1995

An outcomes study of students participating in the Iowa Postsecondary Enrollment Options Act 1990-1993

Sherril Ann Harris
Iowa State University

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An outcomes study of students participating in the Iowa Postsecondary Enrollment Options Act 1990 - 1993

by

Sherril Ann Harris

A Dissertation Submitted to the Graduate Faculty in Partial Fulfillment of the Requirements for the Degree of DOCTOR OF PHILOSOPHY

Department: Professional Studies in Education
Major: Education (Higher Education)

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For the Graduate College

Members of the Committee:

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Iowa State University
Ames, Iowa

1995
An outcomes study of students participating in the Iowa Postsecondary Enrollment Options Act 1990 - 1993

Sherril Ann Harris

Major Professor: Robert Barak
Iowa State University

The Iowa Postsecondary Enrollment Options Act (PSEOA) was passed by the Iowa Legislature in 1987 and permits high school students to enroll in college classes for college credit and also apply that credit to high school graduation requirements. To date no longitudinal research has been conducted to track students participating in this program through a four-year university experience, and the state's educational sectors have indicated a need for such research. This study tracked the educational progress of 204 high school students who earned PSEO credit through four Iowa community colleges and transferred this credit to Iowa's three Regent universities.

The methods of investigation for this study were quantitative. Data were collected from the Iowa Department of Education, the four participating community colleges, and the three Iowa Regent institutions. Students were divided into two comparison groups: (1) students who earned PSEO credit by enrolling in courses offered by one of the participating community colleges at the local high school and (2) students who earned PSEO credit by enrolling in courses taught at the community college site.
The primary research question, "Is there a significant difference in ACT composite scores, grades recorded for PSEO credit, high school class rank, subsequent university academic performance, and current Regent university enrollment status between the two comparison groups," was investigated by testing seven null hypotheses using inferential and correlational statistical techniques at the .10 level of significance. This researcher found no significant difference in any of the research variables between the two comparison groups.

This research project also included an observational study and descriptive analysis of all vocational and academic courses for which PSEO credit was awarded at two of the four participating community colleges. Variables for this observational study included community college center location, instructional delivery method, and designation of course as vocational or transfer.
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CHAPTER I. INTRODUCTION

In response to the public's challenge to improve the effectiveness and efficiency of this country's educational system, education reform initiatives have been an agenda item for state legislatures, education policy makers, special commissions, education reform committees, and business task forces in the 1980s and 1990s. Many of these initiatives have been implemented in response to the 1983 *A Nation at Risk* report published by the National Commission on Excellence in Education, which is just one of a number of reports and studies that have been undertaken to investigate, assess, and make recommendations for the improvement of educational services in the United States. Records show that states have generated more policies and regulations governing education since 1983 than were generated in the twenty years prior to 1983. In fact, more than 700 state statutes were enacted nationally in a two-year period between 1984 and 1986 (Iowa K-12 Education Reform Study Committee, 1993).

Education reform initiatives have challenged education policy makers to increase standards for student performance; revise systems of teacher certification and compensation; develop mechanisms for accountability and student assessment; provide access and student choice for students and parents, including home schooling; and expand technology applications to the educational process (Fuhrman et al., 1991). Iowa's K-12 Education Reform Study Committee (1993) reported that at the time of its report 37 states were involved in student access and student choice initiatives. These initiatives were designed to increase student access to educational opportunities and included such initiatives as open
enrollment for K-12 students and postsecondary enrollment option programs for high school students.

The Code of Iowa (1993a and 1993b) includes provisions for two primary educational reform initiatives implemented in Iowa in the 1980s. Chapter 282 outlines the regulations of the Open Enrollment Law, which was passed by the Iowa Legislature in 1988, and generally permits K-12 students to be enrolled in any of Iowa's local school districts. K-12 students are not limited to or required to attend their local schools. Chapter 261C outlines the regulations of the Postsecondary Enrollment Options Act, which was passed by the Iowa Legislature in 1987, and enables high school students to take college classes while in high school and earn both high school and college credit for the course work.

William Lepley (1991), Iowa's director of education from 1988-1993, created a vision for a model Iowa school district and coined it the "Ideal Community School District of 2010." Lepley's Ideal Community School would enable students to move from kindergarten through higher education without barriers. "To create the ideal system, we need to decrease the educational barriers created by school district boundaries, school calendars and clocks, grade divisions, and lack of linkages with postsecondary education" (p. 154).

The Iowa Postsecondary Enrollment Options Act (PSEOA) minimizes one of the barriers to which Lepley referred. In Lepley's model school, one would observe the following:

One group of students is taking a college-level calculus course at Ideal School and receiving college credit for it. Another group is taking an outcome-based vocational education course from an instructor employed by the nearby community college. Many Ideal students will graduate from high school already possessing college credit. (Lepley, 1991, p. 154)
The focus of this study is the Iowa Postsecondary Enrollment Options Act which was passed by the 1987 Iowa legislature to expand course offerings and to promote rigorous academic pursuits for Iowa high school students. This program permits high school students to enroll in college classes while still in high school. Students earn college credit and may also apply the credits earned to high school graduation requirements. The tuition, fees, and textbook costs are paid by the local school district at a legislated amount of $250 per course. In the 1993-94 academic year, Iowa high school students enrolled in a total of 4,422 courses for which PSEO credit was awarded.

**Historical Background**

In support of Minnesota's Postsecondary Enrollment Options (PEO) program, Boughton (1987) wrote that examples of students of all ages studying together have existed for centuries:

Two hundred and nine years ago at Phillips Academy in Andover, Massachusetts, Josiah Quincy of Boston, age 6, was a classmate of James Anderson of Londonderry, New Hampshire, age 30. In 1584, John Donne went to Oxford at the age of either 11 or 12, taking with him his younger brother. Among their classmates and college friends were Henry Fortescue, also 12; Henry King, 13; George Carew, 14; Richard Martin, 15; Henry Wolton, 16; and Hugh Holland, 24. (pp. 1-2)

Boughton (1987) found that sixteen-year-olds Cotton Mather and Jonathan Edwards graduated from Harvard and Yale, respectively. The New York Board of Regents in 1784 specified that students did not have to start out as college freshmen but could, instead, be admitted into the level of course work for which they were qualified. As early as 1888, President Eliot of Harvard, stated, "All our divisions of the total school period into years, such
as primary, grammar, and high school, are artificial, and in most cases, hurtful or hindering to
the individual" (p. 2).

In the 1900s there were several circumstances which led to the rigid lock-step educational system to which we have become accustomed. The College Entrance Examination Board was founded in 1901 and developed an admissions test which would be given to high school students, and the scores could be used by colleges and universities to determine which students would and would not be accepted for admission. Setting admissions standards was embraced by colleges and universities nationwide. The Carnegie Foundation for the Advancement of Teaching was established in 1906, and among its activities was the establishment of a record-keeping system of assigning academic units/credits to course work required for college admissions. This record-keeping system of assigning credits to academic course work has made it possible for students to articulate credit from high school to college and from college to college.

In 1929 when Ralph Maynard Hutchins became the president of the University of Chicago, he introduced a movement to break the rigid academic lines of demarcation in American education; but his efforts would not be recognized until the 1950s. Boughton (1987) wrote about Hutchins' efforts:

An additional significant breakthrough came about when in the fall of 1951, eleven American colleges and universities opened their doors to 420 freshmen. The freshmen differed from the average college freshmen in two striking respects: they were roughly two years younger and only a few of them had finished high school. For the following five years, the Ford Foundation supported a large number of scholarship students at the colleges and universities and in 1957 published a very important study of the first four classes that was entitled They Went to College. The results were so impressive that it remains unclear as to why everyone did not move immediately
into early admissions programs. The students not only clearly outperformed the regular college freshmen in each institution but also outperformed, in each, the comparison students (pp. 4-5).

In the 1950s and 1960s the objective of student acceleration programs was to enable students to complete a bachelor's degree in a shorter period of time and at a younger age. Today, the objectives of student choice, access, and acceleration programs focus on academic enrichment, expanded educational opportunities, and decreased time spent to earn a college degree.

In recent years students have been able to earn college credit while in high school through (1) the College Entrance Examination Board's Advanced Placement (AP) program, (2) enrollment as a full-time college student through early admissions procedures, (3) participation in dual enrollment programs which permit high school students to take college classes and earn both college and high school credit, and (4) other special arrangements between students and individual colleges and universities.

**State Postsecondary Enrollment Options Program Variations**

The first postsecondary enrollment options program was enacted in 1985 by the Minnesota state legislature. Fossey (1992) conducted a survey of all states in the summer of 1991 focusing on state choice statutes and found that at least 25 states have since adopted some type of PSEO legislation or practices. These 25 states are:

- Arizona
- Arkansas
- California
- Colorado
- Connecticut
- Florida
- Iowa
- Kansas
- Maine
- Minnesota
- Missouri
- Nevada
- Ohio
- Oklahoma
- Oregon
- South Dakota
- Tennessee
- Texas
Georgia New Jersey Virginia
Indiana New Mexico Washington
West Virginia

There were several provisions common in most states' laws. These included intent to supplement and expand high school curricula, permitting high school students to receive high school and/or college credit for classes taken while in high school, and funding support at the state or local level. Wemette (1993) reported that beyond these common provisions, variations existed relating to part-time or full-time student enrollment; awarding of credit for high school graduation requirements or college credit or both; counseling for students and parents; and funding arrangements for tuition, textbooks, and transportation.

In preparation for this research project, questionnaires were mailed to the community college divisions of departments of education of the 25 states identified by Fossey (1992) as having a PSEO program or some variation of such program. (See Appendix B.) Included in this introductory chapter is information gleaned from the 23 returned questionnaires. The information has been broken into the categories of eligible students, eligible institutions, dual-credit options, funding arrangements, and miscellaneous variations to show the similarities and differences among existing programs nationwide.

**Eligible Students**

In ten states eligibility is limited to high school juniors and seniors. In Tennessee only talented and gifted students with a 3.2 high school grade point average are eligible. In Louisiana only talented and gifted students with a 3.0 high school grade point average are eligible, and no more than 12 units can be earned toward fulfilling high school graduation requirements. In Maine students must meet the admissions requirements of the postsecondary
institution before enrolling, and the legislation requires that participation cannot be limited to talented and gifted students.

Minnesota, Ohio, Utah, and Colorado permit high school students to also be full-time college students. Other states stipulate that participating high school students cannot be full-time college students.

**Eligible Postsecondary Institutions**

In the majority of states, all public and private postsecondary educational institutions are considered to be eligible institutions. However, in most states, the majority of participating students take courses through the local community college. In Ohio all participating postsecondary institutions must be approved by the Ohio Board of Regents. In Washington only community colleges and vocational-technical institutions are eligible postsecondary institutions.

**Dual-Credit Options**

All states permit students to apply the credit earned to both high school and college graduation requirements. One variation to this is that in some states, college credit is not awarded until the student graduates from high school and matriculates to an institution of higher education. For example, Ohio requires that students apply for either high school or college credit at the time of enrollment as this affects funding for the course enrollment. However, if the student chooses to enroll for high school credit, application can be made to have that credit transferred to a postsecondary institution at the time of matriculation. Louisiana requires that credit earned be applied to high school graduation requirements.
In general, institutions of higher education are not required to accept PSEO credits and may limit the number of credit hours accepted. In the majority of states there is no legislated maximum number of college credit hours which may be earned under the provisions of a postsecondary enrollment options program. Two exceptions to this are that in Texas, students are limited to earning seven college credit hours per semester; and in Washington, students may earn no more than two years of college credit under a postsecondary enrollment options program. In general, local school districts may determine the maximum number of college credits which can be used to meet high school graduation requirements.

**Funding Arrangements**

There are a number of variations among states addressing the issue of funding student participation in a PSEO program. In nine states from which questionnaires were received, the high school student is responsible for paying all costs associated with taking a college-level course. In the other fourteen states from which questionnaires were received, state education funds are used to subsidize all or parts of the PSEO program. In the majority of states, at least the tuition at the postsecondary institution for participating students is paid by the local school district. In some states local school districts are able to negotiate a reduced tuition charge for PSEO program students. Other states use a funding formula or a flat-rate reimbursement to determine the amount paid to the postsecondary institution.

Washington and Maine require students to pay for textbooks and supplies and transportation. In most other states textbooks and supplies are furnished by the postsecondary institution. In Ohio, where high school students can enroll as full-time college students, the state pays a capped amount for the costs associated with enrollment for PSEO
credit which includes transportation to the postsecondary institution. In New Jersey the state subsidizes students with a demonstrated financial need. In Minnesota and Ohio a percentage of the state per-pupil financial support is paid to the postsecondary institution, and the high school retains the balance.

This researcher found that among those states responding to the survey, only Iowa legislates the amount which postsecondary institutions must accept for students taking courses which qualify to award PSEO credit.

**Miscellaneous Variations**

In general, students cannot take courses eligible for awarding PSEO credit to fulfill high school requirements if a comparable course of the same level is taught by the local high school. However, in Minnesota and Ohio students can take college classes for high school credit even when a comparable course is taught by the high school.

In Florida students may take PSEO courses during the summer session and receive state funding for their enrollments. Ohio and Minnesota require special counseling for students and parents interested in participating in PSEO programs.

In all states students may be required to meet the admissions standards of the postsecondary institution awarding credit before enrolling in a course for PSEO credit. While the majority of states permit high school teachers with a master's degree who meet the postsecondary institution's employment requirements to teach classes awarding PSEO credit, in four states only faculty regularly employed by the postsecondary institution are permitted to teach courses awarding PSEO credit. In only Washington and Ohio can classes not be taught in the high schools.
Iowa PSEO Participation

Participation of Iowa high school students in courses for PSEO credit has increased significantly since the program was implemented in 1989. Table 1 shows the number of high school junior and senior students who participated in such courses during academic years 1989-90, 1990-91, 1991-92, and 1992-93; the number of total high school students enrolled in Iowa high schools in grades 11 and 12 for each of those years; and the resulting percent of participation.

<table>
<thead>
<tr>
<th>Year</th>
<th>PSEO Students</th>
<th>Total Students</th>
<th>% Participation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989-90 Juniors</td>
<td>124</td>
<td>31,472</td>
<td>0.39%</td>
</tr>
<tr>
<td>1989-90 Seniors</td>
<td>607</td>
<td>33,795</td>
<td>1.80%</td>
</tr>
<tr>
<td>1990-91 Juniors</td>
<td>241</td>
<td>31,688</td>
<td>0.76%</td>
</tr>
<tr>
<td>1990-91 Seniors</td>
<td>758</td>
<td>30,928</td>
<td>2.45%</td>
</tr>
<tr>
<td>1991-92 Juniors</td>
<td>241</td>
<td>33,332</td>
<td>0.72%</td>
</tr>
<tr>
<td>1991-92 Seniors</td>
<td>1,169</td>
<td>31,648</td>
<td>3.69%</td>
</tr>
<tr>
<td>1992-93 Juniors</td>
<td>378</td>
<td>32,947</td>
<td>1.15%</td>
</tr>
<tr>
<td>1992-93 Seniors</td>
<td>1,809</td>
<td>33,008</td>
<td>5.48%</td>
</tr>
</tbody>
</table>

Source: Iowa Department of Education

As reported in the annual *Condition of Education* (1990-1993) reports, Iowa has just over 400 public school districts. Local school districts are given the option of subsidizing students who participate in the PSEO program. The number of Iowa school districts participating increased from 136 districts in 1990 to 211 districts in 1993. It has been estimated that 55 percent of Iowa school districts facilitated student PSEO program
participation in 1994. Table 2 shows the number of local districts participating for academic years 1990-91, 1991-92, and 1992-93.

Students may earn PSEO credit through courses offered at any of the state's fifteen community colleges, at most of the state's four-year public and private postsecondary educational institutions, and at some of the state's two-year private postsecondary educational institutions. Eligibility of institutions and courses is defined in the Code of Iowa (1993) and communicated to local school districts and postsecondary educational institutions through guidelines distributed by the Iowa Department of Education. (See Appendices A and C.) In general, all of the state's public and accredited private postsecondary educational institutions are eligible institutions; and eligible courses are defined as those academic and vocational-technical courses which are not offered by the local school district.

Table 2. Number of Iowa high school districts accommodating student participation in the PSEO program for the 1990-91 through 1992-93 academic years.

<table>
<thead>
<tr>
<th>Year</th>
<th>Participating Districts</th>
<th>Total Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990-91</td>
<td>136</td>
<td>430</td>
</tr>
<tr>
<td>1991-92</td>
<td>178</td>
<td>425</td>
</tr>
<tr>
<td>1992-93</td>
<td>211</td>
<td>418</td>
</tr>
</tbody>
</table>

Source: Iowa Department of Education

Tables 3 and 4 report student participation and individual course enrollments for academic years 1989-90, 1990-91, 1991-92, 1992-93, and 1993-94. Almost 80 percent of students take courses awarding PSEO credit through a community college; and in the most recently reported year, students took almost two courses each for which PSEO credit was awarded. Table 3 compares the number of individual students enrolled in courses at all of the
state's eligible postsecondary educational institutions with the number enrolled at community
colleges and reports the participation by high school grade level. Table 4 compares the
number of individual course enrollments in which PSEO credit was awarded at community
colleges with the number of individual course enrollments in which PSEO credit was awarded
at all eligible postsecondary institutions for both vocational and academic (transfer) courses.
As can be seen by the information in Tables 3 and 4, participation in the program has
increased significantly since its inception in 1989.

