

The difference between traditional braille embossing and digital braille printing embossing tactile ergonomics

Dr. Marwa Mohamed Kamal El Din Sayed

Lecturer at Faculty of Applied Arts, Benha University, Printing, Publishing and Advertising Department

marwa.kamal@fapa.bu.edu.eg

Abstract:

The preparation of printed material for the visually impaired presents a specialized field in the printing and graphics industry. Until recently, embossing was the leading technology for printing braille; however, in recent years, UV inkjet and digital printing have become more prevalent within the field. This research paper examines the difference in terms of ergonomics and usability between traditional braille embossing and digital printing embossing using inks and how the visually impaired can successfully use them, demonstrating which technology is more effective for this group. By using a specific set of parameters to make comparisons of the braille dots and cells in terms of height, diameter, and the distance between them. These parameters relate to the accessibility according to users' specific requirements, facilitating the reading, identification, and discrimination of the information (text, set of points, illustrations, etc.) for the visually impaired. The paper also addresses the theoretical and practical methodological content using the "design for all" general print products for both visually impaired and normal-sighted people. The author adopted the methods and steps in accordance with ISO standards to analyze the results obtained via the ergonomics-related questionnaire completed by a number of braille users of different ages, which related to the various impacts on their capability of reading texts and illustrations.

Keywords:

Digital Printing, Ergonomics, aesthetic design, normal embossing, braille system, braille tactile, visually impaired people, education, human factors.