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**A Comparative Analysis of Academic Performance of First-Year Students
in FYE Courses and Non-FYE Courses**

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Background Information on FYE Classes at Western Illinois University

Student Outcome Goals for the FYE Program

Through participation in the First Year Experience, students will:

1. Become actively engaged with the campus community
2. Develop relationships with peers, faculty and staff members
3. Demonstrate high levels of academic performance
4. Develop appropriate study and time management skills

FYE Courses

Courses selected to be offered in the FYE format must:

1. be offered for a minimum of 3 semester hours per course
2. be lower division courses generally taken by first year freshman (primarily those offered for General Education, as well as a limited number of introductory courses in the major)

When offered in the FYE format, class enrollments must:

1. be limited to freshmen only
2. be limited to 25 students per section

When courses are offered in the FYE format, they will be characterized by:

1. including at least 3 co-curricular (out-of-the-classroom) events which will be related meaningfully to the course content (and graded material such as exams, papers, etc., if possible)
 - a. one or more may be library assignments
 - b. they may include University Theme related events
2. incorporating writing assignments (with opportunity for revision) representing a minimum of 25% of the graded material in the course
3. encouraging opportunities for critical thinking and speaking experiences
4. having a student 'peer mentor' who will assist the instructor with out-of-class assignments, discussion sessions, etc.
5. including an assessment component to evaluate the impact of the FYE program on the first year

Research Questions

What is the impact of FYE courses on students' academic performance?

- a. Did freshmen students in FYE sections of courses make different grades than freshmen students in the non-FYE versions of the same courses between 2005-2009?
- b. Did freshmen students in the FYE sections of courses offered between 2005-2009 make different grades than freshmen students in those same set of courses offered between 2002-2005, prior to the beginning of the FYE course offerings?

Analyses and Results

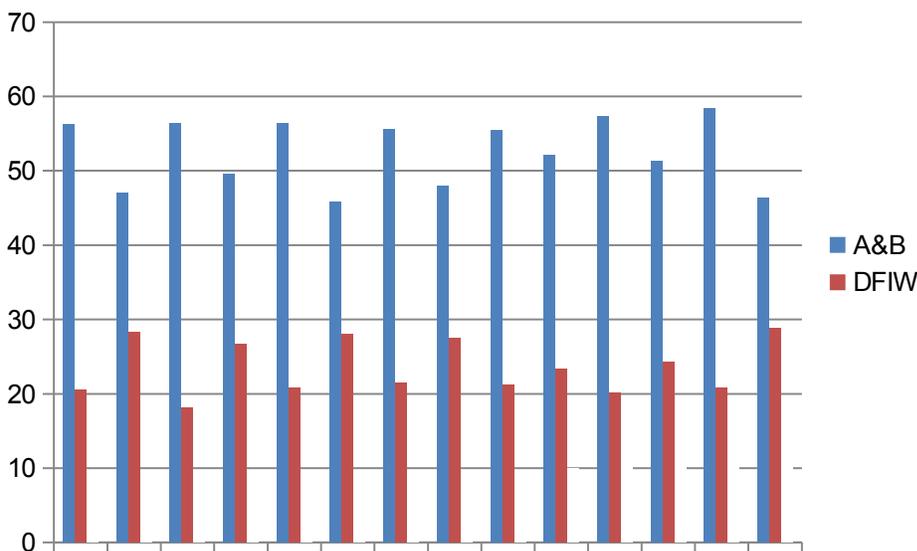
To compare the academic performance of first year students in FYE courses and non-FYE courses, we selected all freshman grades from courses at Western Illinois University that have sections serving the FYE program. This selection yielded 14,360 grades from FYE sections and 29,416 grades from non-FYE sections. (In non-FYE courses that enrolled students beyond first year status, only the grades from first-year students were included in this analysis.) These grades were collected over the nine-semester period beginning with the inception of our FYE program in Fall 2005 and running through the most recent semester, Fall 2009.

Comparison of FYE to non FYE grades

Final course grades of students in the FYE sections were compared to first year students in the non-FYE sections of the same courses. Grades for students were collected for each semester since the inception of our FYE program in Fall 2005 thru Fall 2009. Two indices were examined to compare performance in FYE and non-FYE sections. First, the percentage of students who performed strongly, defined as earning an A or a B, was calculated. Next, the number of students who did not succeed academically was calculated, using the common DFIW index (including grades of D and F, as well as students who withdrew or took an incomplete for the class).