Table 3. Student participation in courses for PSEO credit by grade level in all postsecondary
institutions and at community colleges.

<table>
<thead>
<tr>
<th>Year</th>
<th>All Instit</th>
<th>CC</th>
<th>Freshman</th>
<th>Sophomore</th>
<th>Junior</th>
<th>Senior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1989-90</td>
<td>731</td>
<td>575</td>
<td>79</td>
<td>124</td>
<td>607</td>
<td></td>
</tr>
<tr>
<td>1990-91</td>
<td>999</td>
<td>763</td>
<td>76</td>
<td>241</td>
<td>758</td>
<td></td>
</tr>
<tr>
<td>1991-92</td>
<td>1,410</td>
<td>1,092</td>
<td>77</td>
<td>241</td>
<td>1,169</td>
<td></td>
</tr>
<tr>
<td>1992-93</td>
<td>2,219</td>
<td>1,747</td>
<td>79</td>
<td>27</td>
<td>378</td>
<td>1,809</td>
</tr>
<tr>
<td>1993-94</td>
<td>2,921</td>
<td>2,332</td>
<td>80</td>
<td>48</td>
<td>533</td>
<td>2,329</td>
</tr>
</tbody>
</table>

Source: Iowa Department of Education

Table 4. Total number of academic and vocational courses for which PSEO credit was
awarded through all institutions compared with total number of courses for which PSEO
credit was awarded through community colleges.

<table>
<thead>
<tr>
<th>Year</th>
<th>All Institut</th>
<th>CC</th>
<th>All Institut</th>
<th>CC</th>
<th>All Institut</th>
<th>CC</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1989-90</td>
<td>797</td>
<td>562</td>
<td>71</td>
<td>107</td>
<td>92</td>
<td>690</td>
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<tr>
<td>1990-91</td>
<td>1,393</td>
<td>1,057</td>
<td>76</td>
<td>113</td>
<td>97</td>
<td>1,280</td>
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<td>1991-92</td>
<td>2,108</td>
<td>1,654</td>
<td>78</td>
<td>266</td>
<td>247</td>
<td>1,842</td>
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<tr>
<td>1992-93</td>
<td>3,229</td>
<td>2,556</td>
<td>79</td>
<td>493</td>
<td>457</td>
<td>2,736</td>
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<tr>
<td>1993-94</td>
<td>4,422</td>
<td>3,507</td>
<td>79</td>
<td>771</td>
<td>701</td>
<td>3,651</td>
</tr>
</tbody>
</table>

Source: Iowa Department of Education
Statement of the Problem

The Iowa Postsecondary Enrollment Options Act was passed in 1987 to (1) promote rigorous academic pursuits and (2) provide a wider variety of options for students by enabling eleventh and twelfth grade students to enroll part time in nonsectarian courses in eligible postsecondary institutions of higher learning in Iowa (Code of Iowa, 1993a). It was amended in 1992 to include participation by ninth and tenth grade students identified as talented-and-gifted students (Code of Iowa, 1993a).

As of the date of this study, no data was found indicating that any longitudinal research had been conducted to track the progression through a university of students participating in the PSEO Act. Dr. Thomas Wemette, an Iowa high school administrator, conducted a qualitative study of the PSEO program in one Iowa Intermediate Service Delivery Area. His findings are mentioned in Chapter II of this research report. A review of inter- and intra-departmental memoranda and meetings of minutes of the Iowa Department of Education, the Division of Community Colleges of the Iowa Department of Education, and the Regents Committee on Educational Relations and correspondence from representatives of postsecondary institutions to these agencies substantiated a need for evaluation of and student outcomes research on the Iowa Postsecondary Enrollment Options Act.

Purpose of the Study

The purpose of this study was to see if there was any significant difference in academic ability, high school academic achievement, and university academic performance between students who took courses for which PSEO credit was awarded in the high schools and
students who took courses for which PSEO credit was awarded on the community college campus.

High school students may enroll at eligible postsecondary institutions in eligible vocational or academic courses not taught at their local high schools and earn high school and college credit simultaneously. These courses may be taught by the postsecondary institution on the principal campus, at an off-campus center, or in a local high school. Postsecondary institutions bill the local high school districts up to $250 for each course enrollment. The $250 is to cover the cost of tuition and books and fees, but necessary transportation is provided by the student/parents. Courses may be taught by the variety of delivery methods available to educational institutions such as the Iowa Communications Network, telenet, and independent study. Students may be enrolled in courses where all of the students are high school students or students may be enrolled in courses where there is a combination of high school and college students. Courses may be taught by regular college faculty or by high school faculty employed by the postsecondary institution to teach a course for which PSEO credit may be awarded.

Guidelines published by the Iowa Department of Education are distributed annually to eligible postsecondary institutions and Iowa high schools that outline the responsibilities of participating students, the high schools, and the postsecondary institutions. (See Appendix C.) High schools are required to inform students about the opportunities provided in the PSEOA and to provide counseling services related to course selection and scheduling for students and parents. Participating students are required to complete and submit to the high school guidance counselors the appropriate Notice of Student Registration forms, apply to the
postsecondary institution, and sign a statement that they have received information about the PSEOA. Students may or may not be required to meet the admissions standards of the postsecondary institution where they will enroll in courses eligible for awarding PSEO credit. If the postsecondary institution accepts the student, it is to submit to the Iowa Department of Education and to the local school district a copy of the signed Notice of Student Registration form including course and scheduling information. By May 1 of each year, the postsecondary institution submits to the local school district a bill for students enrolled in courses for PSEO credit; and by June 30 of each year, the local school district sends payment of up to $250 to the postsecondary institution for each student enrollment.

The Iowa Coordinating Council for Post High School Education (ICCPHSE) formed an articulation subcommittee in 1990 to address articulation and transfer issues of Iowa students moving from high school to college or from a community college to a four-year institution. This researcher has been a member of this committee since its inception. One of the charges to this committee was to develop uniform guidelines for the acceptance by a postsecondary institution of collegiate-level credit earned at the secondary level (e.g., Advanced Placement credit and credit under the Postsecondary Enrollment Options Act).

A review of the minutes of this subcommittee's meetings produced several references to the Iowa PSEOA. In the September 1992 minutes, it was reported that the subcommittee's understanding was that an Iowa Department of Education task force would be established to study the impact of the Iowa PSEOA and to track the progression of students who have participated in the PSEOA. Minutes indicated that the subcommittee requested that the task force also review the intent of the Act and evaluate whether or not it has been implemented as
intended by the authors of the legislation. This researcher could not find evidence that such a
task force has been meeting.

In December 1992 the subcommittee submitted to the ICCPHSE a request that
comprehensive longitudinal research be initiated regarding the academic implications and
economic impact of the PSEOA and for the activation of a task force to conduct such
research.

The minutes of the August 1993 Articulation Subcommittee meeting include several
concerns and opinions voiced by individual subcommittee members:

• The educational trend in Iowa is an overlapping of high school and the freshman year
  of college.

• It is possible for high school students to accumulate a significant number of credits
  under the PSEOA and thereby circumvent college and university admissions standards.

• Nearly 8 percent of the approximately 3,400 first-time freshmen at Iowa State
  University brought college credit with them from high school.

• Is it the intent of the law that a community college offer at a local high school, for
  PSEO, credit multiple sections of the same course?

In a March 1993 memorandum to ICCPHSE from the administrator of the Division of
Community Colleges of the Iowa Department of Education requesting that the PSEOA be
placed on the ICCPHSE meeting agenda addressing the topics of student
performance/outcomes and funding mechanisms, the statement was made that "we at the state
level are concerned about the quality of programs [courses] delivered and student outcomes."
References to discussion of the PSEOA were also reported in the minutes of the January,
February, March, and May 1994 meetings. The subcommittee subsequently requested that the
ICCPHSE designate the Iowa Department of Education as the receiving agency to collect data for a longitudinal study of students participating in the PSEO program.

The Regents Committee on Educational Relations (RCER) includes representation from Regent university deans, faculty, and registrars and the Division of Community Colleges. The purpose of this committee is to review, monitor, and communicate educational program changes, admissions standards, and other items of common interest. The RCER (1991) issued a statement of interpretation of the PSEOA to the Iowa Department of Education in response to misunderstandings regarding articulation of students’ presenting PSEO credit as transfer credit upon admission to the universities. The position of the Regent institutions was that the appropriate intent of the legislation was that it provide educational enhancement opportunities for capable high school students who have exhausted the high school curricular offerings. In addition students transferring credit under the provisions of this Act should be in the upper half of the high school graduating class; should have achieved the minimum ACT composite score required by the Regent institution; and should have fulfilled the general high school admissions requirement by the Regent institution in the four core academic areas of mathematics, science, social science, and English.

The RCER’s (1991) statement also included expectations about the logistics of course offerings. The expectation was that faculty instructionally responsible would be regular members of a postsecondary institution, that grading standards and distribution would reflect postsecondary requirements, and that the student composition of courses would reflect that found in a course taught at a postsecondary institution. Because the provisions of the PSEOA are more liberal than this committee’s expectations, the RCER has requested that longitudinal
research be undertaken to evaluate educational outcomes of students participating in the PSEO program.

There continues to be much discussion among representatives of postsecondary educational sectors about the PSEOA. The fact that no comprehensive study of student outcomes of PSEO program participants exists for the five years for which raw data has been collected contributes to increased questions, individual assumptions, and some skepticism about the program's effectiveness. In response to the communicated need for outcomes research on students participating in the PSEO program, this study has been undertaken to provide descriptive information about PSEO participation at four selected Iowa community colleges, to make recommendations for future research topics related to the PSEOA, and to address some of the issues and concerns expressed by Iowa educational administrators and listed below:

- academic qualifications of students earning PSEO credit
- university performance of students transferring PSEO credit
- comparison of students earning PSEO credit through courses taught at the high school with those of students earning PSEO credit through courses taught at the community college campus

**Definition of Research Variables**

The following research variables were used to investigate the null hypotheses in this study:
ACT composite  Students earn individual scores on each of four main areas—English, math, reading, and science reasoning—on the ACT Assessment as well as subscores in these four areas. A single composite score is also reported measuring a student's overall development against national standards developed by ACT. It is this composite score that is most frequently considered in the college admissions process.

Class location  Class location is a research variable used in this study to separate the population studied. Class location will be identified as high school or community college and separates the population studied into (1) high school students who took courses awarding postsecondary enrollment options credit taught by the community college at the local high school and (2) high school students who took courses awarding postsecondary enrollment options credit taught at the community college campus.

Delivery method  Delivery method is the method used to instruct the class, such as face-to-face instruction, television delivery, independent study, etc.

Enrollment status  Enrollment status is the current university enrollment status of students who transferred PSEO credit to a university. Students were identified as, at the time of this study, being either (1) in college, or (2) not in college.

High school class rank  High school class rank is the high school percentile ranking as reported by the high school on the individual student transcripts of the population studied.

PSEO course grade  The PSEO course grade is the grade earned by the high school student taking a course eligible for awarding PSEO credit.

University grade point average  The university grade point average (gpa) is the cumulative university grade point average of students included in this study.
Assumptions

For the purpose of conducting this research, the following general assumptions were made relating to the implementation of the Iowa Postsecondary Enrollment Options Act:

- The participating institutions are eligible postsecondary institutions.
- The participating students were eligible pupils.
- The courses in which students enrolled were courses not offered at their local school districts.
- The courses in which students enrolled were college-level, vocational-technical and academic courses taught by faculty qualified to teach at the postsecondary level.

Research Hypotheses

The purpose of this study was to see if there was any significant difference in academic ability, high school academic achievement, and university academic performance between students who took courses for which PSEO credit was awarded in the high schools and students who took courses for which PSEO credit was awarded on the community college campus. The primary research question is, "Is there a significant difference in ACT composite scores, grades recorded for PSEO credit, high school class rank, subsequent university academic performance, and current Regent university enrollment status between students who transferred PSEO credit earned in courses taken in the high schools and students who transferred PSEO credit earned in courses taken on the community college campus?" This question will be investigated through the following null hypotheses:

- Ho1: There is no significant difference between the means of PSEO grades earned in courses taken at the high school and PSEO grades earned in courses taken at a community college site.
• Ho2: There is no significant difference in the mean ACT composite scores between students who earned PSEO credit through courses taken at the high school and students who earned PSEO credit by enrolling in courses at a community college site.

• Ho3: There is no significant difference in the mean high school class rankings between students who earned PSEO credit through courses taken at the high school and students who earned PSEO credit by enrolling in courses at a community college site.

• Ho4: There is no significant difference in the mean university grade point averages between students who earned PSEO credit through courses taken at the high school and students who earned PSEO credit by enrolling in courses taken at a community college site.

• Ho5: There is no significant relationship between PSEO grades earned and university cumulative grade point average in either of the two comparison groups noted above.

• Ho6: There is no significant relationship between PSEO grades earned and ACT composite scores in either of the two comparison groups noted above.

• Ho7: There is no significant difference between the observed frequency and the expected frequency of students who earned PSEO credit through courses taken at the high school and students who earned PSEO credit through courses taken at a community college site and whether or not they were, at the time of this study, enrolled or not enrolled at an Iowa Regent institution.

Significance of the Study

The significance of this study lies in the fact that it is the first attempt at conducting longitudinal research on students participating in the Iowa Postsecondary Enrollment Options program. It is the intent of this researcher to provide information that can be communicated to high school and postsecondary school administrators, the Iowa Department of Education, and the Iowa legislature that will assist them in evaluating the effectiveness of the Postsecondary Enrollment Options Act and in setting policies that will ensure that it is being
implemented within the intent of the law and that students, the ultimate benefactors, are being well served.

It is also the intent of this researcher to make recommendations for data collection methods that would improve monitoring and evaluating PSEO participation. In today's educational environment, where assessment, evaluation, accountability, and credibility are key words, it is important that those also be applied to the Iowa Postsecondary Enrollment Options Act, an educational program that has grown significantly since its inception.

Finally, it is the intent of this researcher to formulate questions for additional research.

**Definition of Terms**

The following definition of terms is presented to facilitate the reader in understanding this study:

**ACT** American College Testing is a private, non-profit educational service organization with headquarters in Iowa City, Iowa. One of its activities is to produce the ACT Assessment, a test measuring a student's educational development in English, mathematics, reading, and science reasoning. The test is generally taken by high school juniors and seniors, and student composite scores are typically used by colleges and universities as a standard for admission.

**Community college** The state of Iowa is divided into fifteen geographical areas; and community colleges are located in each of these fifteen areas to provide comprehensive educational services to the residents of those geographical areas. The majority of these fifteen public community colleges offer for academic credit both postsecondary transfer and
vocational-technical programs as well as non-credit workshops and seminars. Several community colleges have campuses and sites in more than one community within the areas they serve.

DMACC Des Moines Area Community College is Iowa's largest community college with its main campus in Ankeny, Iowa, and branch campuses in Boone, Newton, Des Moines, and Carroll, all central Iowa cities.

Dual enrollment Under Iowa law, a student may be classified as a high school student and also be enrolled in a college course.

Dual credit Under Iowa law, a student enrolled in courses for PSEO credit may earn both college credit and credit towards high school graduation.

Iowa Board of Regents The Iowa Board of Regents is the governing board for Iowa's three public universities: Iowa State University, The University of Iowa, and University of Northern Iowa.

ICCPHSE Iowa Coordinating Council for Post High School Education is a voluntary council of representatives from postsecondary educational institutions and educational service organizations that reviews postsecondary educational policies and programs. It has also been designated as the Iowa State Postsecondary Review Entity (SPRE).

ICN The Iowa Communications Network is a state-wide fiber optic communications network on which, among many other things, college courses can be offered to remote sites throughout the state.
ISU  Iowa State University is the Iowa Regent institution located in Ames, Iowa, a central Iowa city.

Kirkwood  Kirkwood Community College is the community college with its main campus in Cedar Rapids, Iowa, an east-central Iowa city.

NIACC  North Iowa Area Community College is the community college in Mason City, Iowa, a north-central Iowa city.

PEO  Postsecondary Enrollment Options is the label used by Minnesota for its postsecondary enrollment options program.

PSEO  Postsecondary Enrollment Options is the label used by Iowa for its postsecondary enrollment options program and will be used as an adjective in this report when referring to courses, students, grade, program, etc.

PSEOA  Postsecondary Enrollment Options Act is the Iowa legislation establishing the postsecondary enrollment options program for Iowa high school students.

Regent institution  Iowa has three state-supported Regent institutions: Iowa State University, The University of Iowa, and the University of Northern Iowa.

RCER  The Regents Committee on Educational Relations includes representation from Regent university deans, faculty, and registrars and the Division of Community Colleges. This committee's role is to review, monitor, and communicate educational program changes, admissions standards, and other items of common interest among Iowa's public postsecondary institutions.

