

SUMMARY OF Ph.D. DISSERTATION

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Title <p style="text-align: center;">A Study on the Work Mistakes in the Process of Work Procedure Acquisition</p>		
Abstract <p>In manufacturing plants, it is required to supply products that are satisfied customer's demand timely. At the every moment when a manufacturing process is changed once in several months, workers need to train. In assembling tasks in case of business machines, most of assembly skills are easy to learn, and then it becomes a problem how to train work procedures that are changed so frequently.</p> <p>In this thesis, "position" and "sequence" is selected as basic elements of a work procedure, and the learning process of these two elements and work mistakes that occur in the after acquired period are studied. The objective of this thesis is to find guidelines to decrease work mistakes by designing the simple work consisted from two basic elements and analyzing work mistakes in the learning process.</p> <p>In chapter 1, the viewpoint of a learning process of a work procedure and work mistakes in this thesis is described and differences of scope between this thesis and previous researches are clarified. Position and sequence is selected as basic elements of a work procedure from an evaluation of real work situations. The overview of an experimental task to learn the two elements is described. The objective of this thesis is clarified.</p> <p>In chapter 2, the experimental task that is to memorize positions and sequences and designed for analyzing the learning process including work mistakes is explained.</p> <p>In chapter 3, work mistakes that occur in the experimental task are classified, the occurring type and the trend of those mistakes in the learning process is analyzed, and it is clarified that position mistakes are decreasing according to the repetition of work but sequence mistakes are not decreasing.</p> <p>In chapter 4, grouping methods for memorizing two elements in the learning process are interviewed, the relationship between the methods and work mistakes is analyzed, and it is clarified that work mistakes become less when learning is done by relating many work elements.</p> <p>In chapter 5, by separating learning process into the period until memorizing all elements with no references and the period just after, occurring types and trends of work mistakes in each period of the learning process are analyzed. And it is clarified that works under the weak confidence level are not affect learning and the occurrence ration and contents of the after learned mistakes are different by the confidence level.</p> <p>In chapter 6, the basic knowledge about work mistakes getting from analyses of chapter 3 through chapter 5 are summarized and guidelines to decrease work mistakes are presented by validating through experiments.</p> <p>In chapter 7, the summary of this thesis and consecutive research themes are described.</p>		