



Position Paper on Verification

Introduction

Verification is the final step of the ACE-V process; ACE-V is an acronym for analysis, comparison, evaluation and verification. Dave Ashbaugh defined verification as a form of peer review¹. Verification has been recognized as an important quality control measure and past research² demonstrates that a blind verification process has the potential to greatly reduce the risk of error. This document will provide recommendations for the use of verification with regard to friction ridge comparison.

Definitions

Verification: the application of a second ACE process as utilized by a subsequent examiner to either support or refute the opinions of the original examiner.

Open Verification: a verification process where the subsequent examiner is aware of the original examiner's opinion, and/or the agency does not verify all types of opinions.

Blind Verification: a verification process where the subsequent examiner is not aware of the original examiner's opinion. The agency must verify all types of opinions.

Support for Blind Verification

Following the OIG report³ into the 2004 erroneous identification of Brandon Mayfield, the FBI implemented a blind verification process in cases with the greatest risk of error. The latent print erroneously identified to Brandon Mayfield was verified (non-blind) by two experienced FBI examiners and an independent court appointed examiner.

The 2016 PCAST report; Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods⁴, warned of the risk of cognitive bias with open verifications.

Verification has been raised by defence council in high profile court proceedings⁵. Having a blind verification process can provide the courts with greater confidence in the examiner's opinion, particularly with single complex distorted prints. Blind verification can equally assist with questions regarding bias during testimony.

¹ Ashbaugh, D. R. Quantitative-Qualitative Friction Ridge Analysis: An Introduction to Basic and Advanced Ridgeology; CRC Press: Boca Raton, FL, p 1999.

² Ulery, B. T.; Hicklin, R. A.; Buscaglia, J.; Roberts, M. A. Accuracy and Reliability of Forensic Latent Fingerprint Decisions. PNAS 2011, 108 (19), 7733–7738.

³ Office of Inspector General. A Review of the FBI's Handling of the Brandon Mayfield Case. U.S. Department of Justice, Office of the Inspector General, Oversight and Review Division, U.S. Government Printing Office: Washington, D.C., 2006.

⁴ President's Council of Advisors on Science and Technology (PCAST). Forensic Science in Criminal Courts: Ensuring Scientific Validity of Feature-Comparison Methods; Executive Office of the President's Council of Advisors on Science and Technology: Washington, D.C., 2016.

⁵ Richard, D. Expert Witness Testimony – A Guide for the Canadian Fingerprint Examiner. Identification Canada Volume 41 2018

Procedure

There are two criteria that must be met for blind verification.

- 1) The verifier is unaware of the opinion of the original examiner and has no material which may provide an indication of the original examiner's opinion.
 - The verifier should only be provided the necessary information to render an opinion on the friction ridge evidence. This amounts to: all original images related to the questioned impression, the exemplar impressions, the development medium and the matrix assessment.
 - The verifier should not know the specific circumstances regarding the case. Any ancillary information regarding the case could bias the verifier with respect to the original examiner's opinion, this includes but not limited to: the type of offence, whether the case will be proceeding to trial, and details on the crime scene.
- 2) The agency must, to some degree, verify all types of opinions: identification, inconclusive, exclusion.
 - In order for the verifier to be truly blind to the original opinion the agency must verify all types of opinions. This does not mean that all rendered opinions must be verified. So long as a verifier could receive cases where the original examiner rendered an opinion of identification, inconclusive or exclusion, then the condition is met.

Additional Points

- 1) A combination of blind and open verification could be used in an agency. CanFRWG suggests the use of blind verification in all circumstances, but is aware of the workload which examiners in the field face. Subsequently, CanFRWG recommends that at a minimum blind verification is done under the following circumstances:
 - Cases where there is a single latent impression
 - High profile cases, due to the potential risk of bias
 - In units with a small number of examiners, verifications could be sent to a different unit
 - If the examiner believes the impression is complex
- 2) Agencies may assign a verification coordinator who can randomly assign verifications. This will help blind the verifier to the identity of the original examiner. Furthermore, it can help distribute the workload across units within the same agency.
- 3) Agencies may wish to create verification packages. This amounts to creating a package containing exemplar images similar to the exemplar image the original examiner used in their comparison. This provides an additional level of robustness to the verification process, but is not necessary to meet the requirements for blind verification.
- 4) An unknown fingerprint submitted for verification, has been analyzed, compared and evaluated, and therefore requires the same from the verifier. CanFRWG does not endorse declaring an unknown fingerprint unsuitable as a reason to not complete an application of the verification process.

Table of Amendments

Original	Updated	Date Updated
NA - added	4) An unknown fingerprint submitted for verification, has been analyzed, compared and evaluated, and therefore requires the same from the verifier. CanFRWG does not endorse declaring an unknown fingerprint unsuitable as a reason to not complete an application of the verification process.	2021-09-27