

# Deciphering Old German Documents Using the Online German Script Tutorial

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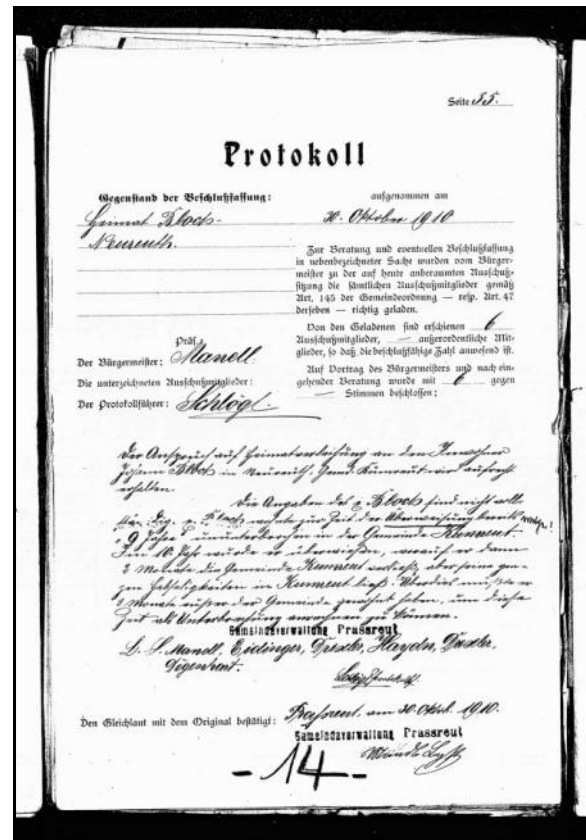
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## Abstract

The German Script Tutorial (<http://script.byu.edu/german>) is a new online resource for learning how to decipher documents written in old German script. The German Script Tutorial provides descriptions and actual examples of each German letter. Animations demonstrate how each letter is written. Tests assess users' ability to read and write letters, words, and passages. User accounts allow users to save their test scores and keep track of which letters they need to practice. The tutorial also provides basic guidelines on how to find vital (i.e., genealogical) information in old German documents.

## Introduction

One of the greatest difficulties in German genealogical research is deciphering old documents and manuscripts written in old German script. The term *old German script* refers to the handwriting and typefaces that were widely used in German-speaking countries from medieval times to the end of World War II. Although old German script was based on the Latin alphabet, as were old English, French, Italian, and Spanish scripts, individual letters of old German script may appear to the untrained eye as unique as letters of the Cyrillic or even Arabic alphabets. Since old German script has not been taught in German schools since the 1950's, even most native Germans are unable to read and write it nowadays. Thus, deciphering old German documents is problematic for



This is an old German emigration document consisting of printed and handwritten information. Both the handwriting and the printed *Fraktur* typeface are styles of old German script.

both native and non-native German speakers.

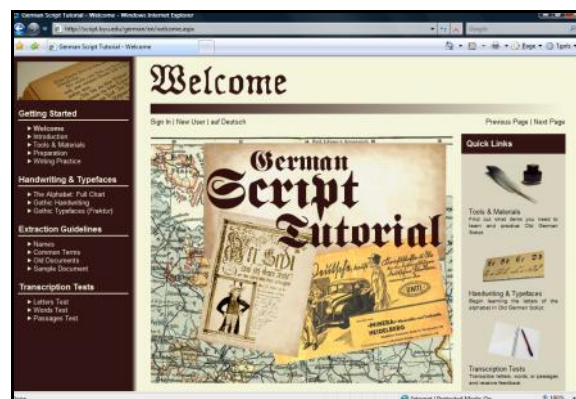
Many resources are available for researchers who wish to decipher old German documents. Primers, textbooks, and an increasing number of websites provide useful tools to help interested individuals learn to read old German handwriting and typefaces. Many of these books are expensive and hard to find, however. Websites that attempt to teach old German script may be easier to access, although most of these are limited in their scope. The purpose of this paper is to describe the *German Script Tutorial*, a groundbreaking new web resource for old German script that includes many important interactive features.

