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## Dual Enrollment between High Schools and a Metropolitan University

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# Dual Enrollment between High Schools and a Metropolitan University

Steve Bullock, Gregory Petrow, and Daniel Patrick O'Dell

## Abstract

*Concurrent/dual enrollment programs at postsecondary educational institutions have rapidly proliferated across the country during the last several years with wide variations in the structure and composition of such programs. Having recently completed a pilot phase of its first dual enrollment program, the University of Nebraska at Omaha (UNO) has enjoyed great success due to a relatively unique partnership formed between the university and Omaha area school districts.*

Over the last two decades, concurrent and dual enrollment programs have proliferated rapidly to the point where the majority of high school students now have the opportunity to earn college credit through such programs nationwide. (To avoid confusion, throughout this article, the term “dual enrollment” will be used, though many states and institutions refer to their programs as “concurrent enrollment.”) Although most postsecondary educational institutions in the United States accept dual enrollment credit from incoming freshmen, the commitment levels of colleges and universities, the quality of such programs, and the general structure of dual enrollment varies widely depending on the participating institution. In 2003, the University of Nebraska at Omaha (UNO), a metropolitan institution in the state’s largest city, established its first dual enrollment program with tremendous success to date. UNO’s version of dual enrollment varies from most others through its affiliation with AP courses exclusively as well as the implementation of a flexible fee structure for dual enrollment courses that provides direct benefits to both the university and the participating school districts. Specifically, the program has been directly responsible for increased recruitment of superior students, closer connections within the community, and increased funds for special projects and initiatives.

## National Trends in Dual Enrollment

Dual enrollment programs across the country, though relatively diverse in their exact structure and organization, can be defined effectively in broad terms. The United States Department of Education (USDE) and the Community College Research Center (CCRC) released a study in 2004, *State Dual Enrollment Policies: Addressing Access and Quality*, which examined dual enrollment policies nationwide. The study concluded that nearly forty states currently have dual enrollment legislative policies in place, although these policies vary in content and the level of state control. In the

states that do not have such policies in place, the structure of dual enrollment programs are typically the prerogative of individual institutions and, even in states that have mandated guidelines, institutions generally have tremendous flexibility in selecting students and faculty and in organizing individual programs. (Karp et al. 2004)

The USDE study placed the program variations into the following categories: Entrance Criteria, Instructors, Financing, Location, Student Mix, Credit Earning, and Intensity.

<b>Category</b>	<b>Brief Description</b>
Entrance criteria	Requirements expected of students to participate in the program such as grade level, grade point average, class rank, ACT score, and course of study
Instructors	Requirements for teachers to instruct students in dual enrollment courses
Financing	The party responsible for the tuition of participating students
Location	The physical location of dual enrollment classes
Student Mix	The ratio of high school and college students in dual enrollment courses
Credit Earning	Credits awarded via transcript, testing, or through an alternative mechanism
Intensity	The degree of the postsecondary institution’s involvement in dual enrollment courses

**Entrance Criteria** One of the most common elements in dual enrollment programs across the nation is the entrance criteria for students to participate. Most states/institutions restrict participation of students admitted to dual enrollment programs based upon the students’ grade level and/or academic record. Many programs, for example, require that students be of Junior or Senior standing, have a GPA of 3.0 or above, or have achieved a class rank in the top 25 percent to participate in dual enrollment. Admission for students may also be considered on an individual basis and subject completely to the discretion of the secondary and/or the postsecondary institution. More recently, some programs have begun to target students who are deemed “at-risk” or need special academic attention as well as those who desire education in a technical field. In rare cases, a variance within these two extremes exists where a program may have a combination of advanced and “at-risk” students and set their admission requirements based upon the subject material. The general trend nationally, however, remains almost exclusively on involving high academic achievers in dual enrollment.