SECC  Southeastern Community College is a community college located in southeastern Iowa with main campuses in Burlington and Keokuk.
The U of IA  The University of Iowa is the Iowa Regent institution located in Iowa City, Iowa, an east-central Iowa city.

Transfer courses  Transfer courses are academic courses typically taken at a community college that are transferred to a four-year college or university to fulfill general requirements.

UNI  The University of Northern Iowa is the Iowa Regent institution located in Cedar Falls, Iowa, a northern Iowa city.

Vocational-technical courses  Vocational-technical courses are specialized courses offered by community colleges in a number of career areas such as agriculture, business, health occupations, etc.
CHAPTER II. REVIEW OF LITERATURE

Published literature on postsecondary enrollment options programs is limited. The first such legislation was enacted by the Minnesota legislature as recently as 1985; and since then, 25 states have enacted variations of Minnesota's legislation. The authors of Iowa's Postsecondary Enrollment Options Act of 1987 modeled it after Minnesota's legislation.

This literature review was carried out by obtaining reports from the Iowa Department of Education; reviewing the legislation as reported in the Code of Iowa and summarized by the Iowa Legislative Service Bureau; conducting searches of the Education Resources Information Center (ERIC) computer data base of educational journals and related studies, Current Index to Journals in Education, Education Index, and Dissertation Abstracts International, searching the computerized card catalog for sources relating to educational reform; and reviewing minutes and reports of miscellaneous state committees of education.

This literature review has been divided into four sections: (1) Iowa Postsecondary Enrollment Options Act, (2) Minnesota Postsecondary Enrollment Options Program, (3) Existing Studies and Reports, and (4) Previous Iowa Studies.

Iowa Postsecondary Enrollment Options Act

The Postsecondary Enrollment Options Act was passed by the 1987 Iowa General Assembly (Code of Iowa, 1993). (See Appendix A.) Wemette (1993) summarized in his dissertation that "the intent of the act was to promote rigorous academic pursuits and to provide a wider variety of course options for eleventh and twelfth grade students" (p. 19).
The provisions of the act as originally legislated included that students were to be eleventh or twelfth grade students; that comparable courses could not be offered at the high school; that the local school district could grant high school credit for the college course; and that the local school district would pay to the college or university the lesser of $200 or the actual and customary costs of tuition, fees, and textbooks. The original act included a sunset clause that would have repealed the legislation after four years (Iowa Code Supplement, 1987).

Recent Legislative Service Bureau publications of the Iowa Code Supplement (1989, 1991, 1992, 1993, and 1994) included amendments to the Iowa Postsecondary Enrollment Options Act. The first legislative action amending the PSEO Act in 1989 repealed the sunset clause. The 1989 legislative rules provided that students could enroll part time in nonsectarian courses in eligible postsecondary institutions. Eligible postsecondary institutions were defined as those under the control of the state board of regents, a community college, or an accredited private institution. In 1990 the act was expanded to include students from nonpublic schools, and the maximum amount of reimbursement was increased to $250. In 1991 the PSEOA was amended to require high school districts to award academic or vocational-technical credit to eligible pupils for courses completed under the PSEO program. Students were also permitted to complete up to seven semester hours of credit during the summer months and receive both high school and college credit for the hours providing the students paid the tuition and related costs.

In 1992 the provisions of the act were broadened to define as eligible students ninth and tenth grade students identified as talented and gifted students. In 1993 students at the Iowa School for the Deaf and Iowa Braille and Sight Saving School were included as eligible
students, and definition of eligible courses was expanded to include vocational-technical courses. In 1994 an amendment was passed which required that parents or students were responsible for reimbursing the local school district for courses not completed by high school students participating in the PSEO program.

**Iowa Department of Education Guidelines**

As required under the *Code of Iowa*, Chapter 261C, the Iowa Department of Education developed guidelines for the implementation of the PSEOA to be distributed to high school districts. These guidelines include information on the purpose of the law, student eligibility, postsecondary course stipulations and institution eligibility, application and enrollment process, type of credit awarded, determination of high school credits, eligible postsecondary courses, transportation, payment for courses, and school district claims for aid. (See Appendix C.) The April 1994 guidelines are summarized below:

**Purpose of the Law** The purpose of the law is two-fold: to promote rigorous academic pursuits and to provide a wider variety of options for students.

**Student Eligibility** Eleventh and twelfth grade students and talented and gifted ninth and tenth grade students are eligible to enroll as part-time students for a college course at an eligible postsecondary institution and receive both high school and college credit upon completion of the course. Students may enroll for a period of time not to exceed the number of semesters or academic terms they would have remaining to complete their high school education. Students who have graduated from high school are not eligible. However, students who graduate early from high school are eligible if they have not received their diplomas prior to the end of the school year.
Postsecondary Institutions/Courses  Eligible institutions are those under the control of the Iowa Board of Regents, the community colleges, and accredited private institutions. Postsecondary institutions may require that eligible students meet their admissions requirements. Students are accepted for enrollment into a college course on a space-available basis and are required to take the course for credit. Students may not enroll in a course if a comparable course is available at their high schools and may enroll only in nonsectarian courses.

Application and Enrollment Process  By March 1 of each year, school districts are to provide information about the PSEOA to all eighth, ninth, tenth, eleventh, and twelfth grade students. School districts must provide counseling for students and parents. Students intending to participate in the PSEO program must inform the local school district authorities by March 15 of their intent to participate during the following school year, apply at the postsecondary institution, and sign a statement verifying that they have received information about the program. Students who decide to withdraw from a postsecondary course must file the necessary forms with the postsecondary institutions, and the postsecondary institutions must notify the high school of the withdrawal.

Credit  High schools must grant high school credit to eligible students completing eligible courses in eligible postsecondary institutions. The board of directors of the local school district determines the number of high school credits awarded. Credits earned under the PSEOA are applied to high school subject area and graduation requirements, and evidence of completion of each course and the awarded postsecondary academic credits are entered on the students' high school transcripts.
Eligible Postsecondary Courses  Eligible postsecondary courses are limited to nonsectarian courses; courses not comparable to those offered by the school district; credit-bearing courses leading to an academic degree; and courses in math, science, social sciences, humanities, vocational-technical education, and career options programs.

Transportation  Parents or guardians of eligible students are responsible for providing transportation to the postsecondary institution.

Payment for Courses  By May 1 of each calendar year, postsecondary institutions awarding credit to students under the PSEOA submit a bill to local school districts identifying the students; courses; credits; and charges for no more than $250 to cover the costs of tuition, textbooks, materials, and fees. Local school districts must send payment for PSEO student participation to the postsecondary institution no later than June 30 of each school year.

Minnesota Postsecondary Enrollment Options Act

Because Minnesota was the first state to enact postsecondary enrollment options legislation and because Iowa's legislation was patterned after Minnesota's model, this section has been devoted to reviewing literature pertaining to that state's program. According to Archbald (1990), "... PEO [Postsecondary Enrollment Options] was a product of a window of opportunity created by the national reform fever of the mid-1980s, strong local control values, tight budget conditions, and a tenacious group of reformers able to provide support and lend credibility to the traditionally radical idea of school choice" (p. 29).

PEO was seen as a way to increase the supply and range of courses accessible to high school students to better meet their needs and to provide greater independence and intellectual
challenge than was available in some high schools. Such legislation also placed more educational decisions in the hands of parents and students. Archbald reported that the PEO legislation has improved Minnesota's public education system in accommodating the diverse needs and abilities of high school students.

In addition to directly affecting educational delivery in Minnesota, Archbald (1990) wrote that the law has also brought a form of decentralization of education to Minnesota. He pointed out that the "significance of such a change should not be underestimated" (p. 30). "For it is how people view and justify authority, more precisely who has authority over what, that is the basis of public acquiescence to profoundly important decisions about how money and other social and educational resources are allocated" (p. 30). In his opinion, the Minnesota PEO program is serving students well in spite of negative reactions that were voiced by education associations relating to their concerns about the legislation's impact on school budgets, scheduling needs, and course offerings. He opined that much of the opposition was based on grounds of professional interests and principles rather than on how best to serve students.

Boughton (1987) in his report to the Council of North Central Junior and Community Colleges reflected that the PEO plan was first conceived by members of the Minnesota Business Roundtable. This group proposed a program with two components: an access-to-excellence program permitting secondary students to move between districts and a postsecondary enrollment options program. The purpose of the PEO program was to promote rigorous academic pursuits and expand educational opportunities for high school students by allowing them to enroll full or part time in nonsectarian courses in eligible
postsecondary institutions. The business community members felt that this was necessary if Minnesota was to compete economically with the rest of the world. Their contention was that small school districts were finding it more difficult to "offer comprehensive programs and legislators were unwilling to consolidate school districts" (p. 9), while at the same time the public was not willing to increase revenue for education. It was in this climate that the Minnesota Postsecondary Enrollment Options program was supported by Minnesota's Governor Perpich and passed by the Minnesota legislature.

Boughton (1987) also found that not all sectors of the education community were in favor of such legislation. The School Board Association and the Minnesota Education Association went on record as opposing the legislation, contending that it would weaken the public education system and threaten teaching jobs by diverting funds from local school districts to colleges.

This researcher conducted a 1994 survey of other states identified as having some type of PSEO program. (See Appendix B). Minnesota responded to the survey outlining the provisions of its legislation. The program provides public school eleventh and twelfth grade students the option of attending nonsectarian and nonprofit two- or four-year private or public colleges, universities, or vocational institutions. The state reimburses colleges for the cost of tuition and books according to a statutory formula and deducts the amount from the sending school district's state aid if the postsecondary credit is to be used for high school credit. The student pays the tuition costs if the credits are to be applied to college programs. The legislation also requires that the students and parents receive counseling relating to their options and responsibilities. In its original version, students could receive dual credit for
postsecondary classes completed. In subsequent legislation, dual-credit enrollment was eliminated as an option; however, as of 1994, it had been reinstated. Enrollment is limited to two academic years if a student enrolls in the eleventh grade and to one academic year if a student enrolls in the twelfth grade.

Existing Studies and Reports

Dissertations

A search of Dissertation Abstracts International produced abstracts of four recent studies containing references to postsecondary enrollment options programs. Wemette (1993) conducted a qualitative study of the PSEO program in one Iowa Intermediate Service Delivery Area. He interviewed 61 high school and postsecondary educators in 34 high schools and 6 postsecondary institutions in that Intermediate Service Delivery Area. His study described the PSEO in terms of its need, availability, and accessibility for student participation in that area.

Wemette concluded that most respondents were positive about the need for the PSEO program and that factors that impacted the availability of PSEO activities were a consequence of local consideration and not state policy. He listed several implications for education policy makers relating to academic calendars and scheduling, limited participation of nonpublic students, awarding and transcript recording of high school credit, comparability of courses offered by the high school, impact of the state's fiber optic technology, location of PSEO classes, and impact of PSEO course work on a student's future college program.
Roberts (1994) conducted research to analyze state statutes and related judicial opinions nationwide to identify common trends in school reform legislation. She identified nine categories of school reform legislation, one of which was the postsecondary enrollment options school reform program. Her research indicated that 25 states have legislated PSEO programs or practices in place. Her recommendations focused on implications for education policy makers in implementing school reform legislation. She challenged both school administrators and legislators to be well-informed about enacted legislation, to be prepared to change, to exercise caution in over-regulating schools, and to be responsive in maintaining state mandates.

Rentschler (1991) conducted a qualitative study of the perceived impact of the Ohio PSEO program on school districts with student enrollments of 1,000 or fewer students. He interviewed 31 school administrators in 12 school districts about their perceptions of the impact of the PSEO program on school district finances, individual student achievement, high school curriculum, and general operations of the school district. He found that the PSEO program had little effect on these elements. However, factors such as college admissions requirements, distance from high school to college campus, and local school district eligibility criteria limited student participation.

A majority of the respondents to Rentschler's study perceived public reaction to the PSEO program to be negative. The majority of respondents commented that high school juniors and seniors were not psychologically, socially, or emotionally ready for the PSEO program and felt that the program would have little effect on existing high school curricula including Advanced Placement courses.
Chaffee (1989) conducted research to evaluate whether the PEO program in Minnesota did, in fact, provide secondary students with more rigorous academic offerings and whether students living in rural communities had access to eligible postsecondary institutions. He surveyed administrators in rural Minnesota school districts addressing three research questions pertaining to nature of participation, accessibility of students to the postsecondary institution, and the role of the local school district in providing alternatives to the PEO program. Chaffee carried out a statistical analysis of the data using the Pearson Correlation Coefficient and determined that administrative attitude toward the PEO program was positively correlated with student participation at a statistically significant level. He concluded that the PEO program as implemented in rural Minnesota provided minimal opportunities for academically gifted students, the program failed to provide a more rigorous academic program for students in rural school districts, and alternatives to the present PEO program must be considered.

**Related Studies and Reports**

Boughton (1987) conducted a qualitative study of 9 faculty and 24 students who participated in the Minnesota PEO program during its first year, 1985-86, to answer the question: Is it changing the traditional structure of secondary and postsecondary schools? Students were enrolled in two of the state's community colleges. Students at both colleges strongly agreed that the experience had been worthwhile, and 75 percent of the students earned Bs in their college courses. However, 79 percent of the students did not plan to enroll at the community college following high school graduation. He found that high school faculty
were not highly supportive of the program but that students and college faculty would recommend the program to friends.

In a 1990 Center for Policy Research in Education paper, Archbald (1990) included student participation and performance data on Minnesota's PEO program. He used data from documents provided by the Minnesota Department of Education as well as interviews with legislators; legislative aides; and state, higher education, and local school district educational administrators during 1986 and 1987. He studied six school districts. The three largest were in cities that contained postsecondary institutions, and the three smallest were districts with fewer than 2,000 students situated within reasonable distance from a postsecondary institution. Archbald conducted telephone interviews with a random sampling of students and their parents and surveyed all participating high school principals.

Archbald (1990) found that in the 1985-86 school year, 3.2 percent of the state's 11th and 12th grade students from 63 percent of Minnesota's 434 school districts took at least one postsecondary course through the PEO program. In only 7 schools did more than 15 percent of eligible students participate. Only 10 percent of principals reported that the PEO program required them to change the scheduling of school activities and/or classes, and 85 percent of principals reported that the number of classes offered by the high school and the number of teachers were not affected.

Data on student performance revealed that 74 percent were enrolled in academic courses, that 71 percent rated the courses as being more difficult than comparable high school courses, and that students completed 87 percent of the courses they took with half earning As or Bs. In addition, 95 percent of participating students were either satisfied or very satisfied
with their PEO experience, and 90 percent indicated that they learned more than they would have had they taken the classes in high school.

Archbald's study also revealed, however, that just 49 percent of teachers surveyed were even moderately supportive of the PEO program, and 38 percent of principals reported that the PEO program negatively affected staff morale. An increasing number of Minnesota high schools and postsecondary institutions have cooperated in offering the college classes in the high schools taught by either high school teachers with advanced degrees or by college teachers. There were no statewide figures to indicate the degree to which this cooperative effort exists, but there were advantages to this arrangement. High school students did not have to travel, scheduling difficulties were minimized because the classes were taught at night, and the cost to the local school district was lower because the courses were taught in the high schools. A related outcome was that high school teachers were motivated to pursue an advanced degree in order to qualify to teach one of these college courses.

**Issues creating controversy** The limited research reports included contradictory perceptions about how effectively PSEO programs are providing more rigorous and expanded educational opportunities for high school students and comments about issues creating controversy among educational administrators and faculty. The majority of these have been included in reports and papers that were written at least five years ago on the Minnesota Postsecondary Enrollment Options Act. Archbald (1990), Randall (1986), and Finn (1989) all included arguments for and against school choice in general and the PEO program in particular. Finn (1989) stated the following on the argument against school choice:

Choice policies make it harder to run schools from year to year and
exceptionally difficult to improve bad schools because of the uncertainties that choice creates for school administrators . . . and because exiting students sap resources from a school (p. 31).

On the other side of the same issue, Finn continued:

Choice, then, is part and parcel of the reassertion of 'civilian control' over the system, which history is likely to judge the premier education reform of the 1980s. . . Let the educators by all means proffer their best professional advice, indicate their preferences and spell out their interests. But let them not determine the basic dynamics by which the enterprise is run . . . It is for the students' sake that we created an education system in the first place. It must be for their benefit that we shape the policies by which the system operates (p. 32).

In the writings referred to above, proponents of the PSEO program included the following in their lists of positive aspects:

- It significantly expands the course offerings for high school students without increasing costs.
- It increases the opportunities for students to participate in rigorous educational activities without mandating new programs.
- It enables students who might not otherwise do so to try a postsecondary experience.
- It has initiated dialogue between high school and postsecondary communities.
- Competition between sectors may increase which could stimulate quality in both sectors.
- It allows students to adapt to a college environment while still in a secure high school environment.
- It is a collaborative effort among the high school, the college, and the student and parents.

In the writings referred to above, opponents of the PSEO program included the following in their lists of negative aspects:
• Secondary schools and postsecondary institutions have different academic calendars.

• It will cause too many scheduling conflicts.

• Loss of funds for the high school would damage high school programs.

• Students who attend high school in areas where there is not convenient access to a postsecondary institution would be at an educational disadvantage.

