

MEMO

To: CIEP Director Carolina Coronado, CIEP Academic Coordinator Mike Williams, & OIP Interim Director Philip Plourde

From: Lauren Rein, Academic Support Specialist

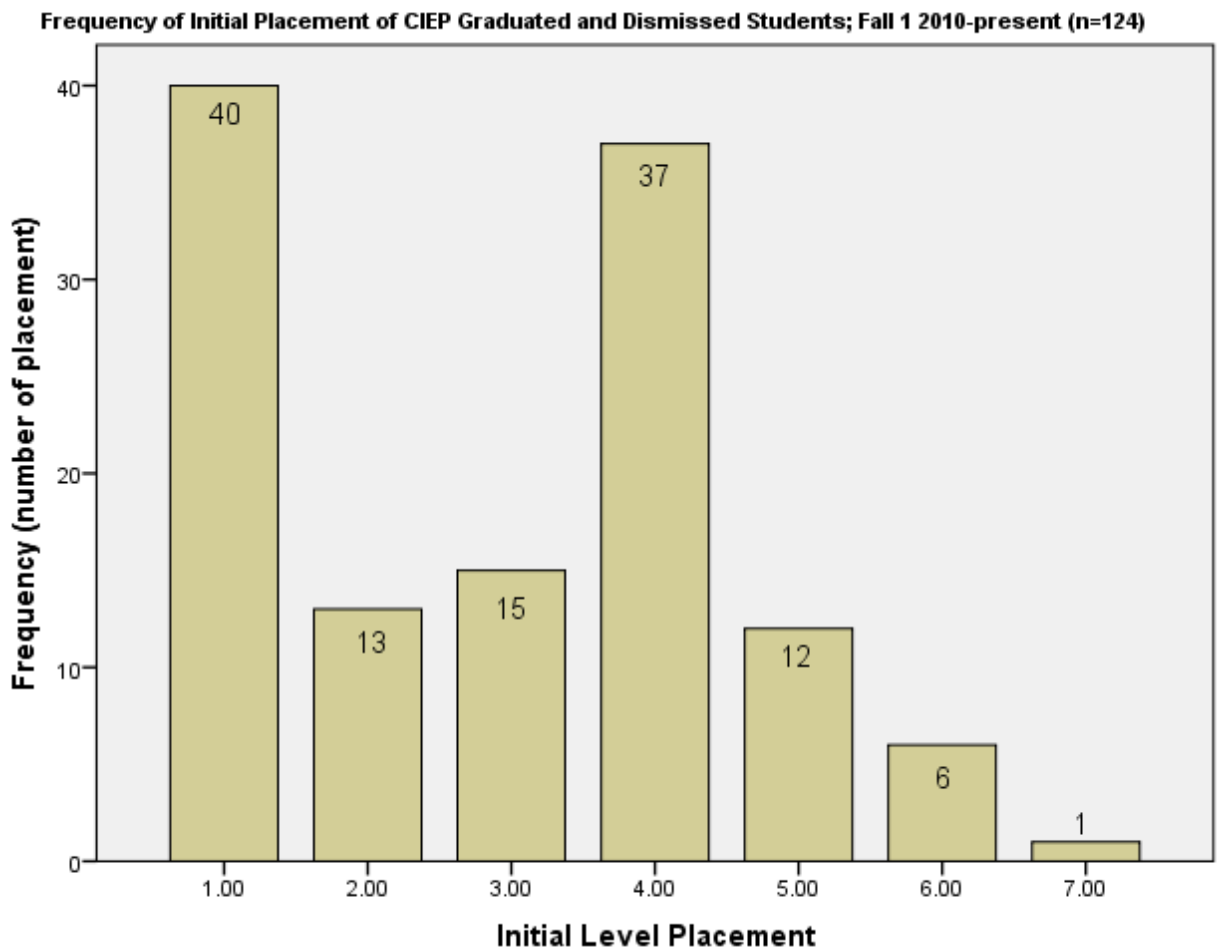
Date: October 20, 2014

Statistical Analysis of Graduate and Dismissal Rates in CIEP

Method: Data from 124 graduated and dismissed students from CIEP who started from Fall 1 2010 to present and graduated through the Summer 2014 term were entered into a spreadsheet. An initial mean level placement was reached by averaging the Listening/Speaking, Reading, and Writing placements. The variable for graduating and dismissal was coded. The spreadsheet was then uploaded to SPSS for statistical analysis. All identifying data (names and student ID numbers) were removed.