**Instructors** The approval of dual enrollment teachers and the mechanism for approving such instructors is a significant point of variance among programs. Some institutions require that postsecondary instructors teach dual enrollment courses, while others

allow high school teachers to instruct the course with the approval of the participating college/university. The standards for teacher approval vary widely as well. Many colleges and universities require participating high school teachers to have the same credentials as on-campus adjunct university faculty. Others allow teachers to participate in dual enrollment if they have accumulated a predetermined amount of time in the classroom, a specified graduate degree, or have engaged in some sort of professional development, usually organized by the postsecondary institution.

**Financing** Funding for dual enrollment tuition is even less uniform than most of the other criteria and varies by state and institution to such a point where different programs rely on state funds, student payments, high school financial resources, or some combination thereof to satisfy tuition demands. A study compiled by the Education Commission of the States (ECS) in 2001 found that funding for dual enrollment programs varied in the following ways.

Source of Dual Enrollment Tuition	Number of States
Student	20
School District	5
State	4
Postsecondary Institution	0
Some combination of any of the above	21

**Location** The location of dual enrollment classes, held either on-campus or within the high schools, also depends upon the structure of the program. A minority of programs require that students attend courses on the college campus, while the majority allow classes to be taught in the high school. This variance of this component depends greatly upon the instructor requirements for the program as listed above.

**Student Mix** Student mix refers to the educational level of the students within the classroom, specifically when dual enrollment classes are held on a college campus. Some programs require that the participating high school student take traditional classes with traditional college students, while other programs allow on-campus dual enrollment courses to consist of only high school students.

**Credit Earning** One more common element among dual enrollment programs is that most award credit to a student via transcript. Some programs may require a student to take an exam to exhibit a proficiency in the subject beyond the requirements of the course before the institution awards credit. Some programs, for example, require participating students to validate their credit through a proficiency exam if the dual enrollment program was through a two-year college rather than a four-year college or university.

**Program Intensity** The final key element among dual enrollment programs is that of program intensity. A study commissioned in 2003 by the USDE categorized program intensity into three groups: Singleton Programs, Comprehensive Programs, and Enhanced Comprehensive Programs (Bailey and Karp 2003).

Type of Program	Brief Description
Singleton	Program offers a stand-alone college level course
Comprehensive	Dual enrollment courses make up the majority of a student’s academic experience
Enhanced Comprehensive	Program offers coursework and nonacademic support

A Singleton Program is one that offers individual college equivalent courses to qualified high school students that they may take either in their own high schools or on college campuses. Usually, Singleton models allow for a “menu” of individual courses from which students can choose if they are eligible to enroll. The majority of dual enrollment programs fit this model.

In a Comprehensive Program, dual enrollment courses make up the majority of a student’s academic experience and can include a student taking multiple dual enrollment courses simultaneously. Most Comprehensive Programs incorporate primarily on-campus courses in their dual enrollment offerings in an effort to immerse high schools students in a postsecondary educational environment.

Enhanced Comprehensive Programs are the rarest of the three. These programs generally target “at-risk” students and not only offer college coursework to students, but also offer support options such as mentoring and counseling to increase the student’s chances of success at a postsecondary institution.

**The National Alliance of Concurrent Enrollment Partnerships (NACEP)**

Although national standardization and accreditation of dual enrollment programs has largely been absent in previous years, the National Alliance of Concurrent Enrollment Partnerships (NACEP) has recently attempted to provide some direction in this area. NACEP was established in 1999 and is currently headquartered at Syracuse University. This group has established an accreditation process for dual enrollment programs, the standards of which are broken into five categories: Curriculum, Faculty, Students, Assessment, and Program Evaluation. NACEP currently defines those categories as follows:

**Curriculum 1 (C1)** – College or university courses administered through a Concurrent Enrollment Program (CEP) are catalogued courses and approved through the regular course approval process of the college or university. These courses have the same departmental designation, number, title, and credits; additionally these courses adhere to the same course description.

**Curriculum 2 (C2)** – College or university courses administered through a CEP are recorded on students' official academic record of the college or university.

**Curriculum 3 (C3)** – College or university courses administered through CEPs reflect the pedagogical, theoretical and philosophical orientation of the colleges' and universities' sponsoring faculty and/or academic department.