• There will be overlap between high school and postsecondary programs.

• Not all postsecondary courses are rigorous.

• Eighteen is too young to be classified as a college junior.

• The PSEO Act came out of the legislature and not out of the State Department of Education or out of popular support.

Previous Iowa Studies

In addition to Wemette’s dissertation, three studies have been conducted in the past five years relating to the Iowa Postsecondary Enrollment Options Act. The first study was a 1990 Iowa Department of Education study initiated in response to a request from the 1990 General Assembly. The second study was included as part of a 1992 survey conducted by the Iowa Articulation Subcommittee of the Iowa Coordinating Council on Post High School Education (ICCPHSE), and the third was a telephone survey of community college academic officers.

Iowa Department of Education Study

In response to a request from the 1990 General Assembly, the Iowa Department of Education in cooperation with the Iowa Board of Regents organized a study group to evaluate and to make recommendations to the legislature relating to the programs offered
under the Iowa PSEOA as well as to examine the relationship between advanced placement
courses and the delivery of courses for which PSEO credit was awarded. Several of the
state's educational organizations and agencies were invited to participate in the study group
including the Iowa Board of Regents, Iowa Department of Education, Iowa Association of
Community College Presidents and Trustees, Iowa Association for Counseling and
Development, Iowa Association of Independent Colleges and Universities, School
Administrators of Iowa, and Iowa Talented and Gifted Association. The study group
reviewed PSEO data from the Department of Education and Advanced Placement Program
data from the College Board.

Because this study group could not reach a consensus on its recommendations, it
reported its findings by agency, organization, or educational sector recommendations. The
report of this study group (Iowa Department of Education, 1991b) is summarized below:

The Iowa Department of Education included among its recommendations the
following:

- Improve publicity.

- Provide a uniform interpretation about the relationship of the Act to minimum
  educational standards.

- Maintain the $250 reimbursement amount.

- Study the possibility of expanding participation to all ninth through twelfth grade
  students.

- Improve access by implementing satellite campuses.

- Allow full-time high school student participation.
• Allow all eligible students to participate during the summer months.

• Include under the Act summer programs for at-risk students.

• Continue to provide Advanced Placement courses and encourage districts with limited enrollment to enter into consortium agreements with larger districts.

• Provide instructors who teach AP courses with additional preparation time and offer staff development activities.

The Iowa Board of Regents and the Iowa Association of Independent Colleges and Universities had similar recommendations but differed from the Department of Education recommendations on several points. In summary, these two organizations' recommendations included:

• Develop rules to ensure the integrity of the Act.

• A $250 reimbursement is not adequate, and reimbursement should go directly to the postsecondary institution.

• Do not expand participation to all ninth and tenth graders.

• Regulate satellite course offerings to ensure comparability of courses and rigor to those offered on main campuses.

• Provide greater incentives to schools to develop enrichment opportunities.

• Increase emphasis on Advanced Placement program.

The Iowa Association of Community College Presidents and Trustees recommended:

• A weighted or indexed system for funding.

• Dual-credit enrollment should be accepted.

• Standardized competency-based examinations for course work.

• Eligibility for all full-time secondary students.
• Expand Advanced Placement opportunities to vocational education.

The Iowa Association for Counseling and Development (IACD), the School Administrators of Iowa, and the Iowa Talented and Gifted Association all had similar recommendations to those of the Department of Education. Exceptions noted were that the IACD proposed that funding be $300 per course and that exit examinations be administered to students in courses not taught on college campuses. The School Administrators of Iowa included recommendations for a high school curriculum which would specify courses eligible under the PSEO Act, state funding to districts for students participating, and certification that courses were college-level courses.

Articulation Subcommittee of ICCPHSE Study

The Articulation Subcommittee of ICCPHSE conducted a survey (Kominski, 1993) of all Iowa high schools and postsecondary institutions in the fall of 1992. The purpose of the survey was to obtain views regarding a number of articulation issues. Section II of the survey asked for responses to questions about the implementation of and participation in the PSEO Act. A total of 311 high schools (72 percent) and 51 postsecondary institutions (85 percent) responded to the survey. Questions relating to PSEO program participation focused on the 1991-92 academic year, award of college credit, and secondary and postsecondary institution responses to selected statements and general comments. (See Appendix D.) Results of the survey are summarized below:

**Participation**  
Sixty-six percent of Iowa high schools responding had at least one student participating in the program; 13 percent, more than ten; and 34 percent, none. Eighty-
three percent of postsecondary institutions responding enrolled at least one PSEO student; 41 percent, more than ten; and 17 percent, none.

**Award of College Credit**  Forty-two percent of secondary schools responding reported that students received college credit most (75 - 100 percent) of the time, 15 percent said students did not receive college credit, and 22 percent said college credit was denied when it was used to fulfill high school graduation requirements. Ninety-four percent of the postsecondary institutions responding reported that college credit was awarded although courses were taken to meet the high school graduation requirements.

**Responses to Selected Statements**  In general, secondary school respondents were favorable about the effectiveness of the program and its meeting the objectives of providing academic rigor and expanding educational opportunities for high school students. At least 80 percent of respondents selected "somewhat true" or "very true" to statements about academic challenge, accessibility, earning college credit, and encouraging college attendance. More than three-fourths of the postsecondary institution respondents selected "somewhat true" or "very true" to statements about orienting students to college, attracting students to the institution, and increasing a student's chance to graduate from college in four years. Thirty-nine percent said that $250 is not an adequate reimbursement.

**General Comments**  The general comments expressed by secondary schools were predominantly positive. Isolated concerns were raised about geographic location, and the cost to high schools. The concerns of the postsecondary institutions were concerns relating to quality of college courses taught in high school by high school teachers, dual-credit awarding
for courses that meet minimum admissions standards, payment for textbooks, and abuse of the PSEOA in recruiting and marketing activities.

**Division of Community Colleges Telephone Survey**

In response to concerns expressed by representatives from the Regents institutions and the Articulation Subcommittee of ICCPHSE about the implementation of the PSEOA, a February 1993 telephone survey was conducted of the chief academic officers of each of the fifteen community colleges (Custer, 1993). The purpose of the survey was to gather general information on institutional practices and participation in the PSEOA. Questions were asked about high school locations of course offerings; curriculum content, instructional staffing, and student evaluation; course placement and evaluation; and charges for tuition and textbooks.

**Location of Offerings** Four colleges reported significant offerings at high school sites, and seven colleges reported limited offerings at high school sites. Most of the high school sites were in rural areas, and courses were offered in the high schools at the request of the local school district. One college offered television courses, and another indicated plans to make courses available on the Iowa Communications Network in 1993-94.

**Curriculum, Staffing, and Evaluation** The courses taught on college campuses were taught by regular college faculty. The primary difference in courses taught at the high school locations was that all students were high school students. Curriculum content, textbooks, and course requirements were controlled by the college; and the courses were taught by a college faculty member or a high school teacher who either possessed, or was eligible for, a postsecondary teaching license employed by the college as an adjunct faculty person.
**Course Placement and Evaluation**  In general, course requirements, competencies, and standards for students enrolled in PSEO courses taught at the high schools were the same as for those students enrolled in the same courses on the college campus. Eleven of the colleges reported that PSEO students were referred by the high schools and were subject to the regular college assessment and admissions requirements. A recommendation on this issue was that colleges need to ensure accurate course placement and comparable student performance evaluation to on-campus courses and that colleges should conduct comparison studies of student performance at on- and off-campus sites.

**Charges for Tuition and Textbooks**  For community colleges, in general, the $250 reimbursement covered the cost of the textbook as well as the tuition. If this was not the case, the college provided the textbook.

**Summary of Literature Review**

The literature review of published reports for this study consisted primarily of studies related to the Minnesota Postsecondary Enrollment Options legislation. Evidence of one other dissertation on the subject of the Iowa Postsecondary Enrollment Options Act was found. In general, the studies that have been conducted in both Iowa and Minnesota have been qualitative studies. The remainder of this literature review focused on isolated studies and minutes of committee meetings and task forces focusing on the implementation of the Iowa Postsecondary Enrollment Options Act.

Archbald (1990) and Boughton (1987) both reported that the Minnesota PEO program is, in fact, expanding educational opportunities for high school students in that state;
but both also report that there have been negative reactions from educators relating to the legislation’s impact on school budgets, academic scheduling, and course offerings. Wemette (1993) concluded that the Iowa PSEOA has been positively perceived by educational administrators in the Iowa intermediate service delivery area which was the focus of his qualitative study. Wemette included implications for policy makers relating to the same issues of budgets, scheduling, and comparability of course offerings as did Archbald and Boughton.

Rentschler (1991) concluded that the public’s reaction to the Ohio PSEO program was, in general, negative. The majority of respondents to his qualitative study commented that high school juniors and seniors are not ready to be college students. Chaffee (1989) conducted a quantitative study of PEO program participation in rural areas of Minnesota and concluded that although objectives of the Minnesota legislation included expanding educational opportunities and providing increased academic rigor for rural Minnesota students, these objective were not being met at the time of his study.

Archbald (1990) and Boughton (1987) both conducted studies including students. In general, they both found that students were positive about their PEO experiences and responded that the courses were challenging and more difficult than the high school courses they had taken.

The isolated studies that have been conducted and the review of the minutes of meetings of study groups, task forces, and education committees in Iowa revealed differing conclusions about the effectiveness of the Iowa PSEOA. In general, high school and community college educators were positive about the opportunities for expanded course offerings the PSEO legislation provides and felt that students were well served.
Postsecondary education representatives, however, were concerned about the issues of inadequate reimbursement to their institutions and comparability of course contents and standards.

The need exists for both qualitative and quantitative research studies to contribute to the limited body of knowledge on this relatively recent but rapidly growing approach to minimizing barriers among educational sectors in an increasing number of states.
CHAPTER III. METHODOLOGY

Research Design

The research design for this exploratory, quantitative study incorporated descriptive and causal-comparative methods. According to Borg and Gall (1989), exploratory research studies may be guided by research questions or by hypotheses depending on the degree of understanding of the phenomena analyzed. A general research question has been used to formulate the null hypotheses in this study. Descriptive, correlational, and inferential statistical techniques were used to describe the population and to investigate the null hypotheses.

Permission to conduct this study was granted by the Iowa State University Human Subjects Review Committee upon submission of the Information for Review of Research Involving Human Subjects approval form. (See Appendix E.) Anonymity of subjects was ensured. No students were contacted individually nor have students been identified either by name or by social security number in any portion of this research report.

Population Studied

All of the 204 high school students enrolled in college courses for PSEO credit at Kirkwood Community College, Des Moines Area Community College, North Iowa Area Community College, and Southeastern Community College during the 1990-91, 1991-92, and 1992-93 academic years who subsequently enrolled at Iowa State University, The University of Iowa, and the University of Northern Iowa were the subjects in this study. This population
was divided into two comparison groups: (1) 50 students who took courses offered by these
four community colleges at high school locations for which PSEO credit was awarded and (2)
154 students who took courses offered by these four community colleges at the principal
community college campus or at a community college center for which PSEO credit was
awarded.

**Participating Institutions**

The four community colleges and three Iowa Regent institutions that participated in
this study are described below.

**Community Colleges**  Iowa has 15 state-funded, two-year community colleges that
offer the first two years of a baccalaureate degree and a wide selection of vocational training
programs as well as provide many other education-related services to the local communities
they serve, such as job retraining contracts, economic development support and activities,
non-credit-bearing workshops, continuing education course offerings, etc. All residents of
Iowa are within commuting distance of one of the campuses of at least one of the 15
community colleges. Some community colleges have campuses in more than one city, and
several offer credit-bearing and non-credit-bearing classes at community centers.

Kirkwood Community College has campuses in Cedar Rapids and Iowa City, Iowa.
Des Moines Area Community College has campuses in Ankeny, Des Moines, Boone, Carroll,
and Newton, Iowa. North Iowa Area Community College is located in Mason City, Iowa.
Southeastern Community College has campuses in Burlington and Keokuk, Iowa. Kirkwood,
DMACC, and NIACC all offer selected classes at selected local high schools for which PSEO
credit is awarded to enable students to take advantage of the PSEOA in their local high
schools. Southeastern Community College offers no off-campus classes for which PSEO credit is awarded.

**Regent Institutions**  Iowa has three state-supported universities which come under the control of the Iowa Board of Regents. Iowa State University and The University of Iowa are major research universities located in Ames and Iowa City, Iowa, respectively. The University of Northern Iowa is a comprehensive university located in Cedar Falls, Iowa.

**Data Collection Methods**

A variety of data collection activities was used to gather data on the population studied. The Iowa Department of Education, the four participating community colleges, and the three Iowa Regent institutions of higher education all cooperated in providing requested records to this researcher. The following steps were taken to collect the data for this study:

1. Notice of Student Registration forms and/or postsecondary institution PSEO participation reports for students participating in the PSEO program through Kirkwood Community College, North Iowa Area Community College, and Southeastern Community College were obtained from the Iowa Department of Education for the 1990-91, 1991-92, and 1992-93 academic years.

2. To increase the size of the population studied, the registrar at Des Moines Area Community College provided social security numbers of students enrolled for PSEO credit through DMACC course offerings during the three years studied as the Notice of Student Registration forms were not available from the Iowa Department of Education.
3. A total of 747 student social security numbers were entered into a Lotus 1-2-3 file, and copies of this file were sent to the registrar's offices of the three Iowa Regent institutions to be matched with their student enrollment files.

4. The registrars of the three Iowa Regent institutions provided student academic transcripts for the 204 students who were currently, or who had been, enrolled at the institutions.

5. The registrars at the four participating community colleges provided a listing of eligible courses awarding PSEO credit which were taught in the high schools that included student social security numbers, course titles, and grades earned.

6. This researcher transferred the information relating to location of course for which PSEO credit was awarded to the students' university transcripts to separate the population into the two comparison groups: (1) students who earned PSEO credit by completing courses offered in the local high school, (2) students who earned PSEO credit by enrolling in a college course taught on the community college campus.

Assumptions and Limitations

Because this is an initial attempt to conduct longitudinal outcomes research on students participating in the PSEOA, a number of assumptions and limitations in data collection and data analysis were identified.

Assumptions

- Three of the four community colleges participating in this study--Kirkwood Community College, North Iowa Area Community College, and Southeastern Community College submitted copies of all PSEO Notice of Student Registration
forms to the Department of Education as required by Iowa Department of Education guidelines for implementing the PSEOA.

- All of the PSEO Notice of Student Registration forms filed with the Iowa Department of Education and/or student registration records for the years studied were made available to this researcher.

- The student registration records for students awarded PSEO credit from DMACC were accurate and complete.

- Only high school students were enrolled in courses offered for PSEO credit by the community colleges at high school locations.

- High school students who took courses for which PSEO credit was awarded on the community college campus or at a community college center were enrolled in courses in which the majority of students was community college students.

- The information on Notice of Student Registration forms, university transcripts, and Iowa Department of Education reports was correct and accurately reflected student participation in the PSEO program and academic performance both in courses for which PSEO credit was awarded and subsequent university academic performance for the three years included in this study.

**Limitations**

The original goal of this researcher was to study a sample of all Iowa students who participated in the PSEOA through courses offered by any of Iowa's 15 community colleges and subsequently enrolled at one of Iowa's three Regent institutions. Because it is a provision of the PSEOA that postsecondary institutions submit all Notice of Student Registration forms to the Iowa Department of Education, the assumption was made that those forms would be available and that they would be the best source for the raw data needed for this study. However, it was discovered that not all institutions are consistent in meeting this provision of the law. Therefore, the study was limited to those students who enrolled at three community colleges for which Notice of Student Registration forms were available from the Iowa
Department of Education for the three years requested and to Iowa's largest community college, which provided PSEO participation information directly to this researcher.

Given these parameters, the following limitations were identified:

- There were no Notice of Student Registration forms on file with the Iowa Department of Education for students taking courses for PSEO credit for the 1991-92 spring semester; therefore, that semester's participation has not been included in this study.

- Notice of Student Registration forms contained self-reported student information.

- Social security numbers were entered into the Lotus 1-2-3 file manually; therefore, it is possible that numbers could have been entered incorrectly.

- There is no standardized or recommended format for community college registrars to follow in recording PSEO enrollments.

- There is no statewide computerized data base of participation in the PSEOA which limited this researcher's ability to conduct longitudinal outcomes research on a large, state-wide student participant population.

- Because the subsequent Regent university student transcript was the primary source of information for each student studied, students who withdrew from or who earned an F grade in courses taken for PSEO credit are not included in this study as those grades were not carried forward to the university transcript.

- The number of subjects in each of the comparison groups was unbalanced. There were significantly more subjects in the population studied who took courses awarding PSEO credit at the community college than there were who took courses awarding PSEO credit in the local high schools.

Data Analysis

Data files were generated using StatView Student, a data analysis software package with a capacity for statistically analyzing up to 500 student records on as many as 50 variables. The population included 204 individual high school students who took a total of 396 courses for PSEO credit. Fifty of the 204 students took at least one course for PSEO
credit offered through a community college at their local high schools. Of the 396 total courses taken by the 204 students for which PSEO credit was awarded, 86 courses were taken at high school locations.

