DUAL CREDIT: A SIX-YEAR LONGITUDINAL STUDY ON PERSISTENCE & PERFORMANCE

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AGENDA

- ✓ Terminology and Definitions
- ✓ Literature Review
- ✓ A Six-Year Longitudinal Study
  - ➢ Research questions
  - ➢ Methodology
  - ➢ Results
- ✓ Discussion
- ✓ Future Research
- ✓ Considerations for NACEP
- ✓ Questions

TERMINOLOGIES AND DEFINITIONS

- ✓ Accelerated learning programs (Western Interstate Commission for Higher Education, 2006)
- ✓ Credit-based transition programs (Bailey & Karp, 2003; Plucker, Chien, & Zaman, 2006)
- ✓ Dual enrollment (Hoffman, 2005; Hoffman & Robbins, 2005; NCES, 2005a)
- ✓ Dual credit (Clark, 2001; McMannon, 2000; NCES, 2005b)
- ✓ College-level learning in high schools (Johnstone & Del Genio, 2001)
- ✓ Concurrent enrollment (NACEP)
- ✓ Joint enrollment (primarily state of Georgia)

TERMINOLOGIES AND DEFINITIONS

- **DUAL CREDIT**: courses offered during high school; student receives credit towards high school graduation and postsecondary education, regardless of delivery medium, instructor, or location. Three categories:
  - **Examination-based**: an examination determines the level of mastery (ex. AP and IB programs); placed on official college transcript (Johnstone & Del Genio, 2001).
  - **Credit-based**: college/university course that gives credit for high school graduation & college (on an official college transcript).
  - **Career preparation**: a postsecondary course gives credit for high school and a postsecondary certification, program, technical degree, or trade, which may not be applied to an accredited degree program on an official college or university transcript.

LITERATURE REVIEW

- ✓ Dual Credit:
  - ➢ Advanced Placement
  - ➢ Credit Based Programs
- ✓ Persistence
- ✓ Performance

ADVANCED PLACEMENT (AP)

- ✓ **Established in 1955 (1229 AP exams; 25 colleges)**
- ✓ **In 2007**(http://apcentral.collegeboard.com/):
  - Over 80 countries
  - Students from16,464 secondary schools took AP exams (included 15,505 U.S. schools from all 50 states)
  - Approximately 2.8 million students in the U.S
- ✓ **90 percent of US colleges/universities have AP policies**
- ✓ **Has become a criteria for success in evaluating high schools (Newsweek)**
- ✓ **Performance and retention exceed college norms**

AP ISSUES

- ✓ **Course content decisions at HS level:**
  - Harvard only accepts AP Exams of "5"
  - National Research Council criticized Math & Science AP courses – memorization versus problem solving and discussion
- ✓ **Loss of college revenue: AP student receiving credit for 10 college courses at Stanford saves $25K (only paid $1000 for the AP exams)**
- ✓ **Financial aid for AP exams**
- ✓ **Availability to lower income and minority students**
- ✓ **Access into college and scheduling of AP exams**
- ✓ **Non-refereed research; Fails to control for pre-entry attributes; Fails to determine causal relations**

CREDIT BASED PROGRAMS

- ✓ **All states have policies/guidelines (http://www.ecs.org)**
- ✓ **In 2006, 1.2 million high school students enrolled**
- ✓ **Most programs are local/regional partnerships, and established by colleges to:**
  - Enhance learning opportunities/challenges for HS students (senioritis)
  - Increase access to higher education
  - Reduce college costs
  - Reduce time to graduate
  - Increase college enrollments and revenue
- ✓ **NACEP established national standards**
- ✓ **Performance and retention exceed college norms**

CREDIT BASED ISSUES

- ✓ **NACEP accreditation standards attempt to address the following**
  - ➢ Lack of national standards
  - ➢ Academic quality
  - ➢ Faculty credentials and qualifications (not an issue for AP)
- ✓ **Transferability of grades**
- ✓ **Course experience for students**
- ✓ **Student maturity**
- ✓ **State funding for HS and College (double-dipping)**
- ✓ **Non-refereed research; Fails to control for pre-entry attributes; Fails to determine causal relations**

PERSISTENCE

- ✓ **31-45 percent student departure rate**
- ✓ **Tinto's theory of student departure: most mature research in higher education, and possibly the most studied in social science:**
  - Students enter with pre-entry attributes: family background, skills and attributes, pre-college achievements and educational experiences
  - Pre-entry attributes influence commitment to an institution and commitment to graduate from college
  - Upon arrival at college, academic and social experiences influence initial commitments, and influence an individual's decision to remain in college
  - Academic and social integration are core constructs of Tinto's theory.

