	DEGREE OF CONSCIOUS INVOLVEMENT	SPEED OF TASK EXECUTION	AMOUNT OF EFFORT REQUIRED	TYPES OF ERROR	BIOPROCESS SITUATION WHERE AUTOMATION MAY HELP
KNOWLEDGE	NOVEL SITUATIONS PERFORMED COMPLETELY CONSCIOUSLY	SLOW	EFFORTFUL	• OVERLOAD DUE TO AMOUNT OF INFORMATION TO BE PROCESSED • LACK OF KNOWLEDGE • LACK OF AWARENESS	RIGHT FIRST TIME MANUFACTURE WHEN BIOPROCESSES ARE BEING TRANSFERRED INTO THE FACILITY
RULE				• ERRORS OF INTENTION IF AN INCORRECT DIAGNOSTIC IS APPLIED	
SKILL	ROUTINE TASK PERFORMED BY SOMEONE HIGHLY PRACTISED WITH NO CONSCIOUS MONITORING	FAST	EFFORTLESS	• SLIPS WHERE THE INTENTION IS CORRECT BUT FAILUREOCCURS PERFORMING THE TASK • ATTENTION DIVERTED BY DISTRACTIONS • UNFAMILIAR ACTIVITIES ARE EMBEDDED IN A FAMILAR CONTEXT	COMMERCIAL MANUFACTURE WHERE DEVIATIONS ARE BEING ATTRIBUTED TO 'HUMAN-ERROR'

The Skill, Rule & Knowledge Based Classification was developed by J. Rasmussen as a means of identifying the types of errors that are likely to occur when performing industrial tasks in different situations. SRK information processing refers to the level of conscious control exerted by the operator performing the task. The above diagram describes the three modes of operation, the types of error associated with each and situations within bioprocessing where automation may resolve these issues.

Reference: David Embrey, Human Reliability Associates, UK.

Parker

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