### The German Script Tutorial Website

The German Script Tutorial, found on the internet at <http://script.byu.edu/german>, was developed by the Center for Family History and Genealogy at Brigham Young University in collaboration with the Brigham Young University Humanities Technology and Research Support Center. The instructional content of the website was compiled and written by Dr. Raymond S. Wright, a professor of German family history and paleography; Bradley J. York, a graduate student in German linguistics; and Raquel Klammer, a graduate student in German literature. Much of the instructional content was based on materials previously written by Dr. Roger P. Minert, a professor of German family history, and Susan H. M. Anneveldt, a researcher for the German Immigrant Ancestors Project.



Homepage of the Script Tutorials: <http://script.byu.edu/>. This page is the gateway to the German Script Tutorial as well as the English, Dutch, Italian, French Spanish, and Portuguese Script Tutorials.



"Welcome" page of the German Script Tutorial: <http://script.byu.edu/german>.

The structure of the German Script Tutorial website, including the underlying programming and graphic design, was developed by Bradley York and other employees of the Center for

Family History and Genealogy. Individual web pages were written using current XHTML 1.1 standards. Several dynamic and interactive features of the website, which will be described in the following sections, were programmed using ASP.NET and JavaScript.

## Navigating the German Script Tutorial

The first page of the German Script Tutorial (entitled “Welcome”) is a portal for the website, providing basic information and links to the following pages: “Tools & Materials,” which



“Quick Links” window from the “Welcome” page.

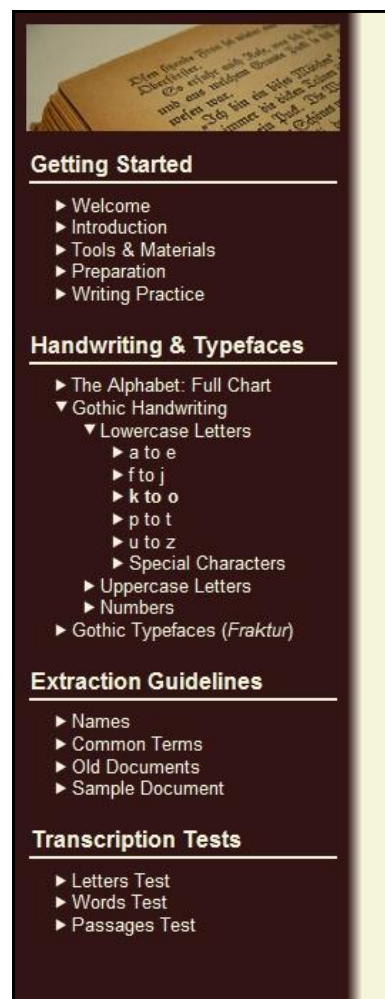
gives information about items needed to practice writing old German script; “Handwriting & Typefaces,” which shows a chart of all German characters; “Transcription Tests,” which are reading and writing exercises; and “IAP Website,” which is the homepage of the Immigrant Ancestors Project, the flagship genealogical project of the Center for Family History and Genealogy.

To the left of each page, beginning with the “Welcome” page, is a sidebar that allows the user to navigate back and forth through the Script Tutorial. The sidebar is divided into the following sections: “Getting Started,” “Handwriting & Typefaces,” “Extraction Guidelines,” and “Transcription Tests.” Links to each individual page are shown. Additionally, links to each previous page and next page are shown at the top and bottom of every individual page.

## “Getting Started” Pages

The purpose of the pages in the “Getting Started” section is to prepare the tutorial user to learn old German Script. An

gives information about items needed to practice writing old German script; “Handwriting & Typefaces,” which shows a chart of all German characters; “Transcription Tests,” which are reading and writing exercises; and “IAP Website,” which is the homepage of the Immigrant Ancestors Project, the flagship genealogical project of the Center for Family History and Genealogy.



Sidebar, shown at the left of every page.