Because some level placement is between levels (for example, R3, W4, LS3), the mean initial placements are not always whole numbers (for example, 3.33).

Table 1. *Initial Placement Frequency.*

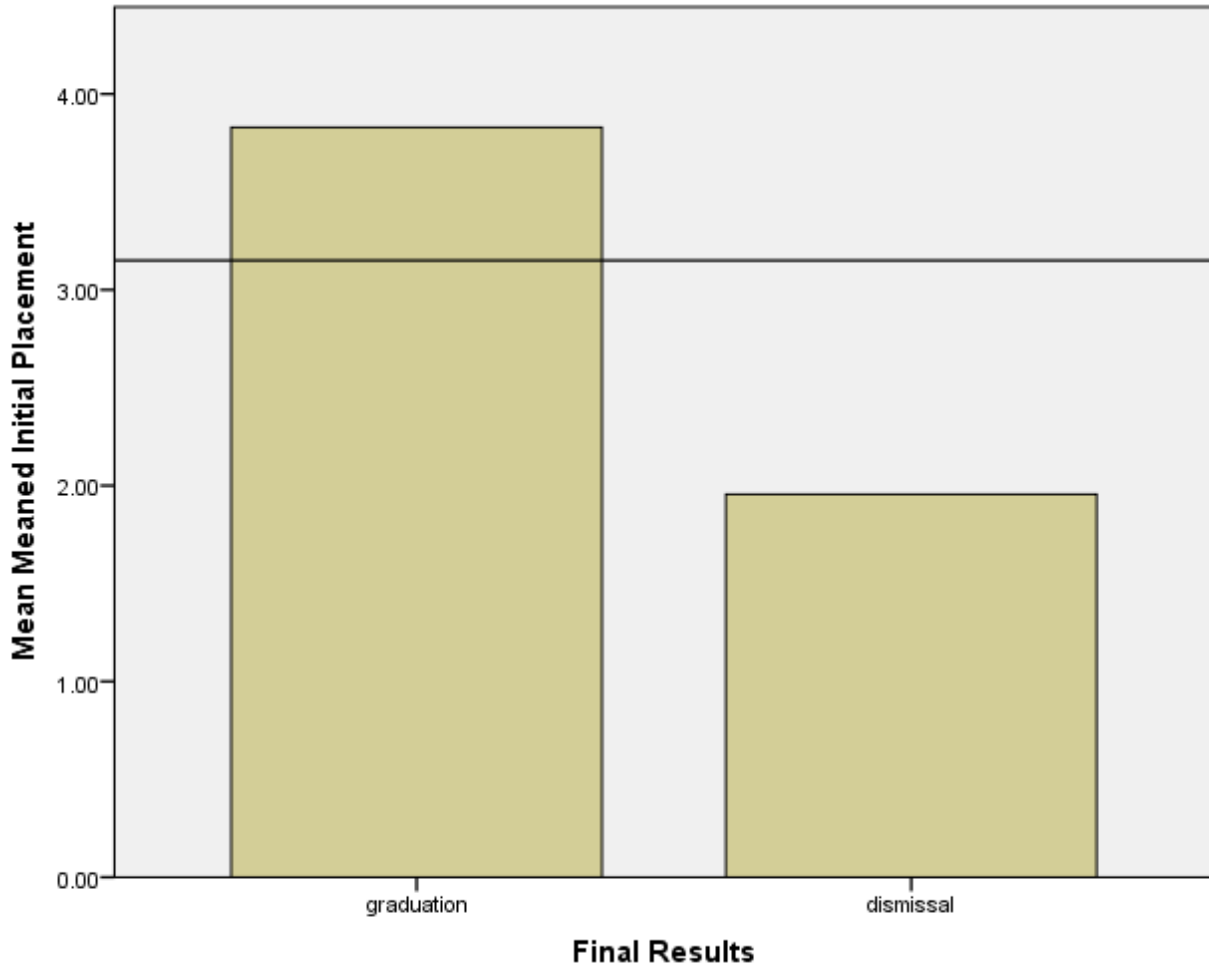


Description: The frequency of initial placement by level is shown above for graduated and dismissed

students only. To find this data, all mean level placement was turned into whole numbers (e.g. 2, 2.33 and 2.67 is all level 2).