Individual student data were entered by social security number. The primary data sources were the students' university transcripts to which the university registrars had added the students' years of high school graduation, ACT composite scores, and high school class percentile rankings. Secondary data sources included lists of classes taught by the community colleges at local high schools which were provided by the community college registrars. Data columns were established for the following research variables:

- course grade for which PSEO credit was awarded
- community college awarding PSEO credit
- location of course awarding PSEO credit (high school or community college)
- Regent university to which student subsequently transferred PSEO credit
- ACT composite score
- high school class percentile ranking
- Regent university cumulative grade point average
- number of Regent university credit hours earned
- Regent university student enrollment status (in school or not in school)

Two primary data files were used. The first primary data file contained one record per PSEO course. Although the social security number of each student was entered only once, separate data rows were generated for each PSEO course in which the student enrolled. The second primary data file contained one record per student, the record included on the data
row containing the student's social security number. Each data file included all the research variables listed above.

In each file, data were analyzed by sorting by location of course awarding PSEO credit into the two comparison groups. Information about courses taken for PSEO credit which were taught in the high schools was compared with information about courses taken for PSEO credit which were taught at the community college campus/center. Information about students who enrolled in at least one course for PSEO credit which was taught at the high schools was compared with information about students who enrolled in at least one course for PSEO credit which was taught at the community college campus/center.

**Descriptive Statistical Tests**

Descriptive statistical tests were run on each data file to describe each of the comparison groups. Tables are included in Chapter IV that show distribution of PSEO courses, mean course grades, and student participation by community college, by class location, and by subsequent university enrollment. The means of individual student characteristics such as ACT composite score, high school class percentile ranking, university credit hours earned, and university grade point average are also reported for each community college and university.

**Comparative Tests**

One-factor Analysis of Variance (ANOVA) tests were run to compare PSEO course grades among community colleges awarding the PSEO credit and to compare individual student high school class percentile class rankings, ACT composite scores, and university grade point averages of participating students among community colleges awarding PSEO
credit and of participating students among universities to which they subsequently enrolled. Tables are included in Chapter IV illustrating the results of the ANOVA tests.

**Statistical Tests of Null Hypotheses**

Inferential and correlational statistical techniques were used to test the null hypotheses given in Chapter I. Independent t-tests were run on the comparison groups to see if a significant difference in means existed for the research variables of PSEO course grade, ACT composite score, high school class percentile ranking, and university cumulative grade point average. Pearson Product-Moment correlation tests were run to investigate the relationship between PSEO course grade and university grade point average and the relationship between PSEO grade and ACT composite score for both of the comparison groups. A Chi-Square statistical test was run to determine whether the observed frequency of the two comparison groups' university enrollment status was as expected.

**Statistical Power**

The level of significance for all statistical tests used to reject the null hypotheses was set at .10 because of the exploratory nature of this study and because no previous, like research had been conducted. This increased the probability that the null hypotheses would be rejected. According to Borg and Gall (1989), . . . "some researchers feel it is permissible to set $p$ at .10 in exploratory studies to increase statistical power. A $p$ of .10 increases the risk of Type I error, but it also might spotlight a potentially important difference or relationship that would have been overlooked had a lower $p$ value been set" (p. 358).
Observational Study

In addition to investigating the general research question, "Is there a significant difference in ACT composite scores, grades recorded for PSEO credit, high school class percentile ranking, subsequent university academic performance, and current university enrollment status between students who transfer credit earned in PSEO courses taken in the high schools and students who transfer credit earned in PSEO courses taken at the community college campus/center," the results of an observational study have been included in this report. Kirkwood Community College and Southeastern Community College have developed computer data bases for PSEOA activity at their community colleges. While each institution records some different information, a profile of PSEO participation and activity can be reported. These data bases could be used as models by other institutions for developing computerized data bases for PSEO record-keeping.

Observed Population

The population in this observational study consisted of 423 transfer courses and 262 vocational courses for which PSEO credit was awarded by Kirkwood Community College and 543 courses for which PSEO credit was awarded by Southeastern Community College.

Data Collection Methods

The registrar at Kirkwood Community College provided a list of all PSEO courses in which high school students enrolled for the 1990-91, 1991-92, and 1992-93 academic years. This list included student social security numbers, academic term, course name, course grade,
location of course, delivery method of course, transfer/vocational-technical designation, and classification as postsecondary.

The registrar at Southeastern Community College provided a list of all PSEO courses in which high school students enrolled for the 1990-91, 1991-92, and 1992-93 academic years at the Burlington and Keokuk campuses. This list included student social security numbers, academic term, course number and title, credit hours awarded, and course grade.

Data Analysis

Data files were established for each of the two community colleges. Inferential and descriptive research techniques were used to answer the following questions relating to PSEO participation for the 1990-91, 1991-92, and 1992-93 academic years at Kirkwood Community College and at Southeastern Community College.

1. What was the frequency of grades earned by students enrolled in PSEO classes at Kirkwood Community College and Southeastern Community College, including non-passing and withdrawal grades?

2. Is there a significant difference by class location in mean grade earned for courses awarding PSEO credit through Kirkwood Community College?

3. Is there a significant difference by class instructional delivery method in mean grade earned for courses awarding PSEO credit through Kirkwood Community College?

4. What were the numbers of vocational and transfer courses taken for PSEO credit through Kirkwood Community College?

5. Is there a significant difference by community college site in mean grade for courses awarding PSEO credit through Southeastern Community College?
CHAPTER IV. FINDINGS

This chapter includes a description of the courses and individual students included in the population and an investigation of the null hypotheses. An interpretation of the results has been included for each statistical finding. In addition, descriptive information has been provided for courses for which PSEO credit was awarded at two of the participating community colleges.

Description of Population

During the three years studied, a total of 4,596 Iowa junior and senior high school students took courses for PSEO credit as reported by the Iowa Department of Education. It is probable that these were not all individual students, that some students would have taken classes in both their junior and senior years. These 4,596 students enrolled in a total of 6,730 courses.

The population for this research study was 204 junior and senior high school students who completed a total of 396 courses for which PSEO credit was awarded by Des Moines Area Community College, Kirkwood Community College, North Iowa Area Community College, and Southeastern Community College, the four community colleges participating in this study, during the 1990-91, 1991-92, and 1992-93 academic years. Each of these 204 students subsequently enrolled as first-year students at Iowa State University, The University of Iowa, or the University of Northern Iowa, Iowa's three Regent institutions.
Descriptive and comparative information has been included about total courses taken for PSEO credit by community college and by university to which the PSEO credit was transferred. Descriptive and comparative information has also been included about individual student characteristics for each community college at which courses were taken for PSEO credit and for each university to which the student subsequently enrolled as a first-time freshman student.

**Information about Courses**

As can be seen in Table 5, DMACC recorded the largest number of courses taken for PSEO credit, and Kirkwood and NIACC reported the largest number of courses taken for PSEO credit at high school locations. Southeastern Community College offered no classes in high schools during the years included in this study.

**Table 5. PSEO course grades by community college and number of courses taken by location and by university to which they were transferred.**

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<th>Kirkwood</th>
<th>NIACC</th>
<th>SECC</th>
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<td>% of N</td>
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</tbody>
</table>
Table 6 compares the grades earned in courses taken at high school locations with the grades earned in courses taken at the community colleges and shows that at the high schools the greatest number of grades earned was Bs while at the community colleges the greatest number of grades earned was As. The mean grade points were 3.058 and 3.152 respectively, and the modes were 3 and 4 respectively using a standard grading scale where an A is awarded 4 points; a B, 3 points; a C, 2 points, and a D, 1 point; however, the difference was minimal.

Table 6. Comparison of grades earned in courses taken for PSEO credit taught in the high schools and at the community colleges.

<table>
<thead>
<tr>
<th>Grades</th>
<th>High School</th>
<th>Community College</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=86</td>
<td>% of N</td>
</tr>
<tr>
<td>A - 4 pts</td>
<td>24</td>
<td>28</td>
</tr>
<tr>
<td>B - 3 pts</td>
<td>43</td>
<td>50</td>
</tr>
<tr>
<td>C - 2 pts</td>
<td>19</td>
<td>22</td>
</tr>
<tr>
<td>D - 1 pt</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mean</td>
<td>3.058</td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td>3.000</td>
<td></td>
</tr>
<tr>
<td>Std Dev</td>
<td>0.709</td>
<td></td>
</tr>
</tbody>
</table>

An ANOVA test was run against the grades earned in all courses, both those taught at the high schools and those taught at the community colleges, by individual community college. It was found that a highly significant difference existed in mean grade earned among community colleges. Students earning PSEO credit at SECC had the highest mean grade point, and students at DMACC had the lowest mean grade point. The results of the ANOVA test are reported in Table 7. Students at DMACC had a mean course grade average of 2.84
Table 7. ANOVA results of mean PSEO course grade by community college.

<table>
<thead>
<tr>
<th>Community College</th>
<th>N Courses</th>
<th>Mean PSEO Course Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMACC</td>
<td>119</td>
<td>2.84</td>
</tr>
<tr>
<td>Kirkwood</td>
<td>73</td>
<td>3.11</td>
</tr>
<tr>
<td>NIACC</td>
<td>98</td>
<td>3.30</td>
</tr>
<tr>
<td>SECC</td>
<td>106</td>
<td>3.32</td>
</tr>
</tbody>
</table>

*p = .0001

on a 4-point scale, and students at Southeastern Community College had a mean course grade average of 3.32 on a 4-point scale.

Information about Individual Students

Tables 8 and 9 display the characteristics of the 204 individual students for each variable used in conducting research on the population studied. Table 8 lists the student characteristics for the 50 individual students who took at least one class for PSEO credit in their local high schools and the student characteristics for the 154 individual students who took at least one class for PSEO credit at a community college.

Table 8. Characteristics of individual students enrolled in courses for PSEO credit by course location.

<table>
<thead>
<tr>
<th>Student Characteristics</th>
<th>High School</th>
<th>Community College</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=50</td>
<td></td>
<td>N=154</td>
</tr>
<tr>
<td>Mean PSEO course grade GPA</td>
<td>2.98</td>
<td>3.17</td>
</tr>
<tr>
<td>Mean high school class rank</td>
<td>80.20%</td>
<td>79.34%</td>
</tr>
<tr>
<td>Mean ACT composite</td>
<td>24.69</td>
<td>24.14</td>
</tr>
<tr>
<td>Number (%) in college</td>
<td>41 (82%)</td>
<td>117 (76%)</td>
</tr>
<tr>
<td>Number (%) not in college</td>
<td>9 (18%)</td>
<td>37 (24%)</td>
</tr>
<tr>
<td>Mean univ credit hours earned</td>
<td>66.28</td>
<td>62.71</td>
</tr>
<tr>
<td>Mean univ cumulative GPA</td>
<td>2.76</td>
<td>2.77</td>
</tr>
</tbody>
</table>
The number of individual students earning PSEO credit at each of the four community colleges was well balanced. Table 9 displays the characteristics of the 204 individual students by community college through which the students earned PSEO credit regardless of whether the students earned their PSEO credit at a high school or at a community college.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>DMACC</th>
<th>Kirkwood</th>
<th>NIACC</th>
<th>SECC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mean ACT</strong></td>
<td>22.83</td>
<td>24.66</td>
<td>24.85</td>
<td>24.79</td>
<td>24.28</td>
</tr>
<tr>
<td><strong>Mean hs class rank</strong></td>
<td>74.35%</td>
<td>78.91%</td>
<td>79.48%</td>
<td>84.95%</td>
<td>79.55%</td>
</tr>
<tr>
<td><strong>Mean univ credit hrs</strong></td>
<td>66.04</td>
<td>59.38</td>
<td>67.02</td>
<td>61.16</td>
<td>63.58</td>
</tr>
<tr>
<td><strong>Mean univ cum gpa</strong></td>
<td>2.59</td>
<td>2.80</td>
<td>2.85</td>
<td>2.84</td>
<td>2.77</td>
</tr>
<tr>
<td><strong>% students in college</strong></td>
<td>71.15%</td>
<td>78.57%</td>
<td>81.48%</td>
<td>78.57%</td>
<td>77.45%</td>
</tr>
</tbody>
</table>

An ANOVA test was run on the variables of class rank, ACT composite, and university grade point average for the population included in this study by the community college awarding PSEO credit, the results of which are reported in Table 10. A highly significant difference was found by community college in the variables of class rank and ACT composite. Students earning PSEO credit at SECC had the highest mean class rank; students at DMACC, the lowest. Students earning PSEO credit at NIACC had the highest mean ACT composite; students at DMACC, the lowest. There was no significant difference in the subsequent mean university grade point averages when comparing students earning PSEO credit at any of the four participating community colleges.
Table 10. ANOVA results of student characteristics by community college awarding PSEO credit.

<table>
<thead>
<tr>
<th>Community College</th>
<th>Mean HS Class Rank</th>
<th>Mean ACT</th>
<th>Mean Univ GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMACC - N=52</td>
<td>74.35</td>
<td>22.83</td>
<td>2.59</td>
</tr>
<tr>
<td>Kirkwood - N=42</td>
<td>78.91</td>
<td>24.66</td>
<td>2.80</td>
</tr>
<tr>
<td>NIACC - N=54</td>
<td>79.48</td>
<td>24.85</td>
<td>2.85</td>
</tr>
<tr>
<td>SECC - N=56</td>
<td>84.95</td>
<td>24.79</td>
<td>2.84</td>
</tr>
</tbody>
</table>

\[ p = .0034 \quad p = .0098 \quad p = .1802 \]

To further describe the population studied, Table 11 illustrates the characteristics of students by the university to which they transferred PSEO credit. Among the students who were the subjects of this study, the greatest number transferred credit to ISU while the fewest transferred credit to UNI.

Table 11. Characteristics of students earning PSEO credit by university to which the students subsequently enrolled.

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>ISU</th>
<th>UNI</th>
<th>U of IA</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean ACT composite</td>
<td>23.83</td>
<td>23.59</td>
<td>25.28</td>
<td>24.28</td>
</tr>
<tr>
<td>Mean HS class rank</td>
<td>77.10%</td>
<td>78.32%</td>
<td>83.14%</td>
<td>79.55%</td>
</tr>
<tr>
<td>Mean univ credit hrs earned</td>
<td>62.68</td>
<td>75.70</td>
<td>55.49</td>
<td>63.58</td>
</tr>
<tr>
<td>Mean univ cum gpa</td>
<td>2.57</td>
<td>2.81</td>
<td>2.95</td>
<td>2.77</td>
</tr>
<tr>
<td>% students in college</td>
<td>75.64%</td>
<td>83.33%</td>
<td>75.00%</td>
<td>77.45%</td>
</tr>
</tbody>
</table>
An ANOVA test was run to compare the student characteristics by university to which the student subsequently enrolled, and the results are reported in Table 12. A significant difference was found in mean class ranks and in mean ACT composites, and a highly significant difference was found in mean university grade point averages among the three universities. It is also interesting to note, however, that there was consistency among the three variables for each university. For example, the lowest mean high school class ranking was reported for ISU students as was the lowest mean cumulative grade point average.

Table 12. ANOVA results of student characteristics by university to which students subsequently enrolled.

<table>
<thead>
<tr>
<th>University</th>
<th>Mean HS Class Rank</th>
<th>Mean ACT Composite</th>
<th>Mean Univ GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISU - N=78</td>
<td>77.10</td>
<td>23.83</td>
<td>2.57</td>
</tr>
<tr>
<td>UNI - N=55</td>
<td>78.32</td>
<td>23.59</td>
<td>2.81</td>
</tr>
<tr>
<td>U of IA - N=71</td>
<td>83.14</td>
<td>25.28</td>
<td>2.95</td>
</tr>
</tbody>
</table>

\[
\begin{array}{c}
p = 0.0389 \\
p = 0.0134 \\
p = 0.0048
\end{array}
\]

Supplemental descriptive information has been included about the number of hours of university credit earned and the university grade point averages of students who took courses for PSEO credit offered at the high school locations and students who took courses for PSEO credit by enrolling in courses on the community college campus. This descriptive information has been provided in Table 13.

Forty-four percent of students earning PSEO credit through classes taken at the high school were earning at least a 3.0 university grade point average at the time this research was conducted. Thirty-eight percent of students earning PSEO credit through classes taken at a
Table 13. University performance of students completing courses for PSEO credit by location of course for which credit was awarded.

<table>
<thead>
<tr>
<th>Credit hours earned</th>
<th>High School</th>
<th>Community College</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=50</td>
<td>% of N</td>
<td>N=154</td>
</tr>
<tr>
<td>0-29</td>
<td>6</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>30-59</td>
<td>14</td>
<td>28</td>
<td>58</td>
</tr>
<tr>
<td>60-89</td>
<td>19</td>
<td>38</td>
<td>46</td>
</tr>
<tr>
<td>90-119</td>
<td>7</td>
<td>14</td>
<td>21</td>
</tr>
<tr>
<td>120+</td>
<td>4</td>
<td>8</td>
<td>8</td>
</tr>
<tr>
<td>Univ cum gpa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0-.99</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>1.0-1.99</td>
<td>11</td>
<td>22</td>
<td>17</td>
</tr>
<tr>
<td>2.0-2.99</td>
<td>17</td>
<td>34</td>
<td>74</td>
</tr>
<tr>
<td>3.0-3.99</td>
<td>22</td>
<td>44</td>
<td>58</td>
</tr>
<tr>
<td>4.0+</td>
<td>0</td>
<td>0</td>
<td>2</td>
</tr>
</tbody>
</table>

Community college were earning at least a 3.0 university grade point average at the time this research was conducted.

