The diagram illustrates the probability density functions of different normal distributions with varying parameters. The distributions are represented as curves labeled with their respective parameters:

- Blue curve: \( \mu = 0.0, \sigma = 1.0, \nu = 1.0 \)
- Orange curve: \( \mu = 0.0, \sigma = 1.0, \nu = 5.0 \)
- Green curve: \( \mu = -2.0, \sigma = 1.0, \nu = 5.0 \)
- Red curve: \( \mu = -2.0, \sigma = 2.0, \nu = 5.0 \)

The x-axis represents the variable \( X \) and the y-axis represents the probability density \( f(X) \). The curves show how the distributions are shifted and scaled with changes in \( \mu \) and \( \sigma \) while \( \nu \) affects the tail behavior.