Discussion: The two highest levels are levels 1(bridge) and 4. The higher levels in 4 may be due to placement of Kansai Gaidai students.

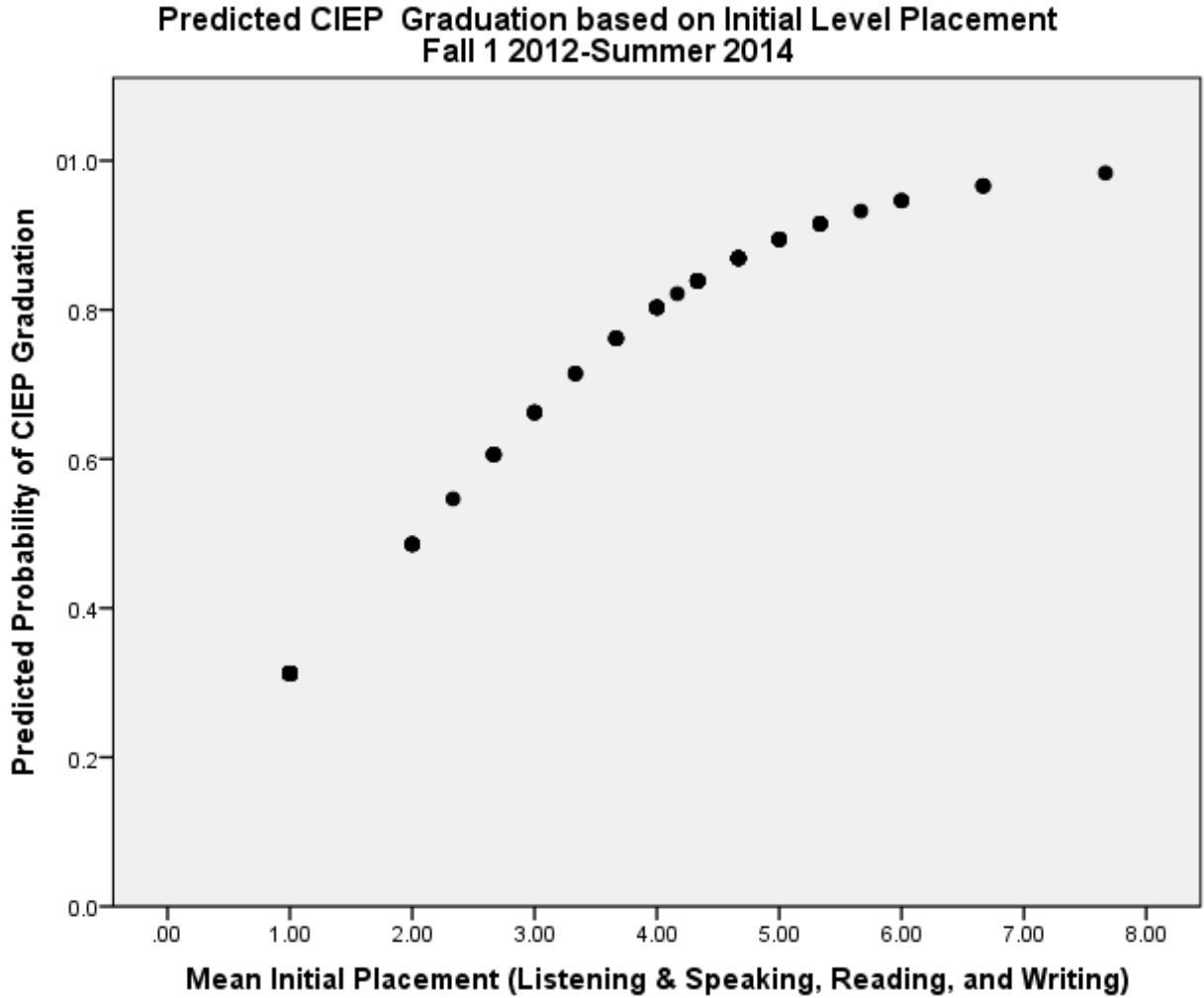
Table 2. Mean level placement and success.



