$$\textit{head-fragment-ph} \Rightarrow \begin{bmatrix} \text{context} \mid \text{sal-utt} \left\{ \begin{bmatrix} \text{head} \ \overline{\textbf{H}_1} \\ \text{major} + \end{bmatrix}, \dots, \begin{bmatrix} \text{head} \ \overline{\textbf{H}_n} \\ \text{major} + \end{bmatrix} \right\} \\ \text{category} \mid \text{head} \mid \text{cluster} \left\langle \begin{bmatrix} \text{head} \ \overline{\textbf{H}_1} \end{bmatrix}, \dots, \begin{bmatrix} \text{head} \ \overline{\textbf{H}_n} \end{bmatrix} \right\rangle \end{bmatrix}$$