AN EXPANSION OF INDENTED SIGNATURES OVER THE CREDENTIALS BY THE EMPLOYMENT OF DOMICILIARY COMMODITY

Amit Chauhan, Varsha Chauhan
Amity Institute of Forensic Sciences, Amity University, Noida (U.P.), India

ABSTRACT

In time, the features of handwriting turn out to be firmly individualized—regularly in a format which is considered unmistakable from that of the essayist’s own handwriting. These handwriting substantial’s are unique sort of relationship of individual for various imperative reasons. However, these marks are the part that adequately approves the exchange of assets from the record, but encountered in form of torn or has been taken away by the suspect/individual. So, what was the substantial exchanged by the individual, which put the interpersonal and interpretational relations in questions. To carry out this information from the available resources such as paper, office file or security documents; this study was carried out. In this study, the for the development of such characteristics and extract the information, the unconventional domiciliary commodity were used. by the use of these unconventional methods, 80% of marks were developed by use of Crayons, 78% from lipsticks, and 84% samples were successfully developed using by kajal. The developed features of handwriting were clear, carrying sufficient information about the substantial and individuality of suspect through getting their writing exemplar. This study was done for the instant purpose of investigation, inexpensive and utilization of easily available commodity.

Key words: Handwriting, authenticity, suspense, conclusive, investigations etc.

http://www.iaeme.com/IJCIET/issues.asp?JType=IJCIET&VType=8&IType=4

1. INTRODUCION

Any implemented feature of writing can arrive in a wide assortment of structures extending from easy to complex, from clear to adapt and from full name to extremely abbreviate. Every individual composes relies on the joined impact of various elements. For some individuals, a signature/mark will be their much most of the time executed composed item thus may be
relied upon to demonstrate solid similitude starting with one event then onto the next. No twoits of signatures of same individual/ marks will ever be indistinguishable and relies on
various components such as strong control, coordination, wellbeing, age, anxious disposition,
the recurrence at which he is called upon to compose for some degree upon his identity
3,4,5
The semi-literate produces a deliberate trudging design in their handwriting ailing in expertise
and flexibility, however, with more propelled scholars the whole make-over of the mark
expect more prominent aptitude, development turns out to be less primitive and rudimentary,
and numerous components surmised to a more noteworthy or lesser degree the copybook
composing that the individual examined.

The written substantial on the basic pages essentially can be uncovered by a few means of
to collect the exact information about the written material if it is in doubt to carry any
information. It is consequently, the mark on a record is of specific importance in numerous
legal cases. These written substantials are regularly familiar regardless of the possibility that
other written work is less in this way, to the point where the individuals who might be viewed
as not able to compose can at any rate sign for judicial system 6, In a real signature, oblivious
reconciliation of these components of pen development creates a remarkable adjust of
cadence and frame. Pen speed, the extents of every development, and the nuances of pen
weight are progressively adjusted without cognizant exertion, as the plans of the mark are
framed 7.

As far as the variety of interleaving paper depends upon the paper quality and the variety
of composing weight of the individual. Two clear elements are the kind of pen utilized and
the quantity of bits of paper between the top sheet and the lower sheet which are being
inspected. Indented impressions of author/individual are undetectable imprints squeezed into
the paper surfaces when one report is composed out while lying on the highest point of
another page. It is an engraving which might be left on the fundamental pages when the top
sheet of paper is composed upon and can be affected by the pen weight and thickness of the
paper. Indented composing is extremely helpful as a type of associating proof, for example,
binds a theft note to a written work cushion recuperated from a suspect. As of now, the most
effective approach to recuperate the indented impression is to utilize Electrostatic Detection
Apparatus (ESDA) 8,9,10. The mechanical assembly has been effectively actualized in the
examination of the addressed reports for a very long while. In ideal circumstances, we can
distinguish indented impressions seven sheets beneath the first written work utilizing ESDA.

In more mind boggling cases, the request that composition of substantial, any kind of
unusual spaces were made might be concluded giving huge data with respect to a grouping of
occasions. So, in this present study, it was focused on the development of indented marks
present on the various types of the papers/ written material by using the unconventional
methods. These methods of investigation, for instances and passage of time could be avail
easily and inexpensive can be proved as a useful tool for investigation. In this study, the
development and comparison among the different varieties of papers were also done to find
out the possible outcome and add into the investigative tools list.

2. METHODOLOGY
Since, A variety of the latest technology and advancement has taken place for forensic
investigation to individualize the suspect/culprit. Yet some of the field of investigation has
left in which the procedure cannot be completed without utilization of instruments. The vast
field of tasks implemented by forensic examiner that includes the skills to identify the
authorship of handwriting and discriminating among the genuine, imitated; to examine and
analyze components of ink, papers and other materials also. The field of handwriting
examination is tightly related to empirical knowledge and practical experience. This study was conducted for the utilization of unconventional methods for enhancement and identification of suspect from the developed handwriting substantial in forensic field.

2.2. Material & Methods

For this study, all 50 samples for each developer were collected from the students of Amity Institute of Forensic Sciences, Amity university Noida (Uttar Pradesh), India. All the samples were collected from the age group of 18-28 years and sample selection was done randomly. All the subjects were asked to write on the first page of A4 size sheet note book to notice the pen pressure depth on the sheets which were arranged below the first page and to collect the information about the written material. All the samples were collected and were put separately in A4 size white paper envelope to protect them from any kind of friction, ingredients and dust particles which can create the barrier in development of indentation marks. During this study, some of the samples were collected from the previous written material of unknown authors not only for the development of indentation marks present over the papers; but also, to determine and for fixation the time duration in which the indented writing can be developed. Such kind of the samples were collected up-to the time duration of one month.