Investigation of Null Hypotheses

The primary research question for this study, "Is there a significant difference in ACT composite scores, grades recorded for PSEO credit, high school class rank, subsequent university academic performance, and current Regent university enrollment status between students who transferred postsecondary enrollment options credit earned in courses taken in the high schools and students who transferred postsecondary enrollment options credit earned in courses taken on campus or at an off-campus center at selected community colleges," has been studied through an investigation of seven null hypotheses. Tables have been included to display the results of the statistical tests run on the null hypotheses.
Ho1

There is no significant difference between the means of PSEO grades earned in
courses taken at the high school and PSEO grades earned in courses taken at a community
college site.

An independent t-test comparing the means of all 396 courses completed by students
in each of the two comparison groups was used to test Ho1. Table 14 illustrates that no
significant difference was found in mean course grade earned when comparing grades earned
by students completing courses for PSEO credit at a high school with students completing
courses for PSEO credit at a community college site. Therefore, Ho1 cannot be rejected.

Table 14. Mean PSEO course grade by class location.

<table>
<thead>
<tr>
<th>Class Location</th>
<th>Mean PSEO Course Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1 - high school location (N=86)</td>
<td>3.058</td>
</tr>
<tr>
<td>Group 2 - community college location (N=310)</td>
<td>3.152</td>
</tr>
</tbody>
</table>

Ho2

There is no significant difference in the mean ACT composite scores between students
who earned PSEO credit through courses taken at the high school and students who earned
PSEO credit by enrolling in courses at a community college site.
There is no significant difference in the mean high school class rankings between students who earned PSEO credit through courses taken at the high school and students who earned PSEO credit by enrolling in courses at a community college site.

There is no significant difference in the mean university grade point averages between students who earned PSEO credit through courses taken at the high school and students who earned PSEO credit by enrolling in courses taken at a community college site.

Independent t-tests of mean ACT composites, mean high school class rankings, and mean university grade point averages were run for each of the two comparison groups to test Ho2, Ho3, and Ho4. The results are displayed in Table 15. There is no significant difference in mean ACT composites, mean high school class rankings, and mean university grade point averages in the two comparison groups. Therefore, Ho2, Ho3, and Ho4 cannot be rejected.

Table 15. Mean ACT composite score, mean high school class rank, and mean university grade point average of comparison groups.

<table>
<thead>
<tr>
<th>Course Location</th>
<th>Mean ACT Comp</th>
<th>Mean HS Class Rank</th>
<th>Mean Univ GPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1 - high schl</td>
<td>24.69</td>
<td>80.20%</td>
<td>2.76</td>
</tr>
<tr>
<td>N=50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 2 - comm coll</td>
<td>24.14</td>
<td>79.34%</td>
<td>2.77</td>
</tr>
<tr>
<td>N=154</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>p = .3559</td>
<td>p = .7291</td>
<td>p = .9258</td>
<td></td>
</tr>
</tbody>
</table>
There is no significant relationship between PSEO grades earned and university cumulative grade point average in either of the two comparison groups noted above.

There is no significant relationship between PSEO grades earned and ACT composite scores in either of the two comparison groups noted above.

Pearson Product-Moment tests of correlation were run to investigate the relationship between PSEO grade earned and university grade point average and PSEO grade earned and ACT composite in either of the two comparison groups as stated in Ho5 and Ho6. The results are displayed in Table 16.

The strength of the relationships between PSEO grade and university grade point average and PSEO grade and ACT composite was not significant in either of the two comparison groups. Ho5 and Ho6 cannot be rejected.

Table 16. Relationship of PSEO grade and university grade point average and PSEO grade and ACT composite score of comparison groups.

<table>
<thead>
<tr>
<th>Course Location</th>
<th>PSEO Grade: Univ GPA</th>
<th>PSEO Grade: ACT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1 - high school</td>
<td>Correlation - .340</td>
<td>Correlation - .280</td>
</tr>
<tr>
<td>N=50</td>
<td>R-squared - .116</td>
<td>R-squared - .078</td>
</tr>
<tr>
<td>Group 2 - comm college</td>
<td>Correlation - .314</td>
<td>Correlation - .184</td>
</tr>
<tr>
<td>N=154</td>
<td>R-squared - .099</td>
<td>R-squared - .034</td>
</tr>
</tbody>
</table>
**Ho7**

There is no significant difference between the observed frequency and the expected frequency of students who earned PSEO credit through courses taken at the high school and students who earned PSEO credit through courses taken at a community college site and whether or not, at the time of this study, they were enrolled or not enrolled at an Iowa Regent institution.

A Chi-Square test of frequencies was run to investigate Ho7. No significant difference was found between the observed and expected frequencies of students who were enrolled in a Regent institution at the time of this study when comparing the two research groups. The observed frequencies were as expected; therefore, Ho7 cannot be rejected.

**Table 17.** Observed and expected frequencies of comparison groups and current university enrollment status.

<table>
<thead>
<tr>
<th>Course Location</th>
<th>Observed Frequencies</th>
<th>Expected Frequencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1 - high school</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=50</td>
<td>In college - 41</td>
<td>In college - 38.73</td>
</tr>
<tr>
<td></td>
<td>Not in college - 9</td>
<td>Not in college - 11.27</td>
</tr>
<tr>
<td>Group 2 - community college</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=154</td>
<td>In college - 117</td>
<td>In college - 119.27</td>
</tr>
<tr>
<td></td>
<td>Not in college - 37</td>
<td>Not in college - 34.73</td>
</tr>
</tbody>
</table>

\[ p = .3757 \]

**Observational Study**

When the participating community colleges were contacted to provide information about the location of courses for which PSEO credit was awarded, the registrars at two of the community colleges, Kirkwood Community College and Southeastern Community College,
submitted additional information from their databases from which an observational study was undertaken. Included in this chapter on findings are tables that provide descriptive information about all courses offered for PSEO credit by those Kirkwood Community College and Southeastern Community College during academic years 1990-91, 1991-92, and 1992-93 and not only courses in which students enrolled who subsequently matriculated at one of the Regent institutions.

**Kirkwood Community College**

The list of participation in courses offered for PSEO credit at Kirkwood Community College included the students' social security numbers, academic terms, course titles, grades, location of courses, delivery method, and whether the course was a vocational or transfer course. During the three years included in this study, high school students enrolled in a total of 424 courses awarding transfer credit and 262 courses awarding vocational credit during the three years included in this study. Table 18 shows the breakdown of grades earned in courses for which PSEO credit was awarded in 1990-91, 1991-92, and 1992-93.

Kirkwood Community College offers courses in local high schools where students can earn PSEO credit. Kirkwood's main campus is in Cedar Rapids, Iowa, and it has extension centers in the area it serves. Courses offered at other locations could include courses for independent study and televised courses. Table 19 illustrates the number and percent of transfer and vocational courses offered at each location during the three years included in this study.
Table 18. Grades earned in transfer and vocational courses for which PSEO credit was awarded through Kirkwood Community College.

<table>
<thead>
<tr>
<th>Grade Earned</th>
<th>Academic Courses</th>
<th>Vocational Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=424 % of N</td>
<td>N=262 % of N</td>
</tr>
<tr>
<td>A</td>
<td>102 24</td>
<td>14 5</td>
</tr>
<tr>
<td>B</td>
<td>110 26</td>
<td>42 16</td>
</tr>
<tr>
<td>C</td>
<td>97 23</td>
<td>43 17</td>
</tr>
<tr>
<td>D</td>
<td>28 7</td>
<td>19 7</td>
</tr>
<tr>
<td>F</td>
<td>27 6</td>
<td>0 0</td>
</tr>
<tr>
<td>W (withdraw)</td>
<td>48 11</td>
<td>15 6</td>
</tr>
<tr>
<td>X (repeated)</td>
<td>11 3</td>
<td>1 0</td>
</tr>
<tr>
<td>P (passing)</td>
<td>109</td>
<td>42</td>
</tr>
<tr>
<td>Q (no credit)</td>
<td>19</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 19. Location of courses taken for PSEO credit through Kirkwood Community College.

<table>
<thead>
<tr>
<th>Course Location</th>
<th>Academic Courses</th>
<th>Vocational Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=424 % of N</td>
<td>N=262 % of N</td>
</tr>
<tr>
<td>Cedar Rapids</td>
<td>168 40</td>
<td>218 83</td>
</tr>
<tr>
<td>Iowa City</td>
<td>17 4</td>
<td></td>
</tr>
<tr>
<td>County Centers</td>
<td>113 26</td>
<td>1 1</td>
</tr>
<tr>
<td>High School</td>
<td>125 30</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>1 0</td>
<td>43 16</td>
</tr>
</tbody>
</table>

Mean grades were determined for each of the locations at which Kirkwood offers courses which qualify for awarding PSEO credit. An ANOVA test was run comparing the mean grades by location for all A-F grades recorded for transfer courses, and the results are reported in Table 20. As illustrated, there is no significant difference in mean grades earned by location of course. The mean grade earned in the two locations where the largest number of courses was taught revealed a difference of only .15 of a point on a 4-point grading scale where 4.0 is an A, 3.0 is a B, 2.0 is a C, and 1.0 is a D.
Table 20. ANOVA results of mean PSEO grade earned through Kirkwood Community College by course location.

<table>
<thead>
<tr>
<th>Course Location</th>
<th>A-F Course Grades</th>
<th>Mean Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=365 % of N</td>
<td></td>
</tr>
<tr>
<td>Cedar Rapids</td>
<td>147 40</td>
<td>2.68</td>
</tr>
<tr>
<td>Iowa City</td>
<td>15 4</td>
<td>2.93</td>
</tr>
<tr>
<td>County Centers</td>
<td>86 24</td>
<td>2.67</td>
</tr>
<tr>
<td>High Schools</td>
<td>116 32</td>
<td>2.53</td>
</tr>
<tr>
<td>Other</td>
<td>1 0</td>
<td>4.00</td>
</tr>
</tbody>
</table>

\[ p = .4726 \]

Kirkwood offers courses by a number of delivery methods and includes this information in its student database. Table 21 reports the number and percent of courses offered by each delivery method at the various course locations during the 1990-93 academic years.

Table 21. Courses in which PSEO credit was awarded through Kirkwood Community College by delivery method.

<table>
<thead>
<tr>
<th>Delivery Method</th>
<th>Academic Courses</th>
<th>Vocational Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N=424 % of N</td>
<td>N=262 % of N</td>
</tr>
<tr>
<td>Face-to-Face</td>
<td>216 51</td>
<td>262 100</td>
</tr>
<tr>
<td>IFTS (2-way audio/video)</td>
<td>115 27</td>
<td></td>
</tr>
<tr>
<td>Teелиnk</td>
<td>32 8</td>
<td></td>
</tr>
<tr>
<td>Open Learning Lab</td>
<td>61 14</td>
<td></td>
</tr>
</tbody>
</table>

An ANOVA test was run comparing mean grades by delivery method. The results are reported in Table 22. No significant difference in mean grades by delivery method was found.

Descriptive information about courses from which students withdrew is included in Table 23. There were a total of 48 students who withdrew from transfer courses. The
breakdown by location and delivery method has been reported. Because all of the vocational
courses were taken primarily at the Cedar Rapids campus and were delivered by face-to-face
instruction, only the transfer withdrawals have been included. In addition to reporting the
number and percent of withdrawal grades by location and delivery method, the percent of
total courses taught at each location and by each delivery method has been included for
observational comparison.

Table 22. ANOVA results by delivery method of mean PSEO course grade.

<table>
<thead>
<tr>
<th>Delivery Method</th>
<th>A-F Course Grades</th>
<th>Mean Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face-to-Face</td>
<td>N=365</td>
<td>% of N</td>
</tr>
<tr>
<td>IFTS (2-way audio/video)</td>
<td>107</td>
<td>29</td>
</tr>
<tr>
<td>Telelink</td>
<td>27</td>
<td>7</td>
</tr>
<tr>
<td>Open Learning Lab</td>
<td>43</td>
<td>12</td>
</tr>
<tr>
<td>N=365</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[ p = .1031 \]

Table 23. Withdrawal grades by location and delivery method when compared to total
courses taught by each.

<table>
<thead>
<tr>
<th>Location</th>
<th>W Grades</th>
<th>% of Total Courses Taught at Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cedar Rapids</td>
<td>17</td>
<td>35.4</td>
</tr>
<tr>
<td>Iowa City</td>
<td>2</td>
<td>4.2</td>
</tr>
<tr>
<td>County Centers</td>
<td>22</td>
<td>45.8</td>
</tr>
<tr>
<td>High School</td>
<td>7</td>
<td>14.6</td>
</tr>
<tr>
<td>Other</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**Delivery Method**

<table>
<thead>
<tr>
<th>Delivery Method</th>
<th>W Grades</th>
<th>% of Total Courses Taught at Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face-to-Face</td>
<td>25</td>
<td>52.1</td>
</tr>
<tr>
<td>IFTS (2-way audio/video)</td>
<td>5</td>
<td>10.4</td>
</tr>
<tr>
<td>Telelink</td>
<td>5</td>
<td>10.4</td>
</tr>
<tr>
<td>Open Learning Lab</td>
<td>13</td>
<td>27.1</td>
</tr>
</tbody>
</table>
Southeastern Community College

The list of participation in courses for PSEO credit offered by Southeastern Community College included students' social security numbers, high schools in which students were enrolled, academic terms, course numbers and titles, credit hours awarded, and grades earned by location. Southeastern Community College offers courses only at Burlington and Keokuk; there are no courses offered for PSEO credit in the local high schools. Table 24 is a comparison of grades awarded at each of the locations, including number of grades and percent of total grades during the 1990-91, 1991-92, and 1992-93 academic years. Included also is descriptive information about the A-F grades. While the mean grades were similar at the two locations, a larger number and percent of students withdrew from courses offered at the Keokuk campus.

<table>
<thead>
<tr>
<th>Grade</th>
<th>Total</th>
<th>Burlington</th>
<th>% of N</th>
<th>Keokuk</th>
<th>% of N</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>152</td>
<td>90</td>
<td>28.5</td>
<td>62</td>
<td>26.1</td>
</tr>
<tr>
<td>B</td>
<td>166</td>
<td>84</td>
<td>26.6</td>
<td>82</td>
<td>34.5</td>
</tr>
<tr>
<td>C</td>
<td>134</td>
<td>84</td>
<td>26.6</td>
<td>50</td>
<td>21.0</td>
</tr>
<tr>
<td>D</td>
<td>30</td>
<td>18</td>
<td>5.7</td>
<td>12</td>
<td>5.0</td>
</tr>
<tr>
<td>F</td>
<td>29</td>
<td>18</td>
<td>5.7</td>
<td>11</td>
<td>4.6</td>
</tr>
<tr>
<td>W</td>
<td>30</td>
<td>9</td>
<td>2.8</td>
<td>21</td>
<td>8.8</td>
</tr>
<tr>
<td>P</td>
<td>13</td>
<td>13</td>
<td>4.1</td>
<td>0</td>
<td>0.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>A-F Grades</th>
<th>Total</th>
<th>Burlington</th>
<th>Keokuk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>2.71</td>
<td>2.80</td>
<td></td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>1.15</td>
<td>1.08</td>
<td></td>
</tr>
</tbody>
</table>

Table 24. Comparison of grades awarded through Southeastern Community College by course location.
CHAPTER V. SUMMARY, CONCLUSIONS, AND IMPLICATIONS

The final chapter of this dissertation includes a review of the research question and methodology used to investigate the null hypotheses, a brief discussion of the findings, implications for secondary and postsecondary educational decision-makers, and questions for future research examining and analyzing the implementation and effectiveness of the Iowa Postsecondary Enrollment Options Act.

Research Question and Methodology

The Iowa Postsecondary Enrollment Options Act was passed by the Iowa Legislature in 1987 affording high school students the opportunity to take college courses while in high school for which they would earn both high school and college credit. Student participation in this program has grown significantly since its inception. In 1989-90, 731 students took a total of 797 courses for college credit under the PSEOA. By 1993-94, those numbers had grown to 2,921 students and 4,422 courses.

Limited descriptive research has been conducted on the implementation of the PSEOA; and until this study was undertaken, no attempt had been made to conduct longitudinal research on the postsecondary educational outcomes of students participating in the PSEO program. Questions and concerns have been voiced by high school and postsecondary educational administrators relating to whether or not the program is serving the students it was intended to serve and whether or not the program is functioning as intended by the authors of the legislation. This quantitative, exploratory study was undertaken to attempt
to address a concern among postsecondary educators relating to the quality of courses offered in the local high schools by the community colleges for the purpose of accommodating student participation in the PSEO program. The purpose of this study was to see if there was any significant difference in academic ability, high school academic achievement, and university academic performance between students who took courses for which PSEO credit was awarded in the high schools and students who took courses for which PSEO credit was awarded on the community college campus.