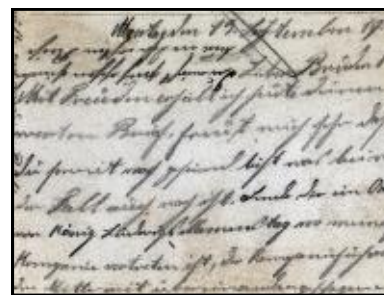
explanatory introduction, found on the “Introduction” page, distinguishes between the three types of script found in most old German documents: Latin text, Gothic typefaces (which are more commonly referred to by the German name *Fraktur*), and Gothic handwriting. Gothic handwriting is the most difficult script and is therefore the focus of the tutorial. The introduction further explains that the most effective way to learn to read this handwriting is to learn to write it.



Example of Latin text.



Example of German typefaces (*Fraktur*).



Example of Gothic (i.e. German) handwriting.

The next two pages of this section, “Tools & Materials” and “Preparation,” show the user what is needed to practice writing old German script. While the writing exercises of the Script Tutorial could be done using an ordinary pen or pencil, old-style calligraphy materials are highly recommended to give the user a feel for how original manuscripts were actually written. For instance, writing letters and words in a manner similar to the original German scribes shows the user, among other things, how ink may have been dispersed in the original strokes.

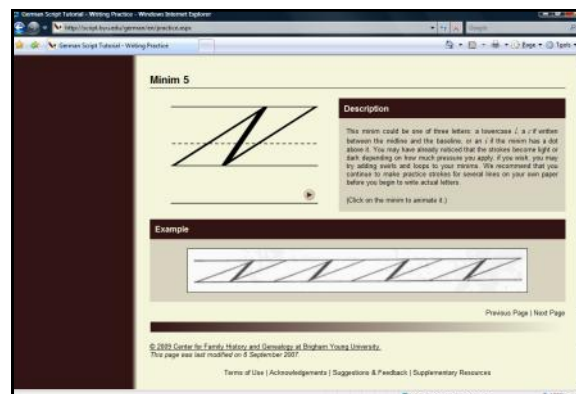


“Tools & Materials” page, which lists the materials needed to practice writing old German script.



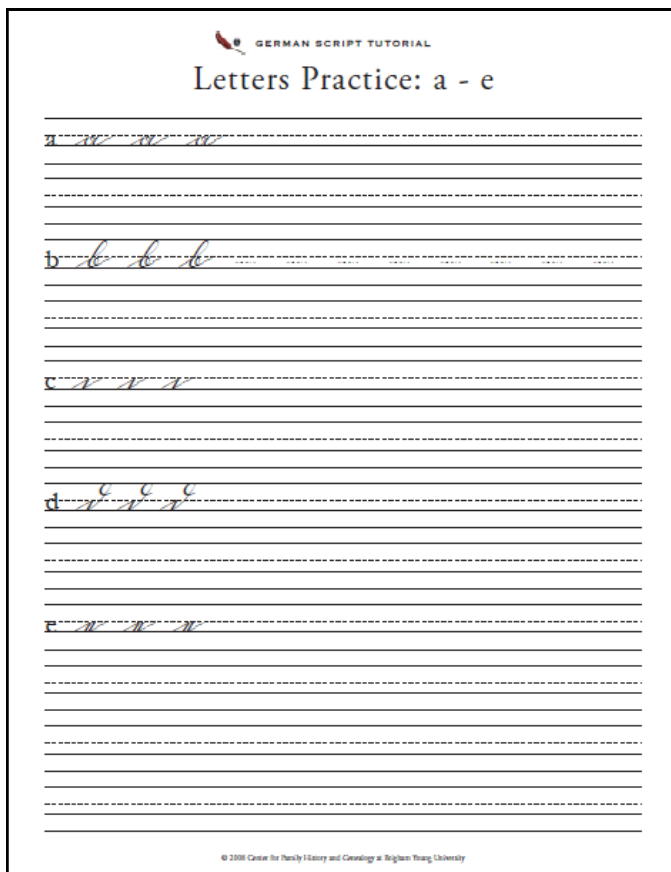
“Preparation” page, which describes how to use and maintain writing materials.

