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## A Comparative Profile of Enrollment Characteristics of University 101 Students

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This study was conducted to determine what, if any, impact the course University 101 may have had on the students who took it. In this study, for each year that University 101 was offered two matched and proportionally sampled groups were created from Registrar files: students who took University 101 and students who did not. Only students with native admit status were included; in other words, only students who had entered Western as first-time, in-coming freshmen. In each year sampled, there was no statistical difference by age, gender, or ethnicity. As much as possible, descriptive variables such as high school grade point average (gpa) and Scholastic Aptitude Test (SAT) scores also were balanced equally. Variables were, of course, limited to those found in a student's electronic file. Outcome variables were limited to fall-to-fall persistence; grade point average earned at Western; whether or not students passed the objective and essay section of the Junior Writing Exam (JWE); and, for the class of 1990, graduation rates.

Students who had participated in the Access Program were also removed from the study, even though all of them had taken University 101. The Office of Institutional Assessment and Testing released a report in 1993 that fully examined the impact of the Access Program on its participants.<sup>1</sup> That report found that participation in the Access Program had a positive effect in terms of Western gpa and persistence. Students who participated in the Access Program received better Western gpa's and were more likely to persist fall-to-fall than students who were eligible to participate in the Access Program but did not participate. Because all Access students were required to take University 101, but also participated in other Access

<sup>1</sup> Senecal, B.A., McKinney, G.R., Trimble, J.E. (1993, August). *The Relationship between Participation in the Access Program and the Academic Achievement and Retention of Minority and Non-Minority First-Year Undergraduates* (Report 1993-03). Bellingham, WA: Office of Institutional Assessment and Testing, Western Washington University.

Program activities (study groups, etc.), it was determined that the University 101 study would be better balanced without the Access students. Because Access students participated in a variety of extra programs aimed at increasing their chances of academic success, it would be extremely difficult to determine if it was University 101 or a combination of programs having an effect--if, indeed, any effect were discerned. By studying students who took University 101 but no other special programs, any differences in their academic performances might then be attributed to their participation in University 101--keeping in mind, of course, that college students are affected by a wide variety of influences (living conditions, ease of adjustment to college life, etc.), any one of which might have as much or more influence than taking University 101.

On the other hand, by comparing two sets of students that were, as much as could be predetermined through statistical measures, relatively similar in all but one regard (their participation in or non-participation in University 101), it might then be possible to ascertain what, if any, influence taking University 101 might have had.

### Entered Western in the Fall of 1990

First examined was a cohort of students who entered Western in the fall of 1990. All the students had native admit status and a 3.00 minimum high school gpa. Since there was no Access program in 1990, the 3.00 minimum high school gpa was necessary to create a cohort that would look similar to the samples for the ensuing years, 1991 through 1993, when *there was* an Access Program.

Why a 3.00? By definition, students became eligible for the Access Program when academic indicators placed them in the bottom 10% of their in-coming classes. Practically speaking, what this meant was that their high school gpa's often fell a little below 3.00. By utilizing the 3.00 minimum for the 1990 cohort, all four cohorts (1990 through 1993) became more relatively homogeneous, thus more likely to render useful results.

The cohort was divided into two subcohorts of 80 students each: those who had taken University 101 and those who had not. There was no statistical difference between the subcohorts by age, ethnicity, or gender. Nearly all the students were Washington State residents (approximately 95%) and had not participated in varsity athletics (98%). There were no differences between subcohorts regarding high school grade point average or pre-college test scores, the number of courses dropped or repeated, or credits earned at Western.

Regarding outcomes, the grade point average earned at Western by each subcohort was nearly identical (took Univ101 = 2.92; had not taken Univ101 = 2.91), as was the percentage that had earned BA degrees (took Univ101 = 55.0%; had not taken Univ101 = 52.5%). There was a small percentage difference in persistence from first to second year (took Univ101 = 76.3%; had not taken Univ101 = 82.5%), though the finding was not statistically significant.

