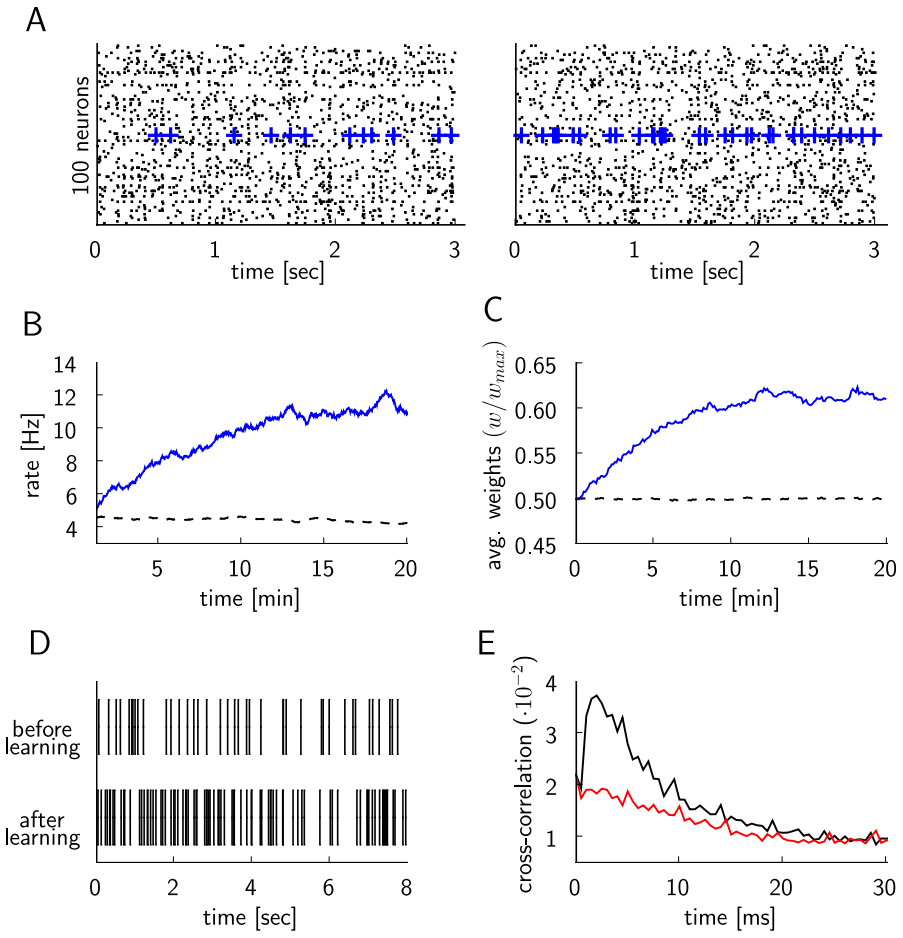

Figure S3: Variation of Fig. 3 from computer simulation 1 with results from a simulation where the weight-dependent version of STDP proposed in [23] was used. This STDP rule is defined by the following equations: $\Delta w_+ = \lambda w_0^{1-\mu} w^\mu e^{-|\Delta t|/\tau_+}$ and $\Delta w_- = \lambda \alpha w e^{-|\Delta t|/\tau_-}$. We used the parameters proposed in [23], i.e. $\mu = 0.4$, $\alpha = 0.11$, $\tau_+ = \tau_- = 20$ms, $\lambda = 0.1$ and $w_0 = 272.6$ pS. The w_0 parameter was calculated according to the formula: $w_0 = \frac{1}{2} w_{max} \alpha^{\frac{1}{1-\mu}}$ where w_{max} is the maximum synaptic weight of the synapse. The amplitude parameters A_r^+, A_r^- for the reward kernel were set to $A_r^+ = 1.104$ and $A_r^- = 0.221$. All other parameter values were the same as in computer simulation 1.