Using Clustering to Identify Intellectually Similar Groups of Students JOHN STEWART, MAYO MILLER, University of Arkansas — Research on context sensitivity suggests that many students are left in a mixed state of knowledge after an introductory science class. Some students will answer contextually related questions in the same way and some will answer differently based on the context of the question. Seven contextually-related questions were given to two semesters of introductory classes at the University of Arkansas. The k-means clustering algorithm is used to extract statistically similar subgroups of students. The requirements of the underlying population of students for successful clustering are investigated. The effect on clustering of the highly discrete nature of context-sensitivity data is also investigated.

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