

If we knew topic assignments...

Pooh rubbed his nose again, and said that he hadn't thought of that. And then he brightened again, and said that, if it were raining already, the Heffalump would be looking at the sky wondering if it would clear up, and so he wouldn't see the Very Deep Pit until he was half-way down...

We would just count:

$$p(w = sky|t) = \frac{n_{wt}}{\sum_w n_{wt}} = \frac{1}{4}$$

$$p(t = t|d) = \frac{n_{td}}{\sum_t n_{td}} = \frac{4}{54}$$