The only apparent effect of having taken University 101 appeared in analysis of the JWE. For the 1990 sample, though nearly the same number of students from each subcohort passed both sections of the JWE, the failure rate for each section was higher for students who had not taken University

101. Eight students who *had not taken* University failed the essay section, while only four who *had taken* University 101 failed the essay section. Twelve students who *had not taken* University 101 failed the objective section, while only four who *had taken* University 101 failed the objective section. This finding did not, however, test for statistical significance ( $df = 1$ ;  $p = .324$ ); thus the possibility of the finding being present by chance is possible.

### Entered Western in the Fall of 1991

The 1991 cohort consisted of students who entered Western in the fall of 1991. All were natives. Since 1991 was the first year the Access Program was offered, no minimum high school gpa was utilized; students who had participated in the Access Program were simply not included (for the reasons mentioned in the second and third paragraphs of this report). The cohort was divided into two subcohorts of 118 students each: those who had taken University 101 and those who had not. There was no statistical difference between the subcohorts by age category, ethnicity, or gender. Nearly all the students were Washington State residents (approximately 98%) and had not participated in varsity athletics (90%).

There were no differences between subcohorts regarding high school grade point average, though there was some difference in pre-college test scores. Students who had not taken University 101 had higher SAT-verbal scores than those who had. This finding was statistically significant ( $df = 1$ ;  $p = .029$ ), though the  $\eta^2$  index, at .021, was weak, indicating that only about 2% of the variance in scores could be accountable by SAT-verbal score alone. On the other

hand, there were no differences between the subcohorts regarding SAT-math scores, nor the number of courses dropped or repeated, or credits earned at Western.

Regarding outcomes, the grade point average earned at Western by each subcohort was nearly identical (took Univ101 = 2.69; had not taken Univ101 = 2.76), as was the percentage that earned BA degrees (took Univ101 = 16.9%; had not taken Univ101 = 17.8%). There was a very small percentage difference in persistence from first to second year (took Univ101 = 79.7%; had not taken Univ101 = 82.9%), though, again, the finding was not statistically significant. Furthermore, while no differences to speak of were found in the percentage of students passing the JWE essay section (took Univ101 = 96.0%; had not taken Univ101 = 96.2%), no student who *had taken* University 101 failed the JWE objective section, whereas five students who *had not taken* University 101 did fail the JWE objective section. Even though fewer non-University 101 students failed this section than did non-University 101 students from 1990, this finding did test for statistical significance ( $df = 1$ ;  $p = .026$ ).<sup>2</sup> In this particular It may be

### Entered Western in the Fall of 1992

The 1992 cohort consisted of students who entered Western in the fall of 1992.

<sup>2</sup> The source of the JWE findings were cross-tabulations. For JWE objective, one of the cells—those who took Univ101—was empty, since none of those students failed this section. Cross-tabulations are sensitive to empty cells, and this fact may help account why the finding was statistically significant in 1991 but not in 1990, when each cell had a number in it.

Again, no minimum high school gpa was utilized. All were natives. The cohort was divided into two subcohorts of 152 students each: those who had taken University 101 and those who had not. There was no statistical difference between the subcohorts by age category, ethnicity, or gender. Nearly all the students were Washington State residents (approximately 98%) and had not participated in varsity athletics (90%).

There were no differences between subcohorts regarding high school grade point average, though there was a difference in pre-college test scores. Students who had not taken University 101 had higher SAT-composite scores (SAT-composite: took Univ101 = 1055; had not taken Univ101 = 1103).<sup>3</sup> This finding tested for statistical significance ( $df = 1$ ;  $p = .001$ ). The  $\eta^2$ , however, at .040, was weak. Only about 4% of the variance could be attributable to SAT scores alone. Nonetheless, even though there were no differences between the number of courses dropped or repeated, or credits earned, this finding undermined somewhat the balance between the two subcohorts.