The primary research question, "Is there a significant difference in ACT composite scores, grades recorded for PSEO credit, high school class rank, subsequent university academic performance, and current Regent university enrollment status between students who transferred PSEO credit earned in courses taken in the high schools and students who transferred PSEO credit earned in courses taken on the community college campus," was investigated by testing seven null hypotheses. None of the seven null hypotheses could be rejected at the .10 level of statistical significance.

The subjects for this study were 204 students who earned PSEO credit for completing a total of 396 courses through four Iowa community colleges and who subsequently enrolled at Iowa's three Regent universities. Research variables included high school class ranking, ACT composite score, grade earned in course taken for PSEO credit, university cumulative grade point average, and university enrollment status. The 204 subjects were divided into two groups: 54 students who earned PSEO credit by taking courses with their high school peers taught at the high school by the community college and 154 students who earned PSEO credit by enrolling in a college course on the community college campus or off-campus center.
Statistical tests used to compare the two research groups on the variables listed above included independent t-tests of means, a Pearson product-moment test of correlation, and a Chi-Square test of observed and expected frequencies.

Conclusions

As stated above, there was no significant difference in any of the research variables between the two comparison groups. However, a limitation to this study was the lack of available data. Thus, students from only four of the state’s fifteen community colleges were included. Unless it can be assumed that the participating four community colleges are representative of all fifteen community colleges, findings resulting from this study cannot be generalized to or predictive for students enrolled for PSEO credit through other Iowa community colleges.

A summary of the findings resulting from testing the null hypotheses follows:

- There was no statistically significant difference in mean PSEO course grades earned between the two comparison groups.
- There was no statistically significant difference in the means for ACT composite score, high school class ranking, and university cumulative grade point average between the two comparison groups.
- There was no statistically significant relationship between PSEO grade earned and university cumulative grade point average and PSEO grade earned and ACT composite scores in either of the two comparison groups.
• There was no statistically significant difference between the observed frequency and expected frequency of current university enrollment status between the two comparison groups.

While there was no statistically significant difference in any of the research variables studied, one could ask if there are factors which would have produced a difference. Were the courses taught in the high school of the same difficulty level as those taught on the community college campus? Would there be a difference if comparisons were made of courses grouped by subject matter? Would there be a difference in grades among groups of students with different postsecondary educational goals? Would the motivation to succeed be equally as great for high school students taking courses with their peers as it would be for high school students taking courses with college students? Would there be a difference in grades between students who took courses in the high school taught by a high school teacher and students who took courses taught by a community college teacher? Would the results have been different if all Iowa community colleges and all four-year postsecondary institutions had been included in the study? All of the above are variables which may have produced different results and are questions which could be used for further research.

Implications

William Lepley's (1991) vision of an ideal educational system for Iowa would “decrease the educational barriers created by school district boundaries, school calendars and clocks, grade divisions, and lack of linkages with postsecondary education” (p. 154). The Iowa Postsecondary Enrollment Options Act was enacted to minimize one of those barriers.
Since the enactment of the Iowa PSEOA, there has been much discussion about its effectiveness between, among, and within the different educational sectors. One question often asked was, "how are the students who are transferring PSEO credit into a four-year college progressing through the system, and is there a difference in whether they take the course with their high school peers or with other college students?" The results of this study would indicate that that concern is unfounded at least for the population included in this study.

Participation in the PSEOA continues to grow statewide. There is no reason to think that this trend will reverse. It is important that there continue to be discussion, debate, and challenges among educational sectors to ensure that the legislation is practiced with the intent for which it was written. With the increased PSEO program participation, it is vital that steps be taken to ensure that students are, in fact, provided expanded educational opportunities and that academic rigor is provided to challenge students.

A perception of this researcher drawn from conducting this study is that the Iowa PSEO program has not been given the priority that it may require to ensure that all sectors are satisfied that it is serving Iowa's students and educational systems well. Students and parents, high school and college administrators, and educational decision-makers would be better served and better informed if improvements were made in the coordination, monitoring, assessing and evaluating, and revising this growing program to ensure that all educational sectors and students are positive about the program and benefit from it. Uniformity in reporting and recording PSEO program participation would be helpful to future researchers attempting to study the various aspects of this legislation. Some suggestions follow:
• a statewide data base for program participation
• a uniform system of reporting PSEO enrollments and course completions to the agency responsible for administering the program
• uniformity of data kept by community colleges to record PSEO credit awarded, location of courses, delivery method, subject matter, etc.
• uniformity in recording PSEO credit on high school and college transcripts
• statewide guidelines and requirements to ensure consistency of content and standards for classes taught at the college campus and classes taught in the high school
• scheduled reviews of the PSEO program by a board of educators, legislators, students and parents

Questions for Future Study

There are several research questions which could be formulated from the PSEO legislation as well as from questions and concerns of Iowa’s educational sectors. Following are some identified by this researcher that could be used in conducting both qualitative and quantitative studies:

• Are educational opportunities being expanded for high school students through the enactment of this legislation?
• Does the program expand educational opportunities for students in rural school districts where school districts may find it challenging to offer even those courses that are required by state law?
• Are the courses promoting rigorous academic pursuits?
- Are students enrolling in courses not offered by their high schools?
- Is dual credit being awarded for courses taken for PSEO credit?
- Why do students intending to attend a postsecondary institution not take advantage of the opportunity to earn college credit while in high school?
- Is the length of time required to complete a four-year degree shorter for students who transfer in PSEO credit than it is for those who do not transfer PSEO credit?
- Did taking a course for PSEO credit impact the student's decision to enroll or not enroll in a four-year university?
- Is there a difference in ACT composite scores, high school class ranking, university grade point average, and current university enrollment status between students who transfer PSEO credit to the four-year institution and those who do not?
- What is the profile of all students who take courses for PSEO credit, not just those who subsequently enroll in a postsecondary institution?
- How does the exporting of students to take courses for PSEO credit impact the high school curriculum and class environment?

Participation in the Iowa Postsecondary Enrollment Options Act has grown significantly in the years since its enactment. It is a program that most likely will continue to grow. While this researcher found no reason to think that it is not serving Iowa students well, as with any other new program, it is important to expend the energy and effort to ensure that it continue to do what it was intended to do—provide academic rigor and expand educational opportunities—for Iowa high school students.
REFERENCES


APPENDIX A

POSTSECONDARY ENROLLMENT OPTIONS ACT

CHAPTER 261C
Postsecondary Enrollment Options

261C.3 Definitions.

As used in this chapter, unless the context otherwise requires:

1. "Eligible postsecondary institution" means an institution of higher learning under the control of the state board of regents, a community college established under chapter 260C, or an accredited private institution as defined in section 261.9, subsection 1.

2. "Eligible pupil" means a pupil classified by the board of directors of a school district, by the state board of regents for pupils of the school for the deaf and the Iowa Braille and sight saving school, or by the authorities in charge of an accredited nonpublic school as a ninth or tenth grade pupil who is identified according to the school district's gifted and talented criteria and procedures, pursuant to section 257.43, as a gifted and talented child, or an eleventh or twelfth grade pupil, during the period the pupil is participating in the enrollment option provided under this chapter. A pupil attending an accredited nonpublic school shall be counted as a shared-time student in the school district in which the nonpublic school of attendance is located for state foundation aid purposes.

261C.4 Authorization.

An eligible pupil may make application to an eligible institution to allow the eligible pupil to enroll for academic or vocational-technical credit in a nonsectarian course offered at that eligible institution. A comparable course, as defined in rules made by the board of directors of the public school district, must not be offered by the school district or accredited nonpublic school which the pupil attends. If an eligible institution accepts an eligible pupil for enrollment under this section, the institution shall send written notice to the pupil, the pupil's school district or accredited nonpublic school or the school for the deaf or the Iowa Braille and sight saving school, and the department of education. The notice shall list the course, the clock hours the pupil will be attending the course, and the number of hours of postsecondary academic or vocational-technical credit that the eligible pupil will receive from the eligible institution upon successful completion of the course.

261C.5 High school credits.
A school district, the school for the deaf, the Iowa Braille and sight saving school, or accredited nonpublic school shall grant high school academic or vocational-technical credit to an eligible pupil enrolled in a course under this chapter if the eligible pupil successfully completes the course as determined by the eligible institution. Eligible pupils, who have completed the eleventh grade but who have not yet completed the requirements for graduation, may take up to seven semester hours of credit during the summer months when school is not in session and receive credit for that attendance, if the pupil pays the cost of attendance of those summer credit hours. The board of directors of the school district, the state board of regents for the school for the deaf and the Iowa Braille and sight saving school, or authorities in charge of an accredited nonpublic school shall determine the number of high school credits that shall be granted to an eligible pupil who successfully completes a course.

The high school credits granted to an eligible pupil under this section shall count toward the graduation requirements and subject area requirements of the school district of residence, the school for the deaf, the Iowa Braille and sight saving school, or accredited nonpublic school of the eligible pupil. Evidence of successful completion of each course and high school credits and postsecondary academic or vocational-technical credits received shall be included in the pupil's high school transcript.

261C.6 School district payments.

Not later than June 30 of each year, a school district shall pay a tuition reimbursement amount to an eligible postsecondary institution that has enrolled its resident eligible pupils under this chapter. For pupils enrolled at the school for the deaf and the Iowa Braille and sight saving school, the state board of regents shall pay a tuition reimbursement amount by June 30 of each year. The amount of tuition reimbursement for each separate course shall equal the lesser of:

1. The actual and customary costs of tuition, textbooks, materials, and fees directly related to the course taken by the eligible student.

2. Two hundred fifty dollars.

A pupil is not eligible to enroll on a full-time basis in an eligible postsecondary institution and receive payment for all courses in which a student is enrolled. If an eligible postsecondary institution is a community college established under chapter 260C, the contact hours of a pupil for which a tuition reimbursement amount is received are not contact hours eligible for general aid under chapter 260D.

261C.8 Prohibition on charges.

An eligible postsecondary institution that enrolls an eligible pupil under this chapter shall not charge that pupil for tuition, textbooks, materials, or fees directly related to the
course in which the pupil is enrolled except that the pupil may be required to purchase equipment that becomes the property of the pupil. However, if the pupil fails to complete and receive credit for the course, the pupil is responsible for all costs directly related to the course as provided in section 261C.6 and shall reimburse the school district for its costs. If the pupil is under eighteen years of age, the pupil's parent, guardian, or custodian shall sign the student registration form indicating that the parent, guardian, or custodian is responsible for all costs directly related to the course, if the pupil fails to complete and receive credit for the course.

If the local area education agency verifies that the pupil was unable to complete the course for reasons including but not limited to the pupil's physical incapacity, death in the family, or the pupil's move to another school district, a verification by the area education agency shall constitute a waiver to the requirement that the pupil, pupil's parent, guardian, or legal custodian pay the costs of the course to the school district.

261C.9 Tuition refund.

An eligible postsecondary institution shall make pro rata adjustments to tuition reimbursement amounts based upon federal guidelines established pursuant to 20 U.S.C., 1091b.

APPENDIX B

QUESTIONNAIRE

Postsecondary Enrollment Options Program

State ____________________________ Year Program Enacted ________

1. Grade levels of high school student eligibility and any restrictions to eligibility.

   ___ 9
   ___ 10
   ___ 11
   ___ 12

2. Funding Arrangements (Please check all those that apply.)

   student pays cost of    _____ tuition    _____ fees    _____ books and supplies    _____ transportation
   local school district pays cost of    _____ tuition    _____ fees    _____ books and supplies    _____ transportation

3. Cost to participate in program determined by

   _____ state legislature (If so, please indicate amount. ________________)
   _____ postsecondary institution’s regular tuition and fee structure.

4. Credit for PSEO class awarded/recorded as

   _____ high school credit only
   _____ college credit only
   _____ both high school and college credit

5. _____ Maximum number of hours of college credit high school students can earn under a PSEO program.
6. Students who enroll in a PSEO class are required to meet the admissions standards of the postsecondary institution before enrolling in a PSEO class.

____ yes
____ no
____ individual postsecondary institutions may set admissions requirements

7. Types of classes offered through PSEO program. (Please check all that apply.)

____ mathematics
____ humanities
____ social sciences
____ English/Communication
____ science
____ vocational-technical
____ career option
____ other________________________

8. Please check those items below that would be true of PSEO classes offered in your state.

____ Classes may be taught at a high school location.
____ Classes must be taught at the postsecondary campus.
____ Classes may be taught in other community facilities.
____ Students may take correspondence classes.
____ Faculty may be high school teachers employed by the postsecondary institution.
____ Faculty must have a secondary teaching certificate.
____ Faculty must be “regular” postsecondary faculty.
____ Faculty must have an advanced degree.
____ Composition of class may be high school students only.
____ Majority of students in class would be high school students.
____ Comparability of course standards is validated by the postsecondary institution if the class is taught off campus.
____ Course content and textbooks used are the same as for those classes taught on campus if the course is taught off campus.

General comments about the PSEO program as it is implemented in your state:
________________________________________________________________________
________________________________________________________________________

Has any research been conducted relating to the effectiveness or implementation of this program? ______ If so, please list the name and address or phone number of someone I may contact. ________________________________________________________________
________________________________________________________________________
Thank you for completing this survey. If you would like an executive summary of my dissertation when it is completed, please sign your name and address below or enclose a business card.
APPENDIX C

GUIDELINES FOR IMPLEMENTATION OF THE PSEOA

April 1994

State of Iowa
Department of Education
Grimes State Office Building
Des Moines, Iowa 50319-0146

GUIDELINES FOR THE IMPLEMENTATION OF THE POSTSECONDARY ENROLLMENT OPTIONS ACT FOR 9th THROUGH 12th GRADE STUDENTS

Purpose of the Law

The Postsecondary Enrollment Options Act (Chapter 261C, Iowa Code) was enacted in 1987 to promote rigorous academic pursuits and to provide a wider variety of options to high school students by enabling eleventh and twelfth grade students to enroll part time in nonsectarian courses in eligible postsecondary institutions of higher learning in Iowa. A ninth or tenth grade student who is identified as a gifted and talented student according to the school district's criteria and procedures may now participate under this Act. The specific purposes of this Act are to:

1. Promote rigorous academic pursuits; and

I. Student Eligibility

A. Students who are attending a local school district are eligible to participate under this Act.

Ref: Student Eligibility. Admin Rule 281-22.3.

B. For purposes of this Act, part-time enrollment at an eligible institution shall be defined according to the policies of the eligible institution.

Ref: Definition of Part-time Enrollment. Admin Rule 281-22.1

C. Eleventh and twelfth grade students enrolled in public and accredited nonpublic school districts are eligible to enroll under this Act. A ninth or tenth grade student...
who is identified as a gifted and talented student according to the school district's criteria and procedures (Iowa Code Section 257.43) is eligible to enroll under this Act.

D. A student who first enrolls under this Act at the beginning of grade 11 may enroll in postsecondary courses for secondary credit for a period of time not to exceed four semesters, or six quarters, or the equivalent of two academic years. A student who first enrolls at the beginning of grade 12 may enroll in postsecondary courses under this Act for secondary credit for a period of time not to exceed two semesters, or three quarters, or the equivalent of one academic year. An 11th or 12th grade student enrolling for the first time in a postsecondary course for secondary credit during the school year shall have participation eligibility reduced proportionally.


Examples

1. An 11th grade student who does not participate under the Act during the fall and winter quarters has used up two quarters of eligibility and has four quarters of eligibility remaining.

2. A 12th grade student who participated during the fall quarter of the 11th grade year and did not participate again until the spring quarter of the 12th grade year has only that spring quarter of eligibility remaining.

3. A student participates in the program during the fall quarter of the 11th grade year and drops out of school for the remainder of the school year. The student decides to return to high school the following fall. This 11th grade student has used one quarter of eligibility and will have five quarters of eligibility remaining.

E. Persons who have graduated from high school are not eligible under this Act. However, students who are eligible for early graduation will be permitted to participate under the Act for the remainder of that regular school year provided that they have not received a diploma prior to the end of the school year.

Ref: Student Eligibility. Admin Rule 281-22.3 (first paragraph).

II. Postsecondary Institutions/Courses

A. Eligible institutions are institutions of higher learning under the control of the State Board of Regents, a community college established under Chapter 280A, Iowa Code, and accredited private institutions as defined in Section 261.9, Subsection 1, Iowa Code.

Ref: Definition of "Eligible postsecondary institution" 261C.3(1), Iowa Code.
B. Postsecondary institutions may require students to meet appropriate standards or requirements for entrance into a course. Such requirements may include prerequisite courses, scores on PSAT or ACT, or other evaluation procedures to determine competency. Acceptance of a student into a course by a postsecondary institution is not a guarantee that a student will be enrolled in all requested courses.

Ref: Student eligibility. Admin Rule 281-22.3 (fourth paragraph).

C. Priority may be given to postsecondary students before enrolling 9th through 12th grade students in courses. However, once a 9th through 12th grade student has enrolled in a postsecondary course, the student cannot be displaced by another student for the duration of the course.

Ref: Student eligibility. Admin Rule 281-22.3 (fifth paragraph).