**Faculty 1 (F1)** – Instructors teaching college or university courses through the CEP meet the academic requirements for faculty and instructors teaching in postsecondary institutions as stipulated by the respective academic departments.

**Faculty 2 (F2)** – The postsecondary institution provides high school instructors with training and orientation in course curriculum, assessment criteria, course philosophy, and CEP administrative requirements before certifying the instructors to teach the college/university's courses.

**Faculty (F3)** – Instructors teaching the CEP sections are part of a continuing collegial interaction, through annual professional development, required seminars, site visits, and ongoing communication with the postsecondary institutions' faculty and CEP administration. This interaction addresses issues such as course content, course delivery, assessment, evaluation, and professional development in the field of study.

**Students 1 (S1)** – High school students enrolled in courses administered through a CEP are officially registered or admitted as degree-seeking, non-degree or non-matriculated students of the sponsoring postsecondary institution.

**Students 2 (S2)** – Postsecondary institutions outline specific course requirements and prerequisites.

**Students 3 (S3)** – High school students are provided with a student guide that outlines their responsibilities as well as guidelines for the transfer of credit.

**Assessment 1 (A1)** – CEP students are held to the same standards of achievement as those expected of students in on-campus sections.

**Assessment 2 (A2)** – Every section of a course offered through a CEP is annually reviewed by faculty from that discipline and CEP staff to assure that grading standards meet or exceed those in on-campus sections.

**Assessment 3 (A3)** – CEP students are assessed using the same methods (papers, portfolios, quizzes, labs, etc.) as their on-campus counterparts.

**Evaluation 1 (E1)** – The CEP conducts annual program assessment and evaluation of its practices including, at least, course evaluations by CEP students and follow-up of the CEP graduates who are college or university freshmen. Qualified evaluators/

researchers and/or the university's institutional research office conducts and analyzes evaluations and assessments.

**Evaluation 2 (E2)** – The CEP conducts, every five years, an impact study of the CEP on participating high school instructors, principals and guidance counselors. Qualified evaluators/researchers and/or university's institutional research office conducts evaluations and assessments.

**Evaluation 3 (E3)** – The CEP conducts, every five years, a follow-up of CEP graduates who are seniors in a college or university. Qualified evaluators/researchers and/or college's institutional research office conducts evaluations and assessments (National Alliance of Concurrent Enrollment Partnerships n.d.).

The NACEP accreditation process takes approximately one year to complete following an extensive review by the NACEP office. NACEP can then either approve the application, which allows the dual enrollment program the right to display the NACEP accredited seal, or reject the application providing suggestions on altering the program to meet standards and allowing for reapplication. NACEP also reserves the right to request further information if the application materials are unclear or incomplete. The gathering of information may include a site visit or the clarification of submitted application documents.

## **The Dual Enrollment Program at UNO**

The dual enrollment program at the University of Nebraska at Omaha UNO has achieved great success during the initial stages of an experimental pilot initiative by operating under a model that varies significantly in two distinct areas from its counterparts at other colleges and universities:

- The involvement of only high school AP courses and students
- The implementation of a fee-based rather than a tuition-based financial arrangement

During the summer of 2003, the University of Nebraska Board of Regents, the governing body of the university system, voted to allow UNO to establish a dual enrollment relationship with Millard Public Schools (MPS), an Omaha area school district. The Board of Regents extended and expanded the initial pilot approval in 2004 to allow UNO to establish relationships with the remaining Omaha area school districts and the board ultimately conferred permanent status on UNO's Dual Enrollment program in November 2006.

UNO is located in the center of Omaha with a metropolitan area population of about four hundred thousand. Currently, there are approximately one hundred thousand pre K-12 students in the Omaha area, which UNO deemed a substantial enough base with which to begin a vibrant dual enrollment program. This figure reflects students (pre-K-12) in the Metropolitan Omaha Educational Consortium (MOEC) School Districts. UNO also has a long history of close partnerships with local school districts, which

helped to facilitate the founding of its dual enrollment program. UNO, for example, has been the headquarters of the Metropolitan Omaha Educational Consortium (MOEC) since 1988, which is an alliance between UNO’s College of Education and seven metropolitan area school districts. UNO also trains more teachers than any other institution in the state, including the flagship campus, the University of Nebraska-Lincoln. Thus, UNO was relatively well situated to initiate the creation of a successful dual enrollment program.

