

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

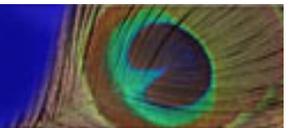
Presented To:

**National Alliance of Concurrent Enrollment Partnerships (NACEP)
National Conference; Memphis, TN.**

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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

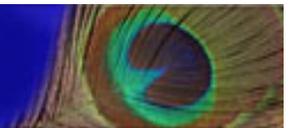
- **DUAL CREDIT:** courses offered **during** high school; student receives **credit** towards high school graduation and postsecondary education, **regardless of delivery medium, instructor, or location**. Three categories:
 - **Examination-based:** an **examination** determines the level of mastery (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

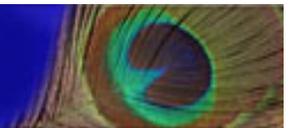
ADVANCED PLACEMENT (AP)

- ✓ **Established in 1955 (1229 AP exams; 25 colleges)**
- ✓ **In 2007**(<http://apcentral.collegeboard.com/>):
 - Over 80 countries
 - Students from 16,464 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**



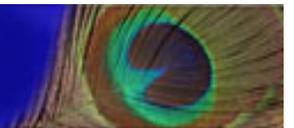
AP ISSUES

- ✓ **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**



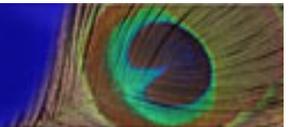
CREDIT BASED PROGRAMS

- ✓ **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**



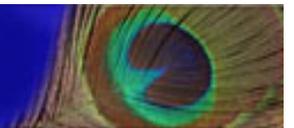
CREDIT BASED ISSUES

- ✓ **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**



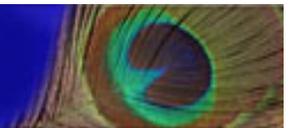
PERSISTENCE

- ✓ **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.



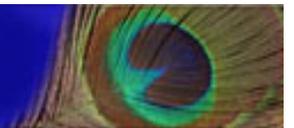
PERSISTENCE

- ✓ **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

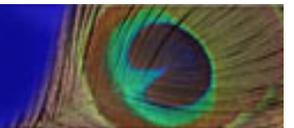
- ✓ **Most important pre-entry attributes:**
 - High school GPA
 - High school Class Rank
 - Standardized testing
- ✓ **High school GPA correlation to college GPA is twice that of standardized tests (Astin, 2001)**
- ✓ **Studies may find high correlation between persistence/performance outcomes and high 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

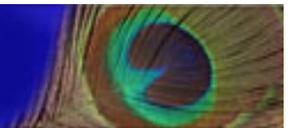
Four research questions were investigated with first-time full-time freshman students attending a four-year public university from fall 2000 to fall 2006 **when controlling for pre-entry attributes**:

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?



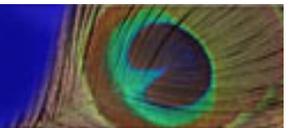
METHODOLOGY

- ✓ **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)



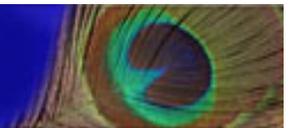
RESULTS

✓ **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.

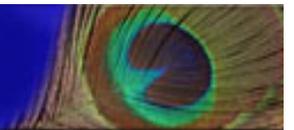
✓ **Analysis:**

- 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



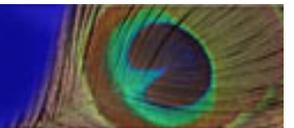
DISCUSSION

- ✓ **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**



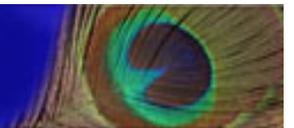
FUTURE RESEARCH

- ✓ **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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