluation of Learning Effects

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PROJECT OBJECTIVE:

To develop and demonstrate the effectiveness of an audio-visual driver's license testing program.

SUMMARY:

In an effort to determine the relative efficacy of different testing materials and modes of presentation and feedback in teaching traffic safety concepts, a study was conducted to measure item retention and/or generalization of learning brought about through the driver's license testing process.

A group of 4,000 class 3 (standard passenger vehicle) driver's license renewal applicants were assigned to one of five different test modes: (1) audio-visual (A-V) differential feedback, (2) A-V correct-answer-only feedback (both presented by color motion pictures on individual viewing screens), (3) latent-image written tests (differential feedback developed by chemical pens), all of which were composed of 15 new items, (4) the standard written knowledge test presented on paper, with delayed feedback given, or (5) the standard written test questions projected as slides on the A-V viewers, with no feedback on performance. Learning was measured by the applicant's performance on a second or posttest administered on the A-V equipment immediately after the first test; included were items repeated from the first test as well as unfamiliar but related (unique) items which required generalization of knowledge concerning how to handle potentially dangerous driving situations.

On the unique items, the only significant difference found was that the standard written slide group was superior to any of the new-item-content groups; however, all five groups were significantly different on post-test repeat item scores. A-V correct-answer-only feedback subjects made the fewest errors, followed by A-V differential feedback, latent image, standard written, and finally standard slide subjects. Education was found to be a more important factor for subjects taking the new tests than for those taking the standard test. For applicants taking the tests in English, there was evidence of at least some degree of learning for all test modes. However, for applicants tested in Spanish, only those groups taking the new tests showed evidence of learning--those taking the standard written test did not (on the average) improve upon their pretest score when taking the posttest.

IMPLEMENTATION STATUS OF FINDINGS AND RECOMMENDATIONS:

While the most effective learning was observed with A-V presentation employing immediate correct-answer feedback, further research was considered necessary to measure the long-term effects on traffic safety before a cost-benefit analysis could be performed or implementation considered. However, given constraints on governmental expenditures, no further departmental research on audio-visual testing systems was contemplated at that time.

SUPPLEMENTARY INFORMATION:

A preliminary paper on the experimental tests and research design was presented at a conference in Germany by R. S. Coppin-"Audio- Visual Driver License Response System-A Demonstration Project." An English translation of the paper appears in the conference proceedings *Entwicklungen und Konzepte für die Fahrerlaubinsprufung*, Verlag TUV Rheinland, October 14, 1976.