The “Tools & Materials” page suggests many materials that are useful for calligraphy, including nibs, India ink, and tracing paper. The “Preparation” page explains how to begin using these materials to make strokes. The last page of the “Getting Started” section, entitled “Writing



“Writing Practice” page, which demonstrates several practice strokes. Users are encouraged to familiarize themselves with the process of making simple strokes before learning to write letters and words.

Practice,” provides instructions for five simple practice strokes using nibs and India ink. These strokes, progressing from a single thin, upward stroke to three combined thin, thick, and thin strokes, are demonstrated in animations that are shown when clicked. Also on the “Writing Practice” page is a link to a blank practice sheet with lines that the user can download (as a PDF file) and print.



One of many practice sheets, which the user may download (as a PDF file), print out, and write on.

## “Handwriting & Typefaces” Pages

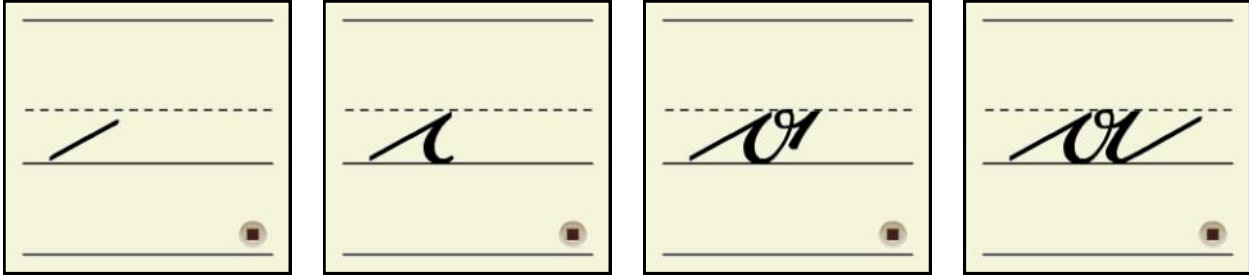
The pages in the “Handwriting & Typefaces” section build on the simple exercises of the “Writing Practice” page. The first page of this section, “The Alphabet: Full Chart,” shows the handwritten and *Fraktur* forms of all uppercase and lowercase letters of the German alphabet (including the special German characters *ä*, *ö*, *ü*, and *ß*) and the numbers 1 to 10. The pages that follow contain descriptions and examples of each German letter and number. The user can skip to the description and examples of any character on the chart by clicking on it.



Handwritten and *Fraktur* lowercase letters, as shown on “The Alphabet: Full Chart” page. Users may click on a letter to jump to an in-depth description with examples from actual documents.

Each page in the “Gothic Handwriting” section shows usually five or six German characters. Each page also includes a link to a PDF practice sheet that the user can download, print, and write on. Also shown with each character is an animated graphic of the character being written. While the animations show standard, “textbook” animations of each handwritten German character, the descriptions and examples do take variations into account. For example, some let-

When a user clicks on the handwritten lowercase *d*, for example, a new page is shown with an in-depth description, an animation, and three examples from actual documents. Note that these examples demonstrate variants of *d*.



Letter animation of German handwritten *a*.

