

A comparison of enrollment and academic success of dual credit and non-dual credit students at

Des Moines Area Community College.

Presentation

by Randy Mead



OVERVIEW

- Educational leaders
 - supporting a “seamless” educational model to
 - close the gaps between secondary and post-secondary
- Community Colleges
 - recently partnered with high schools to
 - Creation of “seamless” educational opportunities.
- Dual credit programming
 - recent national trend
 - Participation in college courses and the earning of college credits.
 - (Kleiner and Lewis, 2005).
- 40 States have enacted programs
 - Increase HS Rigor More electives
 - Reduce dropouts College Experience
 - Reduce college costs Improve connectivity



Growth in Iowa

■ Table 1.2 Iowa community college growth (2002-2008)

2002	2008	Increase	Category
105,719	128,146	22,427	CC Enrollment
15,633	31,450	15,817	CC Joint Enrollment
20,736	29,573	8,837	DMACC Enrollment
3,029	9,249	6,220	DMACC Joint Enrollment
2,671	8,646	5,975	DMACC Dual Enrollment
20,579	73,072	52,493	DMACC Joint Credits
16,256	66,094	49,838	DMACC Dual Credits

■ Source: Iowa Department of Education, Bureau of Community Colleges and Career and Technical Education, 2008.

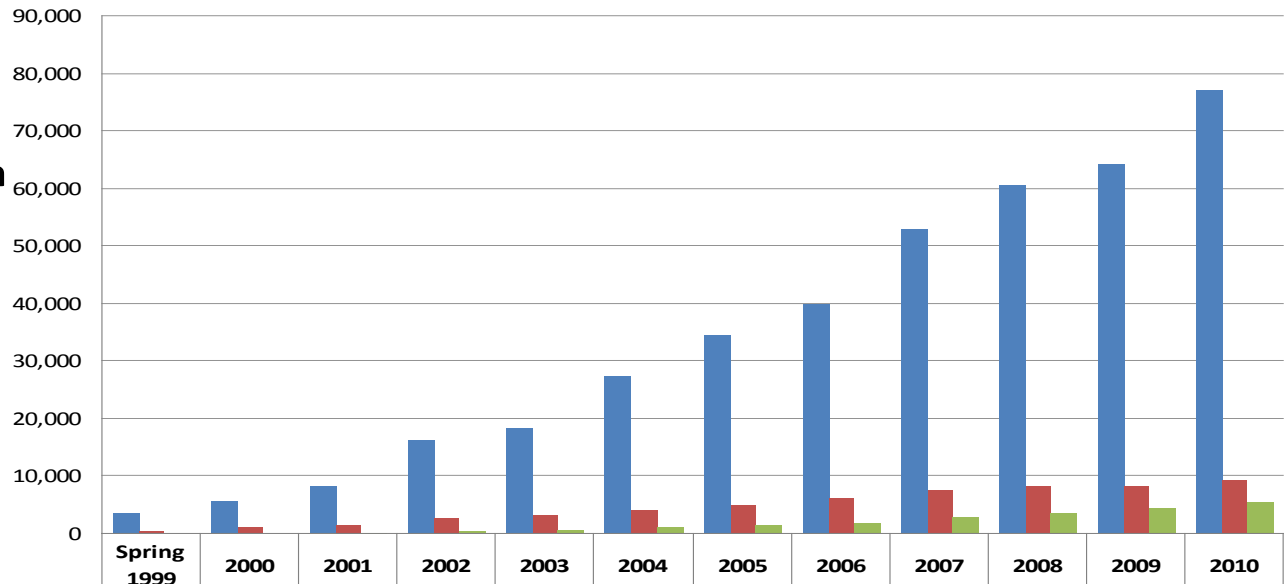


SIGNIFICANCE

- Iowa's dual credit students
 - fastest growing population in Iowa's community colleges
 - effectiveness of these programs has not been well researched
 - Need studied to determine the success of these programs throughout the State?
- Criticism
 - result of these students receiving college credits during high school
 - Are they ready?
 - How do they perform in college as full time students.
- Which factors contribute to dual credit student success as they attend community colleges?

SIGNIFICANCE

Career Advantage Student Information



■ Number of Credits for High School Students

■ Number of High School Students Jr. and Sr.

■ Number of College Students w/ College Credits from High School



Purpose of the Study

- Determine if dual credit students and non-dual credit students entering DMACC had similar demographics.
- Determine if dual credit students and non-dual credit students entering DMACC experienced similar within-term course retention and academic success as non-dual credit students.
- Determine the impact of independent variables upon success for dual credit and non-dual credit students in the study.



Theoretical Framework

- Retention Research of Vincent Tinto's Model of Academic and Social Integration.
- Dual credit programming will be examined as "pre-entry attributes" of students as they transition to the community college (1993).
- Pascarella and Terenzini-"pre-college traits", (2005).
- Astin-IEO Model-Input, Experience, and Outcome. Input is what is brought to institution (1993).



Literature Review

- Senior Year Literature (Nation at Risk, NCLB, National Commission on HS Senior Year)
- Benefits of Dual Credit Programming (Andrews, 2001; Bailey & Karp, 2003; Bragg, 2001; Kleiner and Lewis, 2005).
- Retention Literature (Tinto, 1993; Bean and Metzner, 1985; Pascarella and Terenzini, 1991).



