The Relationship Between Student Engagement and Outcomes for Online MSN Students

Patricia A. Riccio, Ph.D., MSN, BSN, RN
Joanne Farley Serembus, Ed.D., RN,CCRN (Alum), CNE

Drexel University, Philadelphia, Pennsylvania 19102 USA

Purpose of the Study
This study examined the relationship between student engagement and student outcomes for online MSN students.

Conceptual Framework*

Procedure
- Each online MSN student who had completed a Research Methods & Biostatistics course or a Health Policy & Politics course during the 2016-17 academic year (n=360) was selected by an honest broker from files stored in Blackboard Learn using Course Analytics;
- Abstracted data were managed and organized by an honest broker at the University who removed all identifiers from student files located in Course Analytics and then sent the files, along with demographic information for each student, to the nurse researchers.

Sample Characteristics (n=360)

<table>
<thead>
<tr>
<th>Variable</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRADE</td>
<td>360</td>
<td>0.91019</td>
<td>0.05962</td>
<td>0.91500</td>
<td>0.37200</td>
<td>0.99500</td>
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<tr>
<td>GPA</td>
<td>360</td>
<td>3.50157</td>
<td>0.31002</td>
<td>3.55000</td>
<td>2.45000</td>
<td>4.00000</td>
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<tr>
<td>AGE</td>
<td>360</td>
<td>32.48056</td>
<td>7.25882</td>
<td>30.00000</td>
<td>23.00000</td>
<td>69.00000</td>
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<tr>
<td>ACCESS</td>
<td>360</td>
<td>97.52778</td>
<td>44.18150</td>
<td>89.50000</td>
<td>22.00000</td>
<td>256.00000</td>
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<tr>
<td>MINUTES</td>
<td>360</td>
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<td>1911</td>
<td>2652</td>
<td>313.23100</td>
<td>14903</td>
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<td>INTERACTIONS</td>
<td>360</td>
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<td>402.22482</td>
<td>733.00000</td>
<td>189.00000</td>
<td>2736</td>
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<td>SUBMISSIONS</td>
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<td>8.37381</td>
<td>21.00000</td>
<td>9.00000</td>
<td>57.00000</td>
</tr>
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</table>

Table 1 reveals that the average grade was a B plus (based on the grading rubric for College of Nursing) at Drexel University (mean: 0.910; SD: 0.060), and overall the grades ranged from 0.372 to 0.995. The age of the students tended to be over 30 with a mean age of 32.5. Entry level GPA was 3.5, access was 97.5 minutes was 3120, interactions was 817.3, and submissions was 22.6.

Results

Descriptive statistics were performed for all the predictor variables of interest and the outcome variable, grade. The descriptive analyses included means, standard deviations, and histograms for continuous variables of interest and contingency tables with proportions for categorical data. The primary method of analysis for outcome predictions was Pearson or Spearman correlations and linear regression to assess the impact of various factors such as GPA, age, access, minutes, interactions, and submissions on grades. The significance level was set at alpha = 0.05. All analyses were performed using the SAS version 9.4 (Cary, 2013) software package.

Further study needs to be done on larger samples to determine if in fact Astin’s model is verified in that entry GPA does determine student grades. While mildly associated in this sample, more work should be done to see if this continues to hold up.

On other point, if in fact grades do have a relationship between age, access and minutes in a more intensive way as found in this study, more work needs to be done for verification. One interesting fact from this study was older students tended to have lower grades.

While grades do appear to be related to interactions and submissions, more work needs to be done to determine whether those classes which vary in numbers of assignments still come out with the same results of having an association with interactions and submissions.

SUMMARY

- Data were analyzed using descriptive statistics for: the Input variables of entry level GPA, and Major selected upon entry into the program (selectivity); the Engagement variables of number of times students accessed the course, Minutes spent within the course, Interactions with fellow students in the course and number of Submissions made within the course; and the Output variable of Grade.

- Significant relationships were found between grade and the following variables: GPA, age, access, minutes, interactions, and submissions on grades. The significance level was set at alpha = 0.05. All analyses were performed using the SAS version 9.4 (Cary, 2013) software package.

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