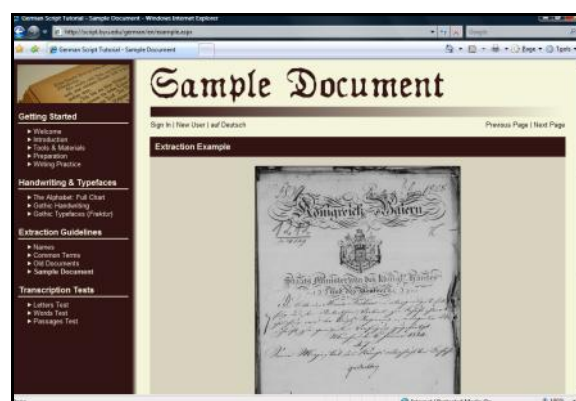
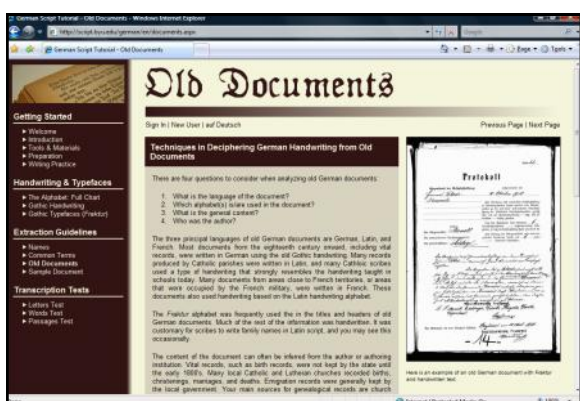
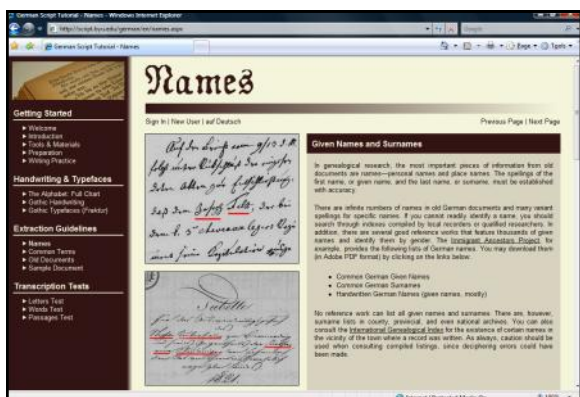
ters, such as the lowercase *d*, are not supposed to connect to any following letters, although actual examples by some German scribes, as shown in the in-depth description for *d*, demonstrate otherwise.

The “Gothic Typefaces (*Fraktur*)” pages also show about five or six German characters per page, although they do not include animations or practice sheets. *Fraktur* characters were not intended to be handwritten, but rather machine printed. Each *Fraktur* character on these pages also includes a written description and actual examples from old books or documents.

When a user clicks on the *Fraktur* lowercase *a* on the alphabet chart, a new page is shown with an in-depth description of this letter and two examples from actual books or documents.

## “Extraction Guidelines” Pages

Because the German Script Tutorial is intended for genealogical researchers, it also includes several pages of specific guidelines for genealogical extraction. Much of the information on these pages was adapted (with permission) from *Deciphering Handwriting in German Documents: Analyzing German, Latin, and French in Vital Records Written in Germany*, by Dr. Roger Minert. The “Names” page gives suggestions about how to identify given names, surnames, and place names. The “Common Terms” page gives suggestions about how to identify common and important words, including months, occupations, and other obscure terms that may be unfamiliar to non-native German speakers. “Old Documents” shows how many old German genealogical documents were organized, and gives suggestions about what items to look for. Finally, the “Sample Document” page shows an example of a German emigration record from the early nineteenth century.



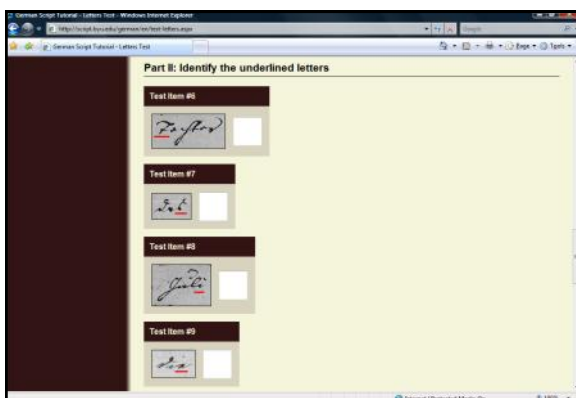
Screenshots of the four pages in the “Extraction Guidelines” section: “Names,” “Common Terms,” “Old Documents,” and “Sample Document.” These pages were included to aid genealogical researchers.