All the samples were treated with the different type and easily available battery of development such as Lipsticks, Eye- liner (kajal) and multi -colour crayons. The samples were photographed by using 15 mega-pixel digital camera the Samsung 7-S model and all the calculations were performed using Microsoft office Excel. Inferences were drawn based on analyzing the values obtained from the test. A comparison was made among all the obtained results (developed photographed) after the successful development. A hypothesis was also formulated to get the success rate and the indicative of the strength for the support of such evidences and their admissibility in the court of law as the accepted hypothesis.

Figure 1 Developed indented marks by using the lipstick  Figure 2 Developed indented marks by using the green crayon
An Expansion of Indented Signatures Over the Credentials by the Employment of Domiciliary Commodity

Figure 3 Developed indented marks by using the Kajal (eyeliner)  Figure 4 Developed indented marks by using the lipsticks

Figure 5 Developed indented marks by using the Kajal (eyeliner)  Figure 6 Developed indented marks by using the lipsticks

Figure 7 Developed indentation marks over admitted papers from the unknown authors by using the black crayon.
3. RESULT AND DISCUSSION

Since the new developmental techniques and advancement has taken over the traditional practices, yet at crime scene, some of the new and developmental tools that is known as unconventional tools can be used for investigation. These tools, which are easily available and inexpensive can be found everywhere. In forensic questioned documents examination, the investigator oftenly tries to resolve whether the evidence is legitimate or has been attempted to forged or disguised by adopting various practices such as alterations, obliterations or has been written by someone else. In most of the disputed suicidal cases or secretive writing works, the investigator attempt to determine the actual creator or to develop the written material over the upper sheet of paper which could be torn from the book. This substantial can be useful to reveal the preparations or uncover the modification to the original text which could provide the information or narrow down the possible number of suspects.

By the utilization of techniques which could improve the indentation impressions over the several layers of paper beneath the original writings. Although some of the researcher come up with some new developmental techniques and demonstrated that impressions can be successfully visualized from the evidences more than 50 years if the evidences are not mishandled or not accumulated in a systematic way. In this study, the observations were as per the expectations in which indentation writings were successfully developed that was carrying the information about the mentioned detail in table 1.

<table>
<thead>
<tr>
<th>Resultant / Developers</th>
<th>CRAYONS</th>
<th>LIPSTICK</th>
<th>KAJAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>FULLY DEVELOPED</td>
<td>23</td>
<td>21</td>
<td>27</td>
</tr>
<tr>
<td>PARTIALLY DEVELOPED</td>
<td>17</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>NOT DEVELOPED</td>
<td>10</td>
<td>11</td>
<td>7</td>
</tr>
</tbody>
</table>

When the developer (crayons) was used against the surface for development of indentation marks, it was observed that only 46% of the sample were successfully developed while 34% of samples were partially developed. During the development of indentation marks by using crayons, 20% of the sample could not be developed which may be a cause of; absence of writing material, contact of surface against any other surface and preservation procedure. When the samples were treated using by the lipsticks of different colours, it was observed that 42% of indentation marks were successfully developed while 36% marks were partially developed and in 22% of cases, writing substantial couldn’t be identified. All the developed samples were having clear and identical information about the individual mater or the cases in disputed. All the developed samples percentage are given below in table- 2.

<table>
<thead>
<tr>
<th>Developers/ Observations</th>
<th>FULLY DEVELOPED</th>
<th>PARTIALLY DEVELOPED</th>
<th>NOT DEVELOPED</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRAYONS</td>
<td>46%</td>
<td>34%</td>
<td>20%</td>
</tr>
<tr>
<td>LIPSTICK</td>
<td>42%</td>
<td>36%</td>
<td>22%</td>
</tr>
<tr>
<td>KAJAL</td>
<td>54%</td>
<td>32%</td>
<td>14%</td>
</tr>
</tbody>
</table>

During the process of development from the kajal which is most commonly used at house and easily available everywhere, it was observed that 54% cases were successfully developed while only 32% of cases were partially developed and 14% cases couldn’t be developed. The graphical representation of all the developed, partial developed and not developed prints are given below in Figure 1.
An Expansion of Indented Signatures Over the Credentials by the Employment of Domiciliary Commodity

The evidences which are need to be treated as soon as possible to prove their evidential values in any case. In this study, we focused on the use of conventional and easy carrying methods for the development of indentation substantial and the resultant were feasible. The percentile of the marks are given below in Figure 2.

![Graphical representation of all samples as per percentage](image)

**Figure 2** Percentage of all developed samples

Investigators often need to examine or verify the authenticity of a document that could be used as evidence in court or aid in an investigation. These evidences might be in front of the investigator and may not be observed but a small clue about the suspect play a vital role for nabbing them.

4. CONCLUSION

The aptitude to observe and to identify the propagate perception about the fraudulent documents is vital in the field of investigation, intelligence, although, it depends upon the adopted features that must be non-destructive. To assist the system’s and improve their...
capacities an awareness among relevant criminal justice and for forensic examiners of the benefits that an expert might provide to nab the culprit. The invisible marks present from the surface of the papers (indentation marks) are often substrate transfer below because of the applied impact over it. These marks provide the valuable information about the written material / impressions performed and the resultant are recovered by using ESDA and other available advanced techniques, but in lack of these techniques most of the cases are remain unsolved. Sometime, due to extent of time, most of the evidences are vanished. This ground work covers the purpose for examination of documents which may bear the invisible marks of handwriting and about the extraction and qualitative improvement and achieving the new processing parameters.

By effectuating the requirements for indentation marks development, this ground work can be used easily and in daily case work of forensic experts. This study covers a new concept of itself a new processing and carries a distinguish kind of knowledge of documents processing for examination.

REFERENCES


