This thesis deals with the knowledge engineering for Automated Planning. The concept of state variables has been recently used with benefits for representation of planning problems. In this thesis the same concept is used in a novel formalism for planning domain and problem modeling. A proof-of-concept knowledge modeling tool is developed based on the new formalism. This tool is then used for modeling of example classical planning domain to show its capabilities. The export to standard domain modeling language is also implemented in the tool in order to provide connection to existing planning systems.