## Transcription Tests

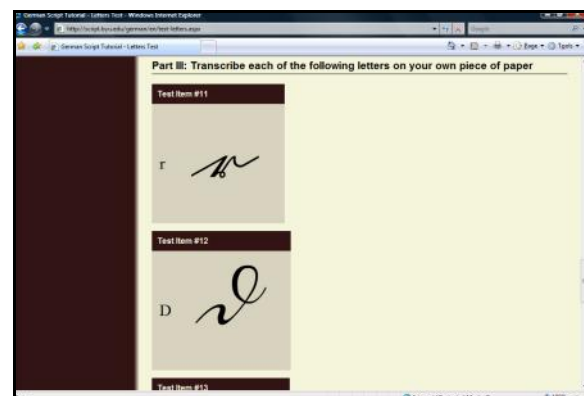
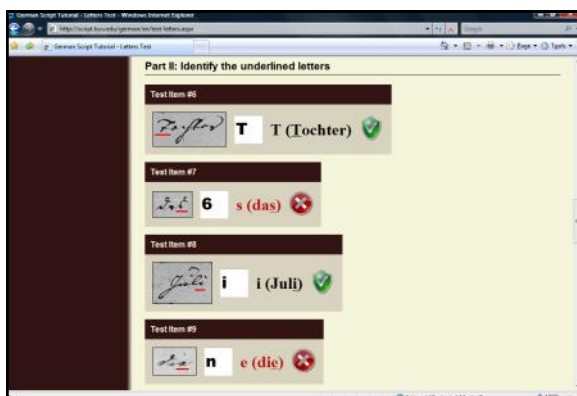
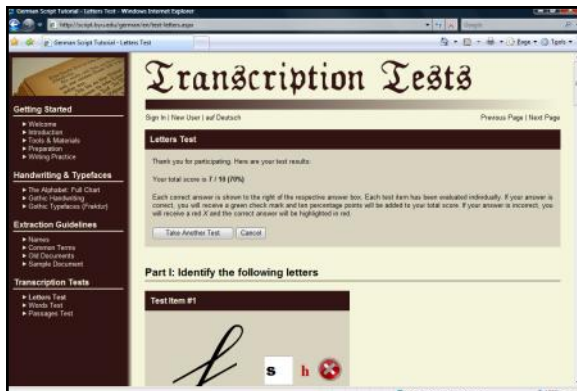
Among the most important and interactive features of the German Script Tutorial are the transcription tests, through which users can receive feedback on their ability to decipher old German script. The tutorial includes three types of transcription tests: Letters Tests, Words Tests, and Passages Tests. While each type of test includes reading and writing exercises, only the reading tests are assessed by the computer. As will be explained below, each test contains items from a test bank that are randomly selected. Therefore, each test is unique.

The Letters Test assesses a user's ability to read and write individual handwritten letters. The first five items of the Letters Test ask users to identify a handwritten letter, shown without either animation or lines. Users are instructed to type each letter in a nearby answer box. The next five items show a word taken from an actual document. Users are instructed here to identify the underlined letter by typing it in a nearby box. The last five items ask users to handwrite the letters shown in Latin text on their own piece of paper in old German script. As mentioned earlier, the website randomly generates each Letters Test from items in a test bank.



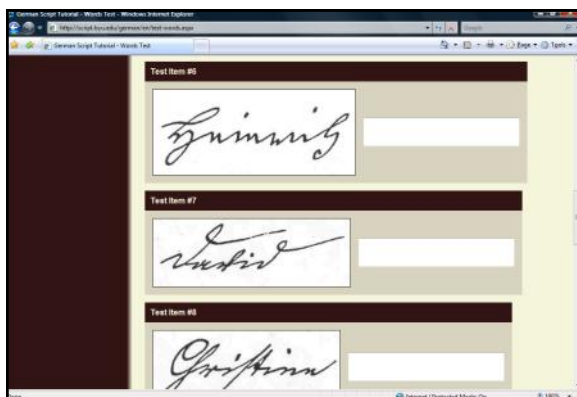
The Letters Test consists of three parts: Part I is identifying five individual letters while Part II is identifying five letters within a word. Part I shows clear, crisp letters rendered by the website. Part II uses examples from actual documents. For Part III, users are asked to write five letters on their own paper. It should be noted that special German characters (e.g., ä, ü, and ß) may be entered by clicking buttons on the screen or on a pop-up window, as shown in the upper left screenshot.