Description: The mean level placement for both graduated and dismissed students was averaged together. The results were put into a bar graph.

Discussion: The average of placement for graduated students show higher placement in approximately level 4. Students who were dismissed averaged placement around level 2, which is two levels lower. Mean level placement of both groups shows that graduation is more likely with those students placed around level 4.

Table 3. Predicted probability of successful completion based on initial placement.



Numerical Probability at Each Initial Placement Level

Level	1	2.00-2.67	3.00-3.67	4.00-4.67	5.00-5.67	6.00-6.67	7.00-8.00 (out)
Probability of Graduation	31%	49%-61%	66%-76%	80%-87%	89%-93%	94%-97%	98%

**Initial placement are an average of Listening & Speaking, Writing, and Reading placement, so they will not always be whole numbers. For example, an initial placement of LS4, R4, and W3 will yield a mean initial placement of 3.67. Only level 1 (bridge) is a whole number since students are placed all bridge if they score bridge in one placement.*

Description: Using mean level placement and graduation or dismissal variables, a binary logistical regression was calculated to predict the probability that students placed at each mean level would graduate out of CIEP. These probability results and mean level placement data were then graphed on the scatter plot above.

Discussion: The graph shows a very clear pattern of success or failure at each level. Students placed in bridge (level 1) only have 31% probability of graduating the program, meaning a 69% probability of CIEP dismissal. Note the analysis does not indicate how long they take to graduate or if CIEP is completed in the scheduled 14 months from bridge to level 7.

The lack of success of bridge-level students has been attributed to 1) the inadequate time length of bridge and 2) the academic unpreparedness of the students. For the first suggestion, it had been recommended that the term length of the bridge level be extended to two CIEP terms, or 1 semester. Having more preparation at the bridge level might also decrease the gaps in predicted graduation probability between bridge and level 2. For the second suggestion, more stringent screening of students from the admissions office may be needed.

The largest jump of probability is between levels 1 (bridge) and 2, where students have 49-61% probability of graduation if placed in level 2, a difference in probability over 20% between the two levels. This wide range of probability of graduation within level 2 also indicates lack of academic preparedness at level 2 as well.

A steep incline of probability towards successful graduation continues to around level 4, where there is an 80% predicted probability of graduating if placed in this level. This is also supported by data in Table 1, which indicates mean level placement of graduated students is at least level 4. The steady arch into this level shows dramatic increases in probability of graduation through levels 2, 3, and 4. A mean placement of level 3 was 66-76% probability (average 71%). The difference between level 1 with 31% probability and level 3, at average 71% probability has an increase of 40% likelihood of successful graduation, even though there are only 2 levels apart. This is increasing evidence that the failure of initial bridge level students to graduate the program is due to the lack of academic readiness of students that come in at the lowest level.

Probability of graduation if placed in level 4 is 80-87% (average 84%). After level 4, the probability curve it starts to even out and plateau as it continues to levels 7 and 8 (out). Students placed in mean level 5 were 90% probable, level 6 were 95% probable, and level 7 98% probable to graduate. The closeness of these probability numbers clustered at the higher levels demonstrate an increasing probability to successfully complete the CIEP based on higher levels of initial level placement. Also, the range of probable graduation within initial level placement of a higher level (5-out) is significantly reduced when compared to an initial placement at lower levels (2-4). This indicated highest success rates for graduation of students placed in this higher level.

Recommendations: This statistical analysis should be preformed every year.

After-note: Significant help in using the SPSS program and running statistical analysis came from Mark Jacobson in the Mathematics department.