

## **ATTACHMENT A**

### **Overview of IPEDS Graduation Rate National Peer Group Methodology**

#### **Purpose**

The purpose of this analysis was to provide contextual information to assist in the interpretation of IPEDS graduation rates that are disclosed for Student Right-to-Know. Previously, the Minnesota State system selected peer groups for graduation rate comparisons using degree of urbanization and the percentage of awards in high cost program areas. This high cost variable was used as a proxy measure for program mix. This method was refined in 2006 using data mining techniques. The study analyzed national IPEDS data and developed models to predict graduation rates based on institutional and student characteristics at the institution level. Data mining produced peer groups with a stronger relationship between actual and predicted rates than the previous method.

#### **Method**

Data mining is an explorative inductive process that begins with observations and patterns that lead to a tentative hypothesis, and potentially to a theory. Here the researcher does not have a preconceived hypothesis of which variables might be significant, but rather looks for patterns in the data. It is a “process of discovering hidden messages, patterns and knowledge within large amounts of data and making predictions for outcomes or behaviors” (Luan, p. 17).

The population for this study was 1,421 public two-year-and-less colleges responding to the IPEDS Graduation Rate Survey (GRS) in 2003. The analysis used IPEDS data from Institutional Characteristics, Enrollment, Completions, Faculty Salaries, Fall Staff, Employees by Assigned Position, Finance, and Student Financial Aid surveys. Clementine data mining software was used to conduct the analysis. The software examined all IPEDS variables and classified colleges into peer groups with similar graduation rates.

#### **Findings**

Over 1,000 IPEDS variables were examined as possible predictors of graduation rates. Predictor variables identified for the two-year-and-less sector came from the Enrollment, Institutional Characteristics, and Graduation Rate surveys. Predictors differed not just by sector, but also among peer groups within a sector. Most of the predictors were related to the type of students in the student body or various categories of size. Each institution was placed into a peer group based on values of the predictors. The weighted graduation rate for the peer group is the national average graduation rate for similar colleges shown on the sample Student Right-to-Know disclosure form.

Minnesota State system two-year colleges fall into seven peer groups. Predictor variables for these peer groups include (1) highest degree offered, (2) enrollment of women age 18-19, (3) enrollment of women age 20-21, (4) number of GRS completers, and (5) GRS cohort size

Luan, J. (2002). Data mining and its applications in higher education. *New Directions for Institutional Research*, 113, 17-36.