$$y_i \sim N(\alpha_{j[i]} + \beta_{j[i]} b_i + \gamma_i^t t + \gamma_i^a a + \gamma_i^m m + \gamma_i^f f,\ \sigma_y^2)$$

$$\begin{pmatrix}\alpha_j \\ \beta_j\end{pmatrix} \sim N\left(\begin{pmatrix}\mu_\alpha \\ \mu_\beta\end{pmatrix}, \begin{pmatrix}\sigma_\alpha^2 & \rho\sigma_\alpha\sigma_\beta \\ \rho\sigma_\alpha\sigma_\beta & \sigma_\beta^2\end{pmatrix}\right)$$

i indexes the teachers
j indexes the classes (0, 1)

10 committee members
100 applicants
each application read by 3 people
ratings 1 to 10

$$y_i = \frac{1}{6}\sum_j \gamma_j s_{ij}$$

$$\gamma_j \sim N(1, \sigma^2)$$

i indexes applicants
j indexes raters

$$\gamma_j \sim N(1, \sigma_j^2)$$

$$\sigma_j = e^{s_j \beta}$$

data

applicant	rater	score
1	A	7
1	B	8
1	C	6
2	B	4
2	C	4
2	D	5
⋮	⋮	⋮