Abstract: Recent studies (e.g., Graesser et al., 2011; McNamara, 2013) have used Coh-Metrix, an automated text analyzer, to assess differences in language use across different academic disciplines. McNamara (2013) reported that texts in the natural sciences were characterized by lower narrativity and word concreteness than texts in the language arts, while being higher in syntactic simplicity and referential cohesion and suggested that this pattern reflected a kind of compensation where text difficulty on one dimension (e.g., concreteness) was compensated for simplifying text difficulty on another dimension (e.g., syntax). In the present study we provide a test of this idea by analyzing language use across humanities and natural science lectures. Results are consistent with the idea that decreases in word concreteness in lectures are compensated for by increases in narrativity, syntactic simplicity and deep cohesion. Discussion focuses on the potential mechanisms underlying this putative compensation behavior and its implications for instruction.