### **The Impetus for Initiating the Program**

As indicated above, although most states do have general guidelines regarding dual enrollment programs, the requirements and structures of such vary widely and, during the initial stages of UNO’s pilot, the state of Nebraska had no established guidelines for dual enrollment. Only recently, in August 2005, has the Nebraska state Coordinating Commission for Postsecondary Education (CCPE) attempted to enact statewide guidelines for dual enrollment. Particularly because of a lack of oversight for other dual enrollment programs in the state, UNO decided to implement its own version of such a program. Most notably, UNO administrators became concerned about the increasing number of dual enrollment hours transferred in by incoming freshmen. From the fall of 2000 to the fall of 2004, UNO accepted 9,315 dual enrollment credit hours from incoming freshmen, not including credit earned through the UNO dual enrollment program.

<b>Non-UNO Dual Enrollment Credit Hours Transferred in by Incoming Freshmen</b>	
School Year	Credit Hours
2000	1446
2001	1520
2002	1901
2003	2032
2004	2416

Consequently, the combination of increases in dual enrollment hours transferred to UNO as well as the lack of state guidelines for dual enrollment led UNO faculty and administration to act in order to establish some level of control. In addition, one of the primary factors in establishing a dual enrollment program at UNO included elevating the university’s level of involvement with local school districts, which UNO viewed as a mechanism to connect UNO to increasing numbers of high-achieving high school students. For these reasons, UNO sought to establish guidelines for participating teachers, students, and curricula in its dual enrollment program that exceeded recently enacted state recommendations but offered enough flexibility to allow maximum participation.



## UNO Program Overview

During the formulation of UNO’s dual enrollment program, faculty members, administrators, and the Board of Regents determined that only students in AP courses would be eligible during the pilot phase of the program. Because of the relatively standardized curriculum of AP courses and the definitively advanced nature of the courses overall, UNO decided that, to ensure academic rigor and to more easily correlate the high school classes with UNO courses, AP offerings provided the easiest assurance of academic quality. Nevertheless, UNO still required departments in the relevant disciplines to approve teachers, course syllabi, content, teaching strategies, and performance measurements before the course could be included in the pilot project. Most significantly, UNO is one of the few institutions, if not the only institution, in the nation that has established a dual enrollment program exclusively with AP courses.

The initial pilot program in 2003-04 was undertaken with a single metropolitan Omaha area school district, Millard Public Schools (MPS), which strongly encouraged UNO’s initial participation in dual enrollment. The experimental pilot with MPS subsequently allowed UNO to test the program and develop policies before expanding to include the other local districts. MPS contains three high schools which offered sixteen AP courses in various subjects for nearly two thousand AP students in the 2003-04 school year. At the opening stage of the program, four UNO departments participated—History, Mathematics, English and Psychology—and enrolled a total of 377 students in the dual enrollment pilot with few complications. Thus, the initial success of the program prompted an extension of the pilot for the 2004-05 academic year, during which the Board of Regents allowed UNO to expand their dual enrollment offerings to include the other public schools in the Omaha metropolitan areas. Additional UNO departments also became involved including Geography, Economics, Foreign Language, Physics, and Political Science. The number of students participating in the program increased dramatically during Year 2 of the pilot, more than doubling the totals from 2003-04. Included below is the total number of students participating in both years of the pilot, as well as a complete list of the dual enrollment courses offered by UNO in Year 2 of the pilot.

