

Codes of Students' Ideas in the Essays

Domains	Code Summaries: What does that domain involves?
Uni-structural	- The student makes a point by directly quoting from academic materials and/or provided readings.
Multi-structural	- The student makes a point by combining information obtained from different materials, but abstract concepts that link materials together are not involved yet.
Relational	- The students make a point by pointing out connections between abstract concepts and information obtained from materials, but all of the concepts originate from the same domain.
Extended Abstract	- The students make a point by not only pointing out connections between abstract concepts, but actually borrow concepts outside the current domains (e.g., citing psychology or sociology concepts in writing an essay for education) to link materials together.

*This instrument is based on the SOLO Taxonomy (Biggs & Collis, 1982). The current study uses 'idea' as the unit of analysis (Henri, 1992). An idea is a shortest string of words that has a meaning on its own. Frequency count will be then use to count how many times each type of idea is given in an essay.

Reference

Biggs, J. B., & Collis, K. F. (1982). *Evaluating the quality of learning*. New York.

Henri, F. (1992). *Computer conferencing and content analysis*. In A.R. Kaye (Ed.), *Collaborative learning through computer conferencing* (pp. 117–136). The Najadan Papers, Springer-Verlag, London.