When a user clicks on the button labeled “View Answers,” the page is reloaded and the user’s test input is evaluated. Where the user judged a German script letter correctly, a green check appears. Where the user judged incorrectly, a red “X” appears and the correct letter is shown in red. The percentage of the total score is tallied and shown at the top. For the writing exercises, a graphic of each test correct letter is shown. Users are intended to compare each graphic with their own handwritten letters.



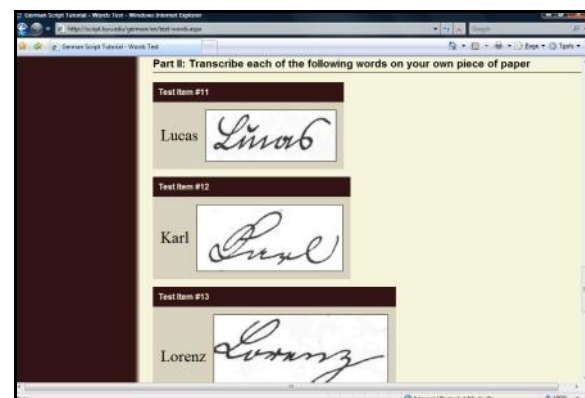
The user’s score is shown at the top of the page, both as a numerical tally (e.g., “7 /10”) and as a percentage (e.g., “70%”). Green check marks indicate correct answers; red “X”s indicate incorrect answers. For Part III, a graphic of each letter is shown.

Words Tests work similarly to Letters Tests. Again, each Words Test is randomly generated from items in a test bank. The first ten items show words (e.g., names, terms, etc.) in old German script. Users are asked to type the words in nearby answer boxes. It should be pointed out that the first five words are rendered by the computer, using an old German script font. The next five words are scanned from actual handwritten documents. The last five items of the Words Test are words shown in Latin text. Users are asked to handwrite these words in German script on their own paper.



The Words Test consists of two parts: Part I is identifying words, many of which in this test bank include given names. The first five words are clear script examples, rendered by the computer, while the last five are examples from actual documents. For Part II, users are asked to write the words on their own paper.

When a user clicks “View Answers,” the input from the first ten test items is evaluated. Again, where the user transcribed a word correctly, a green check is shown. Where the user was incorrect, a red “X” appears. This time, however, each word is parsed individually. In other words, each letter that was missing or incorrectly transcribed appears in red. If an extra letter was added in the user’s transcription (e.g. “Petter” for “Peter”), an asterisk appears (e.g., “Pe\*ter”).



Each word item in the Words Test is parsed individually. A word is considered correct only when every letter has been correctly identified.

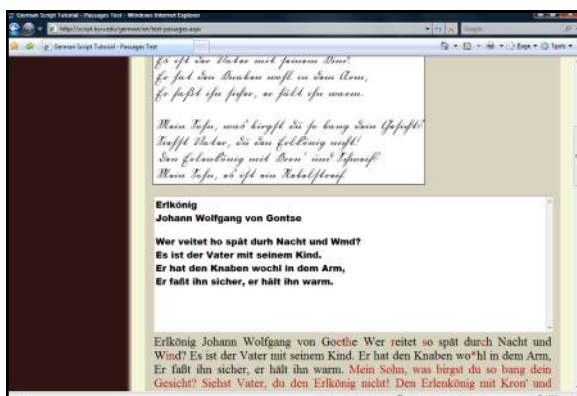
For the last five items, graphics of each word in old German script are shown to allow users to self-evaluate their own handwriting.

The Passages Test requires users to transcribe larger selections, usually the size of a paragraph or two. Paragraphs in the test bank include several entries from vital records that contain genealogical data; other test paragraphs include old German poetry and verses from a German translation of the Bible. Users are asked to transcribe two passages on the page by typing the answer in a box, and then handwrite one passage on paper.



The Passages Test is also made up of two parts: Part I consists of two brief passages that users must transcribe in answer boxes. Part II asks users to write one passage on their own paper.

When the Passages Test is scored, incorrect letters appear in red text. The overall percentage of correct letters is calculated and shown on the top of the page. A graphic of the third passage in old German script is shown to allow users to compare their handwriting.



Like the Words Test, the Passages Test parses each word individually. Red letters show which letters are missing or incorrect. Red asterisks show if any letters are extraneous.

