



## Questioned Documents Section – 2011

### J26 Reducing Error: The Benefits of Checklists in Forensic Document Examination

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After attending this presentation, attendees will recognize the complexity of forensic document examination and the manner in which error can occur due to the numerous tasks that can be required within an examination. Is expertise enough to fully prevent error in forensic science? A simple mechanism proven as a quality-enhancing tool in high risk and complicated industries will be suggested and direct application will be made to the forensic document examination profession.

As added technology and knowledge levels have increased the intricacy and core competencies in forensic science and the forensic examination of documents, by instituting the use of checklists for various document examination procedures, improved reliability and consistency will occur in examinations, thus aiding and impacting the forensic community and society.

Research by Kam et al. and Found, Sita, & Rogers has shown that Forensic Document Examiners (FDEs) have significantly more expertise than laypersons for the task of determining the authenticity of signatures and handwriting. In these studies; however, the FDEs were found to have error rates as high as 7% for some tasks. Beck in a 1995 article cited three possible main sources of error: (1) failure to properly evaluate differences; (2) failure to detect significant movement characteristics; and, (3) the use of self-serving exemplars. Other contributions known to lead to error will be discussed.

A taxonomy of FDE tasks finds examination categories (materials analysis, pattern classification, pattern analysis, restoration, visualization) with numerous sub-categories of examinations structured within each category (signatures, handwriting, hand printing, physical ink examination, chemical ink comparisons, alteration, substitution). The decision and evaluation process for multiple aggregated examinations is complex and can be daunting. For these reasons, the training of a FDE takes between two to three years of formal study with systematic practical exercises. The vast sum of techniques, knowledge and limitations to remember and apply is significant, and becomes even more so when a case is multi-faceted requiring the application of a combination of examinations conducted in an appropriate sequence.

Many examiners have developed their own way of designing the sequence of examination. They rely on their training and experience to do this. However, because of the complexity of the tasks involved, it is possible to overlook a simple examination or consideration within an examination or at the evaluation phase which may then lead to an error in the conclusion or result.

The use of a checklist may be one way to reduce this possible source of error. This is not a novel idea in forensic document examination. Historic texts describe lists of principal points for consideration or caution (Osborn) or for "document consciousness" (Conway). These were intended to provide a "thoughtful, reasoning approach" to the examination of a document, and to remind the thorough examiner of problems or issues to consider.

The development, design and use of checklists in non-forensic industries and the resulting effects will be discussed, including the research of Dr. Peter Pronovost in one specific medical issue at Johns Hopkins Hospital that led to more open discussion and implementation of checklists within some medical circles. Checklist advantages for transparency and application of science endeavors will be reviewed. Checklists designed for FDEs will be presented and discussed. These checklists will range from one for a simple signature examination to another for the analysis of a multi-faceted business or medical record.

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#### Forensic Document Examination, Checklists, Error Rates