Quality and productivity have been identified as an important role in any organization, especially for manufacturing sectors to gain more profit that leads to success of a company. This paper reports a work improvement project in Kolej Kemahiran Tinggi MARA Kuantan. It involves problem identification in production of "Khufi" product and proposing an effective framework to improve the current situation effectively. Based on the observation and data collection on the work in progress (WIP) product, the major problem has been identified related to function of the product which is the parts can't assemble properly due to dimension of the product is out of specification. The six sigma has been used as a methodology to study and improve of the problems identified. Six Sigma is a highly statistical and data driven approach to solving complex business problems. It uses a methodical five phase approach define, measure, analysis, improve and control (DMAIC) to help understand the process and the variables that affect it so that can be optimized the processes. Finally, the root cause and solution for the production of "Khufi" problem has been identified and implemented then the result for this product was successfully followed the specification of fitting.