

In this study, we found it helpful to classify talk by means of nine interpretive repertoires—we use "discursive resources" synonymously—on which students drew in order to support their claims. We labeled these repertoires intuitive, religious, rational, empiricist, historical, perceptual, representational, authoritative, and cultural. Consistent with our analytic framework, these interpretive repertoires have to be understood as heuristic dimensions rather than descriptions of an independent reality. Each of these repertoires is described and illustrated; in their totality, they allowed us to classify the entire data base. The descriptions, which present interpretive repertoires in isolation, are followed by a section which illustrates the co-existence and interaction of several repertoires within the context of student writing or talk.

Intuitive. The intuitive repertoire invokes innate or instinctive knowledge, common sense, personal or shared experiences. Students frequently drew on an intuitive repertoire to support statements about nature, knowledge, and the reality of scientific laws. Thus Tony, in the following excerpt, argues that "it is obvious" that scientific laws exist in nature (2) and that "of course" there was gravity before Newton (4), and questioned how one could propose otherwise (1)?.

1 How could one propose that Newton's laws of motion did not exist before he discovered them? 2 It is obvious that these laws exist in nature, and scientists discover them. 3 In retort to this question, one could ask, "Was there no gravity on earth before Newton clearly defined it?" 4 Of course there was. (Tony 5Q.920123)

Awareness of instinctive knowledge is indicated by statements such as "I feel that" or "our experiences," but it may be that individuals remain unaware of such knowledge. For example, Rex claimed that "everyone is aware" of the laws of physics but not necessarily "consciously aware."