As can be seen in Figure 1, for each of the seven semesters in which the FYE program was in place, the percentages of A&B grades was higher and the percentage of DFIW grades was lower, for students in FYE sections than for freshmen in non-FYE sections. A chi-square for goodness-of-fit between the observed frequencies and those anticipated given the percentage breakdown of non-FYE student grades showed a statistically significant difference ($\chi^2(6)=648.24, p<.01$). This suggests that, given the distribution of scores in the non-FYE section, it is unlikely the differences observed between FYE and non-FYE sections occurred by chance.

Figure 1. Comparison of first year student A&B and DFIW grades in FYE vs. non-FYE sections.



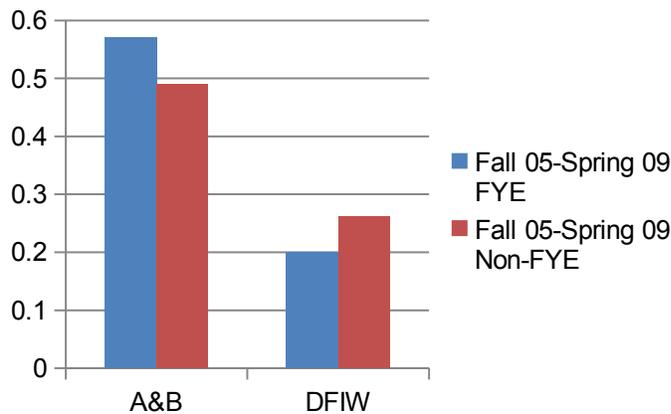
Collapsing the period between Fall 2005 thru Fall 2009, it can be seen that 57% of the students in the FYE sections earned an A or B, while 49% of the non-FYE first year students in corresponding classes earned an A or B. At the other end of the grade

distribution, only 20% of students in FYE sections earned a D, F, I or W, compared to 26% of first year students in non-FYE sections of those same classes. Those results are presented in Table 1 and Figure 2.

Table 1. Percentage of academically successful vs. non-successful students in FYE and non-FYE classes.

	Fall 05-Spring 09	
	FYE	Non-FYE
A&B	57%	49%
DFIW	20%	26%

Figure 2. Percentage of academically successful vs. non-successful students in FYE and non-FYE classes.



Comparison of first-year student grades: FYE vs. pre-FYE

To evaluate the overall effects on freshman grades of the initiation of the FYE program in Fall 2005, the same two indices, percentage of strong freshman performance (A & B) and percentage of non-successful performance (DFIW), were compared between two periods. The first period ('Pre-FYE') was a six-semester period prior to the adoption of the FYE program spanning the Fall 2002 through Spring 2005 semesters. The second period ('FYE') was a nine-semester period following the adoption of the FYE program, from Fall 2005 through Fall 2009. (Only classes that ultimately were a part of the FYE program were included in 'pre-FYE' group.)

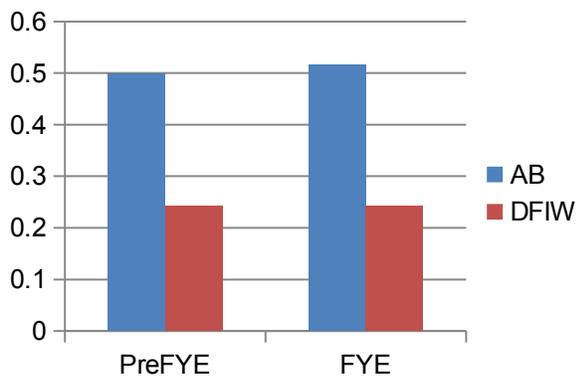
For the 'pre-FYE' period, 32,627 grades for freshmen were recorded, of which 50% were in the AB category and 24% were in the DFIW category. For the 'FYE' period, 43,775 grades were registered, with 52% in the AB category and 24% in the DFIW category. Overall first year student grades showed a slight after the development of our

FYE program, with a 2% increase in the frequency of As and Bs, while poor grades, as measured by the DFIW index, showed no change. Those findings are presented in Table 2 and Figure 3.

Table 2. Percentage of successful vs. non-successful students before and after inception of the FYE program.