<b>AP Student Involvement in the UNO Dual Enrollment Program</b>		
<b>School Year</b>	<b>No. of Distinct Students</b>	<b>Total No. of Student Enrollments</b>
2003-04	<i>Not Available</i>	377
2004-05	500	787

**2004-05 Dual Enrollment Courses**

HIGH SCHOOL	UNO DEPT	UNO COURSE
<i>Millard South</i>	History English Mathematics Psychology History	HIST 1510/1520 ENGL 2300 MATH 1950/1960 PSYC 1010 HIST 1110/1120
<i>Millard West</i>	History English Mathematics Psychology History	HIST 1510/1520 ENGL 2300 MATH 1950/1960 PSYC 1010 HIST 1110/1120
<i>Millard North</i>	History English Mathematics Psychology History	HIST 1510/1520 ENGL 2300 MATH 1950/1960 PSYC 1010 HIST 1110/1120
<i>Omaha Benson</i>	Physics	PHYS 1120
<i>Omaha Central</i>	Political Science French History Mathematics	PSCI 1100 FREN 2120 HIST 1010 MATH 1950/1960
<i>Omaha North</i>	Political Science Mathematics	PSCI 1100 MATH 1950/1960
<i>Omaha South</i>	Political Science History	PSCI 1100 HIST 1010
<i>Omaha Northwest</i>	Mathematics	MATH 1950/1960
<i>Omaha Burke</i>	Economics French Geography	ECON 2220 FREN 2120 GEOG 1020
<i>Omaha Bryan</i>	Political Science	PSCI 1100
<i>Ralston High</i>	Psychology	PSYC 1010

## **UNO Program Structure**

UNO's Office of Academic and Student Affairs administers the dual enrollment program with one staff member devoted to the clerical tasks of enrolling students, monitoring grades and coordinating various aspects of the program. UNO has also identified a Faculty Director to facilitate communication within academic departments and between the university and school districts on issues such as AP teacher approval, course equivalents and faculty involvement in the program. Although the university has minimum and general guidelines for departments participating in dual enrollment, most of the major policy issues (teacher approval, course criteria, assessment, etc.) fall under the purview of each individual department and are subject to departmental rulings.

## **Teacher Approval**

UNO officially classifies as adjunct faculty all of the AP teachers accepted as dual enrollment faculty instructors. In accordance with state recommendations, UNO requires that approved teachers in any discipline have at least a Master's degree in some field to qualify for approval by departments. Because of the wide variety of disciplines represented in UNO's dual enrollment program and the diverse nature of those disciplines, the process of approving AP teachers has been arguably the most challenging aspect of the dual enrollment program at UNO. The Department of History, for example, which claimed more than half of UNO's dual enrollment students in 2004-05, decided during the initial stages of the pilot to approve only AP teachers who had completed an M.A. in history or a related field, such as political science—the traditional criteria for teaching on campus as an adjunct. The difficulty within the History Department, however, was that many AP teachers did not possess these qualifications. Virtually all of the teachers seeking approval did have advanced degrees, though a large proportion of those degrees were in education. Therefore, following Year 1 of the pilot, the Department of History adjusted their requirements by adding a "provisional" category for AP teachers and accepted those teachers as dual enrollment instructors, provided they met certain additional requirements. The department, for example, required that provisionally accepted instructors enroll in the history graduate program and make substantial and reasonable progress toward a graduate degree in history. Similar arrangements regarding teacher approval have also materialized within other departments and, most importantly, all of the participating departments have agreed to defray virtually all of the tuition expenses for "provisional" instructors through dual enrollment funds. Each instructor is accepted on a case-by-case basis within the various departments. If a teacher has a graduate degree in a related content field, then that teacher may only need to take a couple of graduate courses to strengthen their content knowledge. The ability of departments to completely fund tuition for "provisional" dual enrollment instructors varies proportionately to the number of dual enrollment students individual departments enroll.

## **Course Approval**

As mentioned above, because of the standardization of the AP curriculum and the effort by the College Board to align AP courses with similar offerings at colleges and universities, the approval of courses for the dual enrollment program at UNO was a relatively simple process. Virtually all of the courses considered for approval had similar counterparts already listed in the UNO course catalog. Departments were still required, however, to examine the course content, expectations, and structure and determine the correlation between the AP offerings and the UNO courses. The only discipline that endured serious issues related to course approval during the initial stages of the pilot was English. AP English courses offered in several high schools did not directly correspond with a UNO equivalent, and, therefore, the Department of English was unable to accept the classes as dual enrollment courses. In response, the Department has proceeded with an extremely creative plan of constructing a new UNO course based around the AP curriculum that will be offered both on campus to traditional students and simultaneously designated as an official dual enrollment course.

