Choose k. a positive integer which is large but small compared to the sample sizes. Specify a metric in the sample space, for example ordinary Euclidean distance. Pool the two samples and find, of the k values in the pooled samples which are nearest to z, the number M which are X's. Let N = k-M be the number which are Y's. Proceed with the likelihood ratio discrimination, using however $\frac{M}{m}$ in place of f(z) and $\frac{N}{n}$ in place of g(z). That is, assign Z to F if and only if

$$\frac{M}{m} < c \frac{N}{n} .$$