PERSISTENCE

- ✓ **Two major empirical studies on persistence (ie. research on the existing body of research):**
  - Pantages and Creeden (1978)
  - Braxton, Sullivan, & Johnson (2000)
- ✓ **Braxton, Sullivan & Johnson:**
  - Strong empirical support for the influence of both student entry characteristics and social integration on student persistence
  - Modest empirical support for academic integration on student persistence
- ✓ **Lack of persistence research in the classroom, and on students "before" entering college (most research prior to college pertains to "college choice")**

PERFORMANCE

- ✓ **Most important pre-entry attributes:**
  - High school GPA
  - High school Class Rank
  - Standardized testing
- ✓ **High school GPA correlation to college GPA is twice that of standardized tests (Astin, 2001)**
- ✓ **Studies may find high correlation between persistence/performance outcomes and high school abilities/performance; however, the correlation is typically less than 0.50, and usually accounts for only a small percentage of the variance in students' persistence/performance college outcomes (Tinto, 1993).**

RESEARCH QUESTIONS

Four research questions were investigated with first-time full-time freshman students attending a four-year public university from fall 2000 to fall 2006 when controlling for pre-entry attributes:

1. Are there significant differences in first year college persistence among AP, CB, and non-AP/CB students?
2. Are there significant differences in degree completion within five years among AP, CB, and non-AP/CB students?
3. Are there significant differences in first year college cumulative grade point average (GPA) among AP, CB, and non-AP/CB students?
4. Are there significant differences in degree cumulative GPAs among AP, CB, and non-AP/CB students?

METHODOLOGY

- ✓ **6,049 first-time, full-time, fall freshmen students at UT Martin from 2000 through 2006 (5,398 non-AP/CB, 237 AP, 398 CB, 16 AP/CB)**
- ✓ **Independent Variables**:
  - Family background: Parents' education and family income (SES composite variable)
  - Academic Ability & Precollege Achievements: HS gpa/HS rank/ACT (Achievement composite variable)
  - Race and Gender
  - Dual-credit groups: AP, CB, or Non-AP/CB)
- ✓ **Dependent Variables**: 1st year persistence, Degree Attainment (5-years); 1st Yr gpa; Degree cum gpa

METHODOLOGY

- ✓ Frequency analysis of total sample (6,049):
  - ➢ 4,713 valid sample values
  - ➢ 4,277 non-AP/CB, 181 AP, 305 CB (excluded the 16 AP/CB samples due to small “n”)
  - ➢ Randomly selected 300 non-AP/CB participants
  - ➢ 786 used for study: 300 non-AP/CB, 181 AP, 305 CB
- ✓ Ordinary least square logistical regressions were conducted on each dependent variable @ .05 alpha level
- ✓ Composite variables tested for internal consistency/reliability
- ✓ Use of dummy variables allowed each student type to be equally compared during the regression analyses
- ✓ Involuntary drop-outs were excluded from study (n=15)

RESULTS

- ✓ **Descriptive Statistics:**
  - The Control Group (Non-AP/CB) is very similar to the general population
  - There are substantial differences between the Control Group (Non-AP/CB) and both the AP Group (AP) and the CB Group (CB) – HS gpa, HS rank, ACT, 1st year persistence/gpa, degree attainment/gpa
  - Any measurable differences can be explained by the higher values related to the AP/CB.
- ✓ **Analysis:**
  - Persistence and Performance: Achievement Composite Variable (HS gpa, HS rank, ACT) was the only significant predictor of outcomes
  - Participation in dual credit (AP & CB) was not significant

DISCUSSION

- ✓ **Findings support research:**
  - ➢ Dual credit students have much higher mean values for nearly every independent and dependent variable – highly motivated and academically proficient.
  - ➢ When pre-entry attributes are controlled, no significant differences exist in persistence/performance outcomes.
  - ➢ The degree of variance in the persistence/performance outcome was minimally explained by the regression models for persistence/performance outcome (i.e., correlation typically less than .05 percent; Tinto, 1993)
- ✓ **Dual credit offerings have become an integral component of higher education with tremendous research opportunities**

FUTURE RESEARCH

- ✓ **Based on existing research and theory accepted by the Academy: Astin, Bean, Chickering, Hossler, Pascarella, Tinto, etc.**
- ✓ **Peer-reviewed publications**
- ✓ **Pre/Post Longitudinal Studies using Validated survey instruments (Pascarella & Terenzini Institutional Integration Scales)**
- ✓ **Considerations:**
  - ➢ **College types**
  - ➢ **Academic discipline**
  - ➢ **Nationally, regionally, statewide, single institution**
  - ➢ **Instructor type and modalities**

CONSIDERATIONS FOR NACEP

- ✓ **Terminology and Definitions:**
  - ➢ **Must be inclusive**
  - ➢ **Delivery medium**
  - ➢ **Instructor**
  - ➢ **Location**
- ✓ **Research**
  - ➢ Funding
  - ➢ Multiple Institutions
  - ➢ Online data bases and surveys

QUESTIONS

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