## **Student Approval**

Currently, UNO administration has set minimum student qualifications for participation in dual enrollment, the main components of which states that all students must have accumulated a GPA of 3.0 or higher and must also obtain permission from their parent or guardian and their high school counselor to be eligible for dual enrollment. In accordance with general UNO governance procedure, departments also maintain the right to enact standards that exceed the university minimums. The Department of History at UNO has required, for example, that students be of Junior or Senior standing to participate. This was primarily based upon the fact that the AP History courses in the local school districts are reserved only for juniors and seniors. At the same time, however, the UNO Psychology department has admitted sophomores to their program as AP Psychology courses are available to those in tenth grade. Generally, however, most UNO departments adhere to the university minimums on student approval and allow districts to concern themselves with student placement in AP courses.

## **Financial Structure and Impact**

Arguably the most unique component of UNO's dual enrollment program is its financial structure, which maximizes the impact of the program across the university and within the community. Unlike the financial arrangements in most dual enrollment programs, the UNO version is based upon a fee rather than tuition and all of the funds generated through dual enrollment are reinvested directly back into the program. The fee structure is a significant departure from general policy on tuition within the University of Nebraska system, which is directed back to the central administration of the university system before being reallocated for dispersion to the various campuses across the state. However, in accordance with university policy, campuses are allowed to maintain full control over fees, on which the UNO dual enrollment program is

based. By classifying the cost of the course as a fee instead of tuition, dual enrollment students are not counted by the university when calculating the number of students enrolled at any given time. Thus, creating a fee-based program enables UNO to offer dual enrollment courses at a reduced cost to the students while still easily covering the university’s costs for administering the program. Most importantly, the fee allows the university immediate and full access to the funds, a sizable portion of which is designated for special projects related to dual enrollment (see chart below).

UNO dual enrollment students pay only \$200 for any individual dual enrollment course, including BC Calculus, where students can earn five credit hours for each half of the course. To place this number in some perspective, the cost of on-campus tuition is \$131.25 per credit hour, or \$393.75 for a three-credit-hour course, not including additional ancillary fees or charges for items such as books and parking, which do not apply to UNO dual enrollment students.

<b>Breakdown of Student Fees</b>	
\$82	To pay for the student to take the AP Exam. If student does not take the exam UNO keeps the \$82 in a general dual enrollment fund to finance projects related to the program. UNO has agreed to pay for the AP exam primarily to allay concerns by several K-12 districts that, by allowing their students access to dual enrollment, the number of AP tests taken would drop precipitously.
\$78	To the departmental content team and then directed back into the districts in the form of enhancements, such as computer equipment, projectors, guest lectures, videos, research materials, and scholarships for participating AP teachers who wish to continue their education at UNO
\$25	For the salary of a staff person to coordinate and oversee the entire dual enrollment program
\$15	To the high school foundation to enhance their AP Program and/or provide scholarships for free/reduced lunch students

This financial structure, while proving beneficial to the university as a whole, also provides a tremendous incentive for UNO departments to participate. In addition to the \$78 per student directed to the participating department, academic units also have the ability to access the \$82 cost for the AP exam, which is retained by UNO if the dual enrollment student chooses not to take the exam. Thus, each department has access to at least \$78 per dual enrollment student and, as has been the case during the past two years of the pilot, significantly more than that since most students do not sit for an AP exam once they have secured credit with UNO. Although departments are able to utilize the available dual enrollment funds essentially at their discretion, the one restriction placed upon expending them is that they be used for enhancements to increase the quality of the dual enrollment program. Departments have used their dual enrollment funds for AP teacher scholarships, graduate assistants, reimbursement for

