We consider in $Q = (0,1) \times (0,T)$ the following problem

$$u_t + a(t)uu_x + b(t)u_{xxx} = d(t)u,\ (x,t) \in Q, \quad (1.1$$

$$u\mid_{x=0} = u\mid_{x=1} = u\mid_{x=1} = 0,\ t > 0, \quad (1.2)$$

$$u(x,0) = u_0(x),\ x \in (0,1), \quad (1.3)$$

where $a(t)$, $b(t)$, $d(t)$ are smooth functions and $b(t)$ is strictly positive.

Using regularization of (1.1)-(1.3) by a sequence of corresponding mixed problems for the Kuramoto-Sivashinsky equations

$$u_{\epsilon t} + a(t)u_\epsilon u_{\epsilon x} + b(t)u_{\epsilon xxx} + \epsilon u_{\epsilon xxxx} = d(t)u_\epsilon,$$

where ϵ is a positive constant and passing to the limit as $\epsilon \to 0$, we prove the existence of a unique global regular solution to (1.1)-(1.3) as well as the exponential decay of solutions as $t \to \infty$.