## Additional Features of the German Script Tutorial

Another important feature of the German Script Tutorial is the ability to create user accounts. User accounts allow users to keep track of their progress in learning old German script. Users who have an account and are logged in to the website are able to save their five most recent Letters, Words, and Passages Test scores. This information is available on the “Test Results” page, which is visible only when a registered user is signed in. Additionally, the “Test Results” page lists which characters a user has identified incorrectly.

The screenshot shows the 'Test Results' page for a user named 'Fulano de Tal'. The page is displayed in a Windows Internet Explorer browser window. The main heading is 'Test Results' in a large, stylized font. Below the heading, there are links for 'Sign Out', 'New User', and 'auf Deutsch', followed by the message 'Fulano de Tal, you are signed in.' The user's name 'Fulano de Tal' is displayed below. A message states 'You may print a copy of this report for your own reference.' There are two tables of test scores: 'Scores: Letters Test' and 'Scores: Words Test'. The 'Letters Test' table shows five entries with dates and times, and scores of 0%, 20%, 0%, 20%, and 0%. The 'Words Test' table shows two entries with dates and times, and scores of 0% and 8.57%. To the right of the tables is a 'Feedback' section with the text 'Based on your test performance, you should review and practice the following letter(s):' followed by a video player showing the cursive letter 'a'.

Scores: Letters Test		
12/12/2008 1:51:23 PM		0%
12/12/2008 1:45:14 PM		20%
1/16/2008 9:44:49 AM		0%
12/14/2007 7:06:32 PM		20%
12/10/2007 3:10:12 PM		0%

Scores: Words Test		
12/12/2008 1:51:10 PM		0%
12/21/2007 4:42:21 PM		8.57%

When a user has an account and is signed in (as indicated by the “you are signed in” message at the top of the screen), the “Test Results” page displays the dates and scores of the user’s five previous Letters, Words, and Passages Tests. Additionally, the “Test Results” page displays the letters a user has most recently identified incorrectly, suggesting to the user which letters should be reviewed and practiced.

While user accounts are not required to use the German Script Tutorial, they are highly recommended. User accounts are free of charge and are created on the “New User” page.

Another feature of the German Script Tutorial is the “Supplementary Resources” page. This page is an extensive list of books and websites that offer further instruction and practice in old German script. These resources include Ernest Thode’s *German-English Genealogical Dictionary*, Dr. Minert’s *Deciphering Handwriting in German Documents: Analyzing German, Latin,*

and French in Vital Records Written in Germany, and an old Latin paleography web guide (<http://www.nationalarchives.gov.uk/palaeography/>), published by the National Archives of the United Kingdom.



The “Supplementary Resources” page lists print publications and websites that are useful for German genealogical research.

## Conclusion

The German Script Tutorial is one of the most advanced online tools available for learning to read and write old German script. This tutorial surpasses many other print and online materials because it is extensive, interactive, and freely available. It is hoped that individuals who use the tutorial will, as a result, find their German family history research easier, more effective, and more interesting.

## Acknowledgements

Special thanks go to several individuals who aided in the programming and design of the German Script Tutorial: Kimberly Gartner, who wrote much of the original source code; and Sean Juárez and Calvin Juárez, who helped design the user interface and created many of the images. I am also indebted to Seth Kohrman, whose suggestions inspired many features of this website.

## References

Minert, Roger P. *Deciphering Handwriting in German Documents: Analyzing German, Latin, and French in Vital Records Written in Germany*. Provo, Utah: GRT Publications, 2001.

*Schreiblesefibel für den Unterricht der Elementarklassen*. St. Louis, Missouri: Concordia Publishing House, 1881.

Thode, Ernest. *German-English Genealogical Dictionary*. Baltimore: Genealogical Publishing Co., Inc., 1992.

### **Contact Information**

If you have any questions or comments about the German Script Tutorial, please email the Center for Family History and Genealogy Script Tutorials Development Team at [script.iap@gmail.com](mailto:script.iap@gmail.com). To contact the author of this article directly, please send an email to [bradley.york@gmail.com](mailto:bradley.york@gmail.com).