The aim of the project was to create an experimental environment for solving the children puzzle shape sorter . This environment serve as a testbed for various learning tasks of cognitive nature with image feedback. This puzzle is a demonstrator of the EU project COSPAL, IST-004176. The industrial robot CRS A-465 with six degrees of freedom and its control

system is used. The scene is observed by one static camera. The system processes the images from the camera and the further robot movement is based on the reinforcement learning.