SAMPLE

- DMACC 2003-2005 dual and non-dual students multiple hs
- Math and English students
- Full time- Composite ACT of 19 and above
- Arts and Science probable transfer students
- Secondary Data from DMACC SAS Database
 - Dual credit students who had previously taken math and/or English as high school students and entered DMACC as first time full time students during 2003-2005 school years, ($N=71$).
 - Non-dual credit students who entered DMACC as first time full time students ($N=998$).



Research Questions

- 1) What are the demographics of the two groups?
- 2) What is their within term course retention? (gender, race, Pell)
- 3) What is the academic performance among dual credit students entering DMACC? (gender, minority status, and Pell)
- 4) What is the academic performance of non-dual credit students entering DMACC? (gender, minority status, and Pell)
- 5) Are there statistically significant differences in academic performance between dual credit and non-dual credit students specifically examining ACTE, ACTM, and 1st semester GPA?
- 6) Does participation in dual credit courses help predict if students were successful measured by successful completion of 24 Associate of Arts Degree credits within two years with a minimum 2.0 GPA? Which predictor variables (gender, race, Pell grant eligibility, ACTE, ACTM, GPAs, and courses taken after attending DMACC) helped determine that a dual credit student was successful?



METHODOLOGY

- Quantitative Statistical Analysis
 - Descriptive Statistics-dual and non-dual
 - Wilcoxon Z Approximation-Within-term course retention
 - Chi-square-Academic success to 24 credits
 - T-test to examine ACTE, ACTM, and 1st Semester GPA
 - Logistic Regression-impact of variables upon success

DEMOGRAPHICS

RESULTS



- Research Question #1-Demographic Data
 - Gender-Predominantly Male (56% & 53%)
 - Age-Average Age (18.2 & 18.3)
 - Race-Predominantly White (92.5% & 97.1%)
 - Pell-Eligibility (14.1% & 19.2%)
- Findings Dual and Non-dual Students
 - Females are under-represented-cc joint male 48%, cc male-43%
 - Age-very similar percentages in both groups
 - Race-similar to Jointly enrolled (92% white) and CC (90.8%)
 - Pell status-similar HS (16%), and CC (16.5%)



COURSE RETENTION

➤ Research Question #2-Within-term-

➤ Dual %	Non-dual %	Sig.
➤ Dual Males (90.84)	Non-dual Males (89.6)	.4382
➤ Dual Females (92.83)	Non-dual Females (91.98)	.4261
➤ Dual White (92.05)	Non-dual White (90.86)	.2219
➤ Dual Minority (95.0)	Non-dual Minority (90.37)	.5576
➤ Dual Pell (91.46)	Non-dual Pell (91.56)	.9420
➤ Dual Pell-inelig. (91.56)	Non-dual Pell-inelig. (90.51)	.2212

➤ Within-term course retention

- not significantly different for the dual and non-dual credit students examined by gender, race, and pell-eligibility.
- Dual retention rates were higher in all categories except Pell eligible.



ACADEMIC SUCCESS

- Research Questions #3 & #4, Academic Success Dual Students and Non-Dual

- Dual $N=1069$

- Dual Students (87.32%) Non-dual (64.43%) $p=.0001^{***}$

- Gender $N=704$

- Dual Females (46.8%) Dual Males (53.2%)
 - Non-Dual Females (51.4%) Non-dual Males(48.6%)
 - Total Females (51%) Total Males (49%) $p=.4864$

- Significant difference in success of dual credit students compared to non-dual students
 - No significant difference in the success of the two groups when examined by gender.



ACADEMIC SUCCESS

➤ Race $N=663$

- | | |
|-----------------------------|-------------------------|
| ➤ Dual Minority (6.67%) | Dual White (93.33%) |
| ➤ Non-Dual Minority (3.15%) | Non-dual White (96.85%) |
| ➤ Total Minority (3.47%) | Total Whites (96.53%) |

➤ Pell $N=705$

- | | |
|--------------------------|------------------------------|
| ➤ Dual Pell (12.90%) | Dual Ineligible (87.10%) |
| ➤ Non-Dual Pell (16.33%) | Non-dual Ineligible (83.67%) |
| ➤ Total Pell (3.47%) | Total Ineligible (83.97%) |

$p=.4825$

- The minority sample was too small to address the hypothesis.
- There was not a significant difference in the success of the two groups when examined by Pell.



ACT and 1st GPA

- Research Question #5, Academic Background

- ACTE $N=1069$

- Dual Students (23.632) Non-dual (22.885) $p=.055$

- ACTM $N=1069$

- Dual Students (24.085) Non-dual (22.372) $p=.0004^{***}$

- GPA 1st Semester $N=1069$

- Dual Students (2.9468) Non-dual (2.5145) $p=.0007^{***}$

- ACTE mean scores were not significant at .055.

- ACTM and 1st Semester GPAs were significant when examining the two groups.



VARIABLE IMPACT

- Research Question #6, Which Variables Help Predict Student Success

- Variable Impact on Success $N=998$

➤ Dual Credit English	6.430	.0001***
➤ 1 st Semester GPA	6.185	.0001***
➤ DMACC Math	2.938	.0001***
➤ DMACC English	2.818	.0197*
➤ ACTE	0.936	.0334*

- Dual credit English and 1st semester GPAs

- two most significant variables
- Over 6 times more likely to experience success defined by model.

- DMACC math and English

- two next significant variables
- Just under 3 times more likely to experience success defined by model
- ACTE right at 1 to 1



CONCLUSIONS

- Internal Data good for DMACC
- External Data good for DMACC
- Senior Year Plus-HB 649
 - *AP*
 - *PSEO*
 - *Online Programming*
 - *Dual Credit*