D. Student shall not "audit" postsecondary course under the provisions of this Act. The student must take the course for credit and must meet all of the requirements of the course which are required of postsecondary students.

Ref: Student eligibility. Admin Rule 281-22.3 (fourth paragraph).

E. Students may not enroll in a course at postsecondary institutions if a comparable course is available at the students' high schools.

Ref: Authorization 261.4, Iowa Code.

F. The contact hours of students enrolled under this Act in community colleges established under Chapter 280A, Iowa Code, are contact hours eligible for general aid under Chapter 286A, Iowa Code.

Ref: School district payments 261C.6, Iowa Code.

G. Students enrolling in postsecondary courses under this Act may enroll only in nonsectarian courses.

Ref: Policy 261C.2, Iowa Code.

III. Application and Enrollment Process for Students.

A. School District Responsibilities

In order to assist students and their parents or guardians to make knowledgeable decisions regarding participation and to assist school districts to plan for the following school year, school districts shall inform their students of the availability of the opportunity provided by the Act.

Ref: Student eligibility. Admin Rule 281-22.3 (seventh paragraph).
1. By March 1 of each year, school districts should provide information on the Act to 8th, 9th, 10th, and 11th grade students. This information should include the following:

   a. Which students are eligible to participate under this Act.
   b. Which institutions and types of courses are eligible for participation.
   c. The process for granting academic credits.
   d. The financial arrangements for tuition, textbooks, materials, and fees.
   e. The requirement that the parent or guardian of the student shall furnish transportation to and from the eligible postsecondary institution.
   f. The support services, such as counseling, that are available, from both the high school and the postsecondary institution.
   g. The need to arrange an appropriate schedule.
   h. The consequences of failing or not completing a postsecondary course.
   i. The high school graduation requirements and the effects which participation under this Act may have on the completion of these requirements.
   j. The academic and social responsibility that students and their parents or guardians must assume.

2. School districts may choose one or more of the following methods to inform students and their parents or guardians about the Act:

   a. Counseling with students and parents or guardians.
   b. Group meetings with students and parents or guardians.
   c. Distribution of materials to students.
   d. Mailing of materials to students' homes.
   e. Announcement(s) in school publication.

3. To assist school districts in providing the above information, the Department of Education has developed guidelines relating to the Act.

4. School districts should provide counseling services to aid students and parents or guardians in decision-making. These counseling services, to the extent possible, should be structured to do the following:

   a. Inform students and parents or guardians about options available in the high school, in postsecondary institutions and about schedules of course offerings.
   b. Aid students to clarify goals.
   c. Advise students regarding benefits and risks of participation in a postsecondary program, including the academic, social, emotional, and other facets of participation under this Act.
d. Encourage joint counseling for students from both the high school and the postsecondary institution counseling staff. Postsecondary institutions should identify contact persons and assign advisors to work with these students.
e. Assist students to plan schedules and select courses for the entire year.

B. Student Responsibilities

A student anticipating enrollment in the Postsecondary Enrollment Options Act must:
1) inform the school district and the authorities in charge of an accredited nonpublic school of the intent to participate, 2) apply at the postsecondary institution, and 3) sign a statement indicating that the student and parent or guardian have received information about the Act. Attached to these guidelines is a suggested format for a "Notice of Student Registration Form" that school districts may wish to use.

Ref: Student eligibility. Admin Rule 281-22.3 (eighth paragraph)

1. A student anticipating participation under the Act should inform the school district by March 15 of the intent to enroll in postsecondary courses during the next school year. However, a student is not bound by the fact of notifying or not notifying the school district by this date.

2. The Iowa Department of Education will provide a suggested format for the "Notice of Student Registration Form" to postsecondary institutions and school districts. All students will need to complete this type of form in addition to information which may be required by the postsecondary institution or the school district.

3. The signatures of the student and parent or guardian are required prior to enrolling in a course. These signatures indicate that the student and parent or guardian received information regarding the program, and are aware of their responsibilities when participating under the Act. If the student is 18 or older, only the student's signature is required.

4. The school district or accredited nonpublic school shall certify the eligibility of its students for participation under the Act on the school district's "Notice of Student Registration Form." A student shall not be eligible for participation until the school district or accredited nonpublic school completes the certification of eligibility.

Ref: Student eligibility. Admin Rule 281-22.3 (ninth paragraph)

C. Postsecondary Institution Responsibilities

Students must complete and submit the usual application materials, as required by the postsecondary institution, within the timelines set by the postsecondary institution. The postsecondary institution will review the application and determine whether or not to accept the student. If the student is accepted, the postsecondary institution will
send a copy of a signed "Notice of Student Registration Form" to the student, the school district, and the Department of Education. This notice will include the courses, the clock hours the student will be attending the courses, and the number of hours of postsecondary academic credit that the eligible student will receive from the postsecondary institution upon successful completion of the courses.


D. Student Withdrawal

After registration, if a student decides to withdraw from school or drop a course for which the student registered at the postsecondary institution, the following steps should be completed as soon as possible.

1. The student should immediately file the necessary forms that the postsecondary institution requires for withdrawal.

2. The postsecondary institution should inform the high school as soon as possible of these changes.

IV. Type of Credit

A. A school district or accredited nonpublic school must grant high school units of credit to an eligible student enrolled in a course under this Act if the eligible student successfully completes the course as determined by the postsecondary institution. The board of directors of the school district or authorities in charge of an accredited nonpublic school shall determine the number of high school credits that shall be granted to an eligible student who successfully completes a course.

Ref: High school credits 261C.5, Iowa Code

V. Determination of High School Credits

A. The responsibility for granting high school credit for courses successfully completed remains with the school district. It is recommended that the district inform the student of the high school credits to be granted prior to the commencement of the course. If there is a dispute between the school district and the student regarding the credits to be granted, the student may appeal the school board’s decision to the State Board of Education.

Ref: High school credits 261C.5, Iowa Code

B. A postsecondary credit-bearing course is one for which the particular institution grants credit toward an educational degree.

Ref: Eligible postsecondary courses. Admin Rule 281-22.4 (fourth paragraph)
C. The following guide may be used by school districts when calculating comparable course credits. This guide represents the minimum number of credits which may be granted. Districts may award more credit if the course the student is taking includes requirements greater than those of the high school course.

Postsecondary college credits may be translated into high school credits using the following equation:

<table>
<thead>
<tr>
<th>College Quarter Hour Credit</th>
<th>High School Unit of Credit</th>
<th>College Semester Hour Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>1/3</td>
<td>2</td>
</tr>
</tbody>
</table>

Rationale: A normal full-time high school course load required to make normal progress toward graduation is 5 units of credits per year. A normal full-time college course load required to make normal progress toward graduation is 45 quarter hour credits or 30 semester hour credits per year.

A high school unit of credit is hereby defined as that amount of credit earned by a student who successfully completes a course or related components or partial units that is either pursued for thirty-six weeks for the required number of minutes per week or as an equated requirement as a part of an innovative program filed as prescribed in 12.1(6) Iowa Administrative Code. A fractional unit of credit shall be awarded in a manner consistent with this standard.

In order for a course to yield one high school unit of credit, it must either be pursued for thirty-six weeks for at least two hundred minutes per week or for the equivalent of one hundred twenty hours of instruction. The board may award credit on a performance basis through the administration of an examination, provided that said examination covers the content ordinarily included in a regular course in the subject involved.

Ref: Unit Admin Rule 281-12.5(18)

VI. Eligible Postsecondary Courses

The Postsecondary Enrollment Options Act is intended to implement the policy of the state to promote rigorous academic pursuits. Therefore, postsecondary courses eligible for students to enroll in under this Act shall be limited to the following:

A. Nonsectarian courses.

B. Courses that are not comparable to courses offered by the school district.
C. Credit-bearing courses that lead to an educational degree.

D. Courses in the discipline areas of mathematics, science, social sciences, humanities, vocational-technical education, and also the courses in career option programs offered by area schools established under the authorization provided in Chapter 280A, Iowa Code.

When determining appropriate courses for students to enroll in under this Act, consideration should be given to courses in the following subject matter areas:

- Literature, foreign languages, philosophy, civilizations, and history (including courses in music and art that include a component of history)
- Anthropology, economics, geography, political science, psychology, and sociology
- Astronomy, biology, botany, chemistry, geology, physics, and zoology
- Computer science, mathematical sciences, and statistics
- Vocational-technical education course offering

VII. Transportation

The parent or guardian of an eligible student who has enrolled in and is attending an eligible postsecondary institution under this Act shall furnish transportation to and from the eligible postsecondary institution for the student.

Ref: Transportation 261C.7, Iowa Code.

VIII. Payment for Courses

By May 1 of each calendar year, postsecondary institutions shall send to local school districts a "Request for Payment for Participation in the Postsecondary Enrollment Options Act." The request shall identify the students, courses, credits, and charges. The only students who may be identified on this form are those who have been reported to the school district on the "Notice of Student Registration Form."

Ref: Request for payment time frames. Admin Rule 281-22.5.

The costs that may be claimed by a postsecondary institution shall be limited to the lesser of the actual and customary costs of tuition, textbooks, materials, and fees directly related to the course taken by the eligible student; or two hundred fifty dollars.

Ref: School district payments 261C.6, Iowa Code.

No later than June 30 of each school year, a school district shall pay the claim submitted by the postsecondary institution for resident eligible students enrolled under this Act.

Ref: School district payments 261C.6, Iowa Code.
An eligible postsecondary institution that enrolls an eligible student under the Act shall not charge the student for tuition, textbooks, materials, or fees directly related to the course in which the student is enrolled except that the student may be required to purchase equipment that becomes the property of the student.

Ref: Prohibition on charges 261C.8, Iowa Code.

IX. School District Claims for Aid

School districts with allowable growth funded gifted education programs may use portions of those funds to pay the costs of tuition, textbooks, and fees for resident eligible students enrolled under this Act, provided:

- that the school district's allowable growth funded gifted education program includes the grade levels in which the resident eligible students are enrolled; and
- that the resident eligible students have been identified for participation in that gifted program, using an identification procedure approved as part of the program.
II. Postsecondary Enrollment Options Act

Background.

The Postsecondary Enrollment Options Act is a law passed by the Iowa legislature which allows eleventh and twelfth graders and gifted and talented ninth and tenth graders to enroll for college courses while still in high school. The cost of tuition and books up to $250 per course must be paid by each local school district. Students are eligible to take college courses if they have exhausted the high school curriculum in a particular subject area. The act was intended to ease the transition from high school to college and to motivate well-prepared and bright students to pursue a college education. Credit toward high school graduation must be awarded for successful course completion if needed by the student. Credit toward a college degree is often granted but is dependent on the student’s choice of institution and major. It is possible for courses to be awarded at both the high school and college level.

Level of High School Participation.

The following table provides information on the number of respondents to the secondary school survey who indicated various levels of participation in the Postsecondary Enrollment Options Act during 1991-92.

<table>
<thead>
<tr>
<th>No. of Students Participating</th>
<th>Percent of High Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>33%</td>
</tr>
<tr>
<td>1-10</td>
<td>53%</td>
</tr>
<tr>
<td>11-20</td>
<td>7%</td>
</tr>
<tr>
<td>21-30</td>
<td>3%</td>
</tr>
<tr>
<td>31-40</td>
<td>2%</td>
</tr>
<tr>
<td>41-50</td>
<td>.7%</td>
</tr>
<tr>
<td>More than 50</td>
<td>.7%</td>
</tr>
</tbody>
</table>

(n=306)
High School Graduation Credit.

Credit toward high school graduation is awarded this percentage of time by the high school respondents:

<table>
<thead>
<tr>
<th>% Students Receiving Secondary Credit</th>
<th>Percent of High Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>32%</td>
</tr>
<tr>
<td>1-25%</td>
<td>13%</td>
</tr>
<tr>
<td>26-50%</td>
<td>2%</td>
</tr>
<tr>
<td>51-75%</td>
<td>2%</td>
</tr>
<tr>
<td>76-100%</td>
<td>51%</td>
</tr>
</tbody>
</table>

Reasons for Not Awarding High School Credit.

Reasons for not awarding secondary credit are as follows:

- Student already has sufficient high school credit. 16%
- Student already earns college credit and duplicate credit not allowed by high school. 17%
- Student receives too low a grade. 22% (n=311)
- Other circumstances prevent award of credit. 97%

Estimates of Percent of High School Students Receiving College Credit.

High school respondents were asked to give their estimate of what percentage of cases students receive college credit in addition to or instead of secondary credit. Below are the estimated percentages of high school students receiving credit and the percentage of respondents checking within each estimate range.

<table>
<thead>
<tr>
<th>% Students Receiving College Credit</th>
<th>Percent of High Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>15%</td>
</tr>
<tr>
<td>1-25%</td>
<td>17%</td>
</tr>
<tr>
<td>26-50%</td>
<td>2%</td>
</tr>
<tr>
<td>51-75%</td>
<td>4%</td>
</tr>
<tr>
<td>76-100%</td>
<td>42%</td>
</tr>
<tr>
<td>Do not know</td>
<td>21%</td>
</tr>
</tbody>
</table>
Reasons Why College Credit is Not Awarded.

High school respondents indicated that the following were reasons why they thought college credit was not awarded:

Students receive too low a grade in the course. 31%
Students cannot receive college credit when they use the course to complete high school graduation requirements. 22% (n=311)
The college the student wishes to attend does not accept credit. 24%

How Students Are Informed About Postsecondary Enrollment Options Act.

The most common way for informing students about opportunities available under the Postsecondary Enrollment Options Act are counseling sessions (86%) followed by handbooks (74%). Classroom instruction and the student newspaper are each used by 24% and the local newspaper by 21% of high schools to inform students about opportunities provided under this act. Other means of notification (unspecified) are used 36% of the time.

How Parents Are Informed About Postsecondary Enrollment Options Act.

Handbooks are most frequently used to inform parents about opportunities available to their children under the act (71% of time). Parent-teacher meetings and flyers are used by about a third of the respondents (34% and 33% respectively). Used by fewer than 30% of the responding high schools are direct mail announcements (29%), student newspapers (25%), local newspapers (28%), and other means of communication (24%).

Agreement with Statements about Postsecondary Enrollment Options Act.

High school respondents were presented with ten statements about the Postsecondary Enrollment Options Act and asked to indicate whether each statement was "not true," "somewhat true," or "very true." Following is a list of the ten statements and the percentage of high school respondents marking "somewhat true" or "very true."
<table>
<thead>
<tr>
<th>Statement</th>
<th>Percent of High Schools Saying Somewhat True or Very True</th>
</tr>
</thead>
<tbody>
<tr>
<td>The high school cannot afford the costs of the program.</td>
<td>54% (n=304)</td>
</tr>
<tr>
<td>The colleges do not provide adequate guidance and counseling to students.</td>
<td>63% (n=294)</td>
</tr>
<tr>
<td>High school students are unprepared for college courses.</td>
<td>35% (n=304)</td>
</tr>
<tr>
<td>Students do not always receive college credit for courses when they enroll full-time.</td>
<td>45% (n=282)</td>
</tr>
<tr>
<td>Students take courses the high school is unable to offer.</td>
<td>94% (n=297)</td>
</tr>
<tr>
<td>Students are challenged by advanced courses.</td>
<td>99% (n=301)</td>
</tr>
<tr>
<td>Students earn college credit while still in high school.</td>
<td>99% (n=302)</td>
</tr>
<tr>
<td>Program encourages college attendance after graduation.</td>
<td>95% (n=298)</td>
</tr>
<tr>
<td>Students learn what college is like.</td>
<td>85% (n=297)</td>
</tr>
<tr>
<td>College courses offered primarily or exclusively to high school students in a high school setting are appropriate offerings under this Act.</td>
<td>80% (n=296)</td>
</tr>
</tbody>
</table>
APPENDIX E

ISU HUMAN SUBJECTS APPROVAL FORM

Last Name of Principal Investigator: Harris

Checklist for Attachments and Time Schedule

The following are attached (please check):

12. □ Letter or written statement to subjects indicating clearly:
   a) purpose of the research
   b) the use of any identifier codes (names, #’s), how they will be used, and when they will be removed (see Item 17)
   c) an estimate of time needed for participation in the research and the place
   d) if applicable, location of the research activity
   e) how you will ensure confidentiality
   f) in a longitudinal study, note when and how you will contact subjects later
   g) participation is voluntary; nonparticipation will not affect evaluations of the subject

13. □ Consent form (if applicable)

14. □ Letter of approval for research from cooperating organizations or institutions (if applicable)

15. □ Data-gathering instruments

   No personal contact with individual

16. Anticipated dates for contact with subjects: subjects is planned.
   First Contact
   ____________________________  ____________________________
   Month / Day / Year            Month / Day / Year

   Last Contact
   ____________________________  ____________________________
   Month / Day / Year            Month / Day / Year

17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:
   ____________________________
   Month / Day / Year

18. Signature of Departmental Executive Officer: Date Department or Administrative Unit
   ____________________________  ____________________________
   Patricia M. Keith            3/13/95                DEO

19. Decision of the University Human Subjects Review Committee:
   X Project Approved         □ Project Not Approved         □ No Action Required
   ____________________________  ____________________________
   Name of Committee Chairperson    Date    Signature of Committee Chairperson