faculty guest lecturers in the AP classes, honoraria for AP teacher on-campus visits, research materials, professional development seminars, AP institutes, and classroom technology enhancements. The largest expense of funds thus far has been by the History Department, which previously purchased seven fully equipped “smart carts” for each of the dual enrollment history classrooms in the Millard school district. The total for this purchase alone nearly exceeded \$20,000 and provided immediate benefits to the teachers as well as the students. These carts consisted of a new computer, LCD projector, speakers, DVD/VCR, and software package. Due to university policy, these types of purchases remain the property of UNO, and are marked as such, but reside in the AP classrooms.

## **Student Recruitment**

Another positive aspect of the dual enrollment program at UNO has been its impact on recruiting high achieving students. To provide one stark example, in the years prior to the pilot program, an average of twelve AP students from Millard per year enrolled at UNO as freshmen. Following Year 1 of the pilot, forty dual enrollment students from Millard enrolled as freshmen at UNO following their high school graduation and at the conclusion of Year 2, the number jumped to fifty-two.

In an effort to ascertain why and how dual enrollment programs might draw students to UNO, the university’s Office of Academic and Student affairs conducted a survey of all dual enrollment students at the end of the 2004-05 school year and commissioned a statistical analysis of the data. The office mailed questionnaires to dual enrollment students and also made available an online version of the questionnaires for easy completion. By the summer of 2005, 108 of the 500 dual enrollment students had completed the requested survey, which provided UNO with valuable, if not completely representative, data.

To gauge the dual enrollment program’s ability to draw students to UNO, the survey asked if their dual enrollment experience made it more or less likely that they would attend UNO. The questionnaire also asked students to evaluate their dual enrollment experience in several ways. The survey queried students about whether they knew more about UNO because of the program, if UNO faculty interacted with them and, if so, how positive the interactions were. The survey also inquired into whether or not they would like more faculty interaction. Finally, students also provided an overall rating of their dual enrollment experience.

The students completed the questionnaires anonymously, and, because of the timing of the questionnaire, students were not asked if they were enrolling at UNO in the fall. As a result, the survey results do not reveal if any given student actually attended UNO. Instead, the analysis focused on the question asking if it was more or less likely that the student would attend UNO in order to evaluate which factors drew dual enrollment students to UNO.

Before performing a statistical analysis to measure the factors influencing the likelihood of dual enrollment students attending UNO, a comparison was made between the sample of 108 students who completed the questionnaires and the total population of 500 students to evaluate if the student sample was representative of the population. This was undertaken to determine whether the students' responses could be generalized to all of the dual enrollment students. After conducting a statistical analysis to ascertain such information, the data revealed that the sample of students was unrepresentative of the population of dual enrollment students. In the survey, students indicated which high school they attended, as well as which AP courses they took. We were able to compare the distribution of these factors in the sample to the distribution in the population of all dual enrollment students. We conducted tests of statistical significance to determine if the differences between these factors in the sample, versus the population, might have occurred due to chance. We found that students from one Omaha high school in particular were underrepresented in the sample and that students who took two AP courses were under-represented in the sample as well (one of them dramatically so). We concluded, therefore, the sample is not representative of the population. Such a disparity prohibited UNO researchers from generalizing the survey results to all UNO dual enrollment students. However, the survey results still provided relatively clear information on those students who did complete the survey. Thus, UNO felt that the results, though incomplete, contained valuable information regarding student recruitment.

To determine the factor(s) that increased the likelihood of dual enrollment students ultimately enrolling at UNO, researchers conducted a regression analysis. The analysis estimated the associations between students' responses with whether or not they thought the dual enrollment program made it more likely they would attend UNO. The type of regression model estimated is a logistic regression because students' responses to the question only had two categories: yes or no (Kmenta 1997). The results are presented in Table 1.