Regarding outcomes, the grade point average earned at Western by each subcohort was nearly identical (took Univ101 = 2.85; had not taken Univ101 = 2.96), as was the percentage of each cohort that passed the JWE essay section (took Univ101 = 95.7%; had not taken Univ101 = 93.0%), and the percentage of each cohort that passed JWE objective section (took Univ101 = 93.5%; had not taken Univ101 = 94.2%). Persistence rates indicated that

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<sup>3</sup> SAT-quantitative and SAT-verbal scores were also higher for students who had not taken University 101 than those who had, but for this analysis SAT-composite will make the point.

students who took University 101 were slightly more likely to be retained from first year to second year (took Univ101 = 90.1%; had not taken Univ101 = 84.5%), though this finding did not test for statistical significance.

## Entered Western in the Fall of 1993

The 1993 cohort consisted of students who entered Western in the fall of 1993. Again, no minimum high school gpa was utilized. All were natives. The cohort was divided into two subcohorts of virtually identical size (took Univ101 = 103; had not taken Univ101 = 104). There was no statistical difference between the subcohorts by age category, ethnicity, or sex. Nearly all the students were Washington State residents (took Univ101 = 97.1%; had not taken Univ101 = 94.2%) and had not participated in varsity athletics (took Univ101 = 88.3%; had not taken Univ101 = 94.2%). None of the students in the sample had graduated.

Unlike findings for 1990 through 1992, the difference between high school gpa's of the two subcohorts from the class of 1993 (took Univ101 = 3.46; had not taken Univ101 = 3.55) was statistically significant ( $df = 1$ ;  $p = .038$ ). The difference between pre-college test scores (SAT-Composite: took Univ101 = 1052; had not taken Univ101 = 1106) was also statistically significant ( $df = 1$ ;  $p = .002$ ). Though the  $\eta^2$  findings for each were weak (high school gpa = .021; SAT-Composite = .047), the fact remains that high school gpa and pre-college test scores are the strongest predictors of college gpa; thus it was not a surprise to find that the difference between Western gpa (took Univ101 = 2.84; had not

taken Univ101 = 3.02) was also statistically significant ( $df = 1; p = .017$ ). On the other hand, the other outcomes indicators, persistence rates and Junior Writing Exam findings, did not test for statistical significance--even though persistence rate differences appeared as if they might. (*Persistence*: took Univ101 = 83.5%; had not taken Univ101 = 91.0.)

With high school gpa's being so different, for the 1993 cohort of students, there were no outcomes that could shed any direct light on the effectiveness of University 101.

Indirectly, however, one might argue that the lack of difference in JWE findings were of interest. Indeed, JWE findings appeared to be the one area where attending University 101 had some influence. For the 1990 and 1991 cohorts there were direct influences: if a student took University 101, the chances were a little better that they would pass the JWE. For the 1992 and 1993 cohorts, less prepared students (in terms of traditionally strong predictors of academic success) held their own against better prepared students when it came to passing the JWE. (See Table 1 on next page.)

Table 1: Comparison of Outcomes between Students Who Took University 101 and Those Who Did Not Take University 101\*

	<i>Passed JWE Essay</i>		<i>Passed JWE Objective</i>		<i>WWU GPA</i>	
	Took Univ101	Did not take Univ101	Took Univ101	Did not take Univ101	Took Univ101	Did not take Univ101
1990 cohort	92.0	78.9	92.0	86.0	2.92	2.91
1991 cohort	96.0	96.2	100.0	93.6	2.69	2.76
1992 cohort	95.7	93.0	93.5	94.2	2.85	2.96
1993 cohort	91.7	94.1	87.5	92.2	2.84	3.05

\*The shaded findings indicate that the differences tested for statistical significance.

At the risk of stating the obvious, here is one final note: A study of this nature has no way of judging the nonobjective benefits of a course like University 101. Available data won't tell us if taking University 101 reduced anxiety, or made

using the library easier, or made Western seem a friendlier place for students to live and pursue their academic goals. All we can offer is some limited findings that will, hopefully, add to a more complete analysis of University 101's effectiveness.

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