	PreFYE	FYE
AB	50%	52%
DFIW	24%	24%

Figure 3. Percentage of successful vs. non-successful students before and after inception of the FYE program.



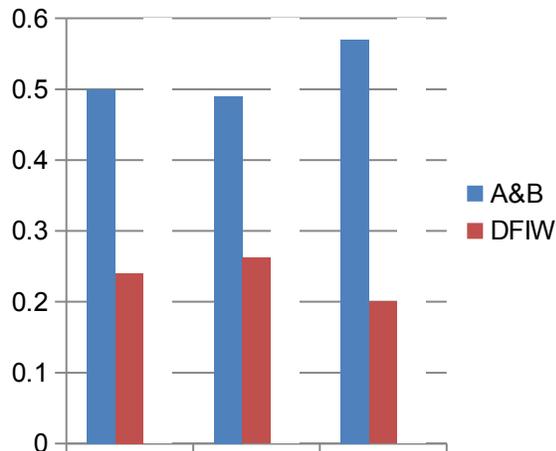
The slight improvement academic success (A&B grades) that is observed following the inception of the FYE program would seem to be largely the result of the FYE sections themselves. Comparing grades from the period before FYE to those after its initiation demonstrates that the pre-FYE grades are remarkably similar to those earned by non-FYE freshman after Fall 2005 (see Table 3 and Figure 4). The FYE grades, on the other hand, show a higher A&B percentage and a lower DFIW percentage than either of the other two groups. This indicates that, by and large, differences in first year student grades observed after WIU began its FYE program are largely due to the FYE sections themselves, and they are not due to overall grade inflation.

Table 3. First year student grades in classes before FYE, and in FYE and non-FYE sections after inception of FYE program.

Fall '02-Spr '05	Fall '05-Fall '09	
Pre-FYE	Non-FYE	FYE

A&B	50%	49%	57%
DFIW	24%	26%	20%

Figure 4. First year student grades in classes before FYE, and in FYE and non-FYE sections after inception of FYE program.



Interpretation and Conclusions

Given the results it appears:

- Over the course of the seven semesters since inception of the FYE program at Western Illinois University, first year students in FYE sections at WIU experienced greater academic success than did first year students in non-FYE sections of the same classes.
 - for each of the seven semesters, first year student in FYE sections earned significantly more As and Bs than did students in non-FYE sections of the same classes
 - combining grades from all seven semesters, students in FYE sections earned grades of A or B more frequently (8% of the time) in FYE sections
- concomitantly, students in FYE sections were academically unsuccessful less frequently than students in non-FYE sections
 - for each semester since the beginning of the FYE program in Fall 2005, students in the FYE sections earned grades of D, F, I or W significantly less frequently than did first year students in non-FYE sections
 - combining all grades during that period, FYE students avoided grades of D, F, I or W more successfully (6% of the time) than did students in non-FYE sections
- the beneficial effect on student grades of FYE sections is not a manifestation of overall inflation of grades; in fact, these grade indices for first year students in these courses from the three years prior to the adoption of the FYE program look

very similar to the grades earned by freshmen in the non-FYE sections of these courses offered after the program began; in other words, only the FYE sections show this positive effect.

FYE courses at WIU include a number of components that could contribute to positive academic outcomes (e.g., smaller class size, increased emphasis on writing, integration of co-curricular events, participation of peer mentors). From these analyses, it is not possible to identify which components of the FYE sections are chiefly responsible for improvement in student grades.

While the specific determinants of these differences in grades may be difficult to demonstrate from the current data, it is clear that these differences are quite stable and seem not reflect some statistical anomaly. Moreover, these are meaningful differences; given the large number of first year student grades that contributed to these analyses (14,360 in the FYE sections alone), even the seemingly modest increase of 8% in A and B grades for student in FYE classes translates to more than 1140 additional grades of A or B in FYE sections than would have occurred without the FYE program. Perhaps even more importantly, the 6% decrease in grades of D, F, I or W means that over 860 students avoided a negative academic outcome due to participation in FYE over those seven semesters.

Of course, the ultimate goal of our FYE program is the development of students who are more active and engaged learners, who are more likely to persist to future academic success and graduation. Because the first class of students who started the FYE program have yet to graduate, it is too early to tell if this program will produce beneficial effects on graduation rates. The current results, however, point to a modest but clear beneficial academic affect of th FYE program at Western Illinois University.