<b>Table 1. Logistic Regression: Predicting Dual Enrollment Students' Self-Reported Likelihood of Attending UNO</b>			
Independent Variable	Coefficient	Standard Error	P-Value
Know more about UNO	-.36	.69	.60
Quality of Faculty Interaction	1.23*	.61	.04
Like more Faculty Interaction	-1.33	1.14	.24
Overall Program Rating	1.99*	.69	.00
Number of cases = 56 Log likelihood = -26.14 Pseudo R2 = .28			
*p<.05 two-tailed test			

**Self-reported likelihood of attending UNO:** “Did your dual enrollment experience make it more or less likely that might attend UNO?” Coded 0,1; 1=More likely

**Know more about UNO:** “Do you know more about UNO as a result of this program?” Coded 0,1; 1=Yes

**Quality of Faculty Interaction:** “Did you have any interaction with UNO faculty? If so, how would you rate the interaction?” Only those with faculty interaction, 1-4; 4=very positive

**Like more Faculty Interaction:** “Would you like to interact more with UNO professors?” 0,1; 1=Yes.

**Overall Program Rating:** “Overall rating (1-5; 5 being highest ranking)”

Researchers estimated the association between the four explanatory variables with students’ estimates of how their dual enrollment experience increased the likelihood they would attend UNO. The first factor examined—if students knew more about UNO as a result of the dual enrollment program—had a slight negative association with their likelihood of UNO attendance. This result, however, is not statistically significant and the magnitude was too small to be meaningful. Traditionally, analysts conclude from a variable’s statistical significance whether or not that result can be generalized to an entire population. In the case of our analysis, however, we do not believe any of the results can be generalized to the population of dual enrollment students. However, we still use the traditional standards of statistical significance as a guide as to whether or not an association is of a strong enough magnitude to be meaningful. However, the second factor—the quality of students’ interaction with UNO faculty—exhibited a strong positive association with their dual enrollment experience, making it more likely they would attend UNO. Only fifty-six of the 108 students interacted directly with faculty, reducing the sample size in the analysis. The third factor—their desire for more faculty interaction—was negative, but not statistically significant. Finally, the fourth factor—the students’ overall rating of the dual enrollment program—was strongly positively associated with their dual enrollment experience, increasing the likelihood they would attend UNO. We also note that the model fit is good. These four variables explain 28 percent of the reason why the dual enrollment program increased students’ likelihood that they would attend UNO. Therefore, UNO researchers concluded that significant evidence exists to suggest that the dual enrollment program draws more students to UNO because of the quality of the faculty interaction, as well as the positive dual enrollment experience leading students to consider UNO as a viable college choice.

UNO is currently undertaking efforts to ensure that higher percentages of dual enrollment students complete the questionnaires in subsequent years, which will allow UNO researchers to reach more definitive conclusions about the ability of the dual enrollment program to recruit students. UNO is also undertaking a review of student survey questions in an attempt to modify and/or add questions to the questionnaire to allow the results to be more easily examined from a statistical perspective.



# Lessons Learned and Successful Strategies

Overall, the UNO dual enrollment program has thrived and is continuing to explore various means of improvement. For those institutions considering the implementation of a similar dual enrollment program, the following guidelines may be helpful:

- Allow faculty to control the academic components of the program, particularly on campuses that have strong traditions of faculty governance. Having each department monitor the academic rigor of the high school courses and having a faculty member named as the director of the program ensures a significant faculty voice.
- Restrict your institution's involvement to only AP or honors high school courses. This allows for a built-in quality control mechanism and creates fewer concerns about academic integrity.
- Ensure that the communication between your institution and the K-12 districts is clear and consistent. Having one primary contact allows for information to be controlled and disseminated effectively.
- Maintain good personal relationships between your institution's faculty and the high school instructors. The high school instructors are a vital link between your institution and the students and, thus, a positive relationship can create a positive overall environment.
- If possible, structure at least some of the program's revenue stream to academic units related to their level of participation. This encourages strong commitments from faculty and departments and financially rewards those commitments.
- Reinvest any revenue generated back into the program whenever feasible. This allows for greater involvement by faculty and staff and the cementing of partnerships with K-12 districts which has a positive impact on the recruitment of dual enrollment students.

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