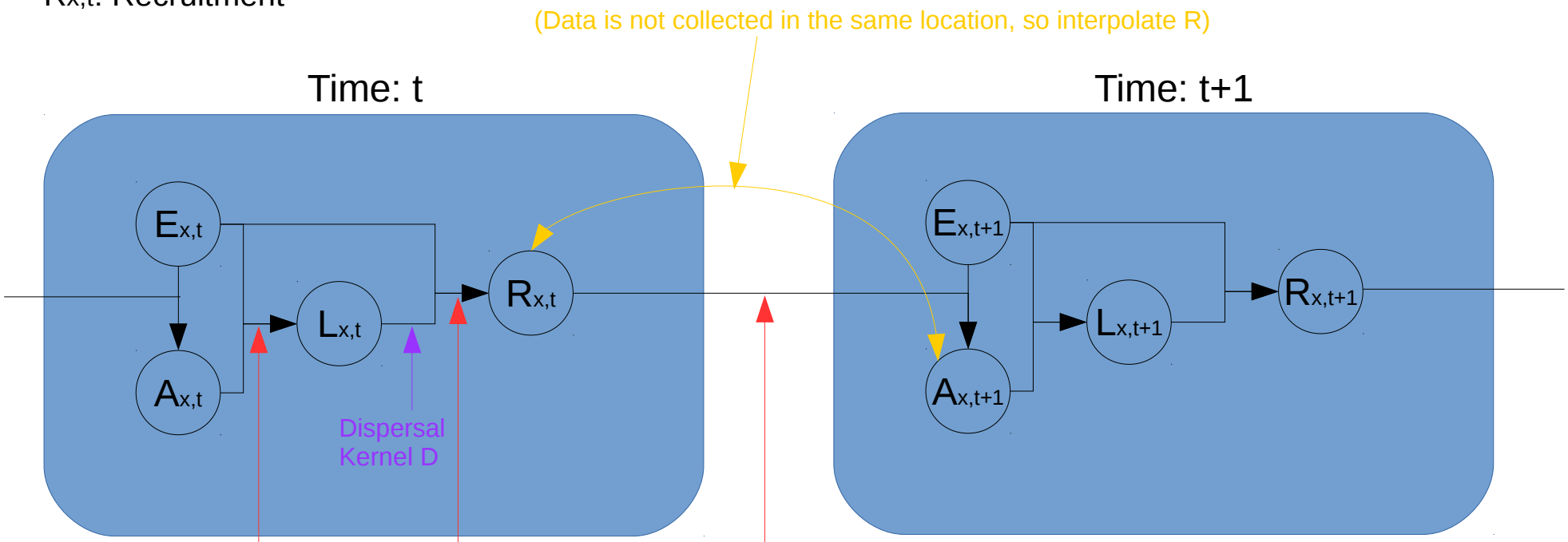
Goal: estimate mean and variance of Dispersal Kernel D.

site x, time t:

$E_{x,t}$: Environment
$A_{x,t}$: Adult Abundance
$L_{x,t}$: Larval Production
$R_{x,t}$: Recruitment



1. Larval Production
$L_{x,t}=f(A_{x,t},E_{x,t})=p_{x,t}A_{x,t}E_{x,t}$
(In reality, f is unimodal w.r.t E)

2. Recruitment
$R_{x,t}=k+\log(\text{Kernel})+\beta E_{x,t}+\varepsilon$
$\text{Kernel}=\Sigma_i L_{i,t}\exp(-(d_{x,i}-\mu)^2/\sigma^2)$

3. Adult Abundance
$A_{x,t+1}=h(R_{x,t},E_{x,t+1})=bR_{x,t}E_{x,t+1}$
(unsure about the form, may also include species interaction)