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FINAL REPORT

VOCATIONAL EDUCATION ACCOUNTABILITY

IOWA DEPARTMENT OF EDUCATION SPONSORED RESEARCH

Iowa Department of Education
Division of Community Colleges and Workforce Preparation

Term of Contract:

November 1, 2004 to June 30, 2006

Contract Recipient:

Frankie Santos Laanan, Ph.D.
Principal Investigator

Iowa State University
Department of Educational Leadership & Policy Studies
College of Human Sciences
N243 Lagomarcino Hall
Ames, Iowa 50011

Prepared By:

Frankie Santos Laanan, Ph.D.

Soko Starobin, Ph.D.

Jonathan I. Compton, M.A.

FINAL REPORT

VOCATIONAL EDUCATION ACCOUNTABILITY

IOWA DEPARTMENT OF EDUCATION SPONSORED RESEARCH

Submitted to:

Janice Nahra Friedel, Administrator

Iowa Department of Education

Division of Community Colleges and Workforce Preparation

Prepared By:

Frankie Santos Laanan, Ph.D.

Soko Starobin, Ph.D.

Jonathan I. Compton, M.A.

Iowa State University

Department of Educational Leadership & Policy Studies

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N243 Lagomarcino Hall

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EXECUTIVE SUMMARY

In November 2004, Frankie Santos Laanan, assistant professor of Educational Leadership and Policy Studies at Iowa State University (ISU) received funding for a sponsored research project from the Iowa Department of Education, Division of Community Colleges and Workforce Preparation (IDE). The title of the project was "Vocational Education Accountability in Iowa Community Colleges." The contract award was $100,000 and the funding for the contract came from an incentive grant awarded jointly to the Iowa Workforce Development (IWD) and the IDE. The term of the contract was between November 1, 2004 and June 30, 2006.

During the funding period, Dr. Laanan and his research team at ISU endeavored to develop research products that would be useful for understanding accountability issues and Unemployment Insurance (UI) wage data within the context of Iowa community colleges. Presentations were conducted at state and national meetings in an effort to disseminate information. Another method of dissemination was to provide information to the field through the use of the project web site.

The primary objectives of the contract were:

- **Objective 1:** To develop the methodology to match Iowa Community College students' educational data with the Iowa Workforce Development (IWD) to assess students' postcollege earnings.
- **Objective 2:** To develop and enhance a systematic approach to utilize research to address accountability-driven mandates.
- **Objective 3:** To develop and implement statewide professional development technical assistance to Iowa Community Colleges in accessing, formatting, and

analyzing Perkins Vocational Education Core Indicators data for program improvement and increasing student success.

- **Objective 4:** To create staff development workshops for secondary and postsecondary Career and Technical (CTE) faculty in the use of current CTE research and labor market data for system and program improvement.

Statement of Activities Performed

During the contract period, the ISU research team conducted the following activities:

- Development of a data security plan;
- Development of a methodology report;
- Dissemination of research through presentations to community college administrators, conference presentations, one scholarly publication, and the project website; and
- Preliminary analysis of data

Recommendations

We recommend pursuing the following objectives for the 2007 fiscal year:

- Thorough analyses and interpretation of the data;
- Establishment of advisory committee early in the project period;
- Dissemination of the data analyses to the Iowa community college field and to the national audience through conference presentations; and

- Workshops with community college and high school CTE practitioners on the use of the UI data and Labor Market Information (LMI) data

Agreement #

CONTRACTUAL AGREEMENT
BETWEEN

STATE OF IOWA, DEPARTMENT OF EDUCATION, (DE) Bureau/Division of Bureau of Community Colleges and Workforce Preparation
Grimes State Office Bldg., 400 E 14th St, Des Moines, IA 50319-0146.
Department Contact Person: Bill Silag Phone: (515) 281-3542

AND

CONTRACTING PARTY - AGENCY OR INDIVIDUAL: Thane Peterson, Director, Office of Sponsored Programs Administration
ADDRESS: Iowa State University; 15 Pearson Hall
CITY, STATE, ZIP:Ames, IA 50011 Phone: 515-294-5225
AGENCY CONTACT PERSON OR AGENCY PERSON TO PERFORM SERVICES: Frankie Santos Laanan

CONTRACTING PARTY: IF AN INDIVIDUAL, YOUR SOCIAL SECURITY NUMBER: _____
IF AN AGENCY, YOUR FEIN NUMBER: 426004224

THE DEPARTMENT WILL COMPENSATE FOR THE FOLLOWING SERVICES RENDERED BY CONTRACTING PARTY:
(DESCRIPTION OF SERVICES)Develop and implement statewide professional development in assessment, performance, and accountability of career and technical education. Create staff development workshops for secondary and postsecondary CTE faculty in (1) use of current CTE research and labor-market data for system and program improvement and (2) enhancement of research-driven and accountability-driven practices. Data match utilizing the UI files by December 04 and December 05 will be part of staff development.

CONTRACT PERIOD: Service begins: November 1, 2004 Service ends: June 30, 2006

COMPENSATION: As indicated and in accordance with the stated terms below.

$100,000.00 Contract is for actual costs estimated as shown here in total and itemized below under "Associated Costs" section.
Contract is for a specified fee totaling the shown amount for _____ (Number) _____ (Units) at $_____ per _____ (Unit)

$100,000.00 CONTRACT IS NOT TO EXCEED AMOUNT SHOWN ON THIS LINE.

ASSOCIATED COSTS: Only the items designated are covered; required documentation is indicated under "Other Conditions and Requirements" section. (Estimated costs shown)

$_____ TRAVEL: FROM _____ TO _____ AND RETURN
via means and for the amounts shown:
Air Coach $_____ Auto $_____ Taxi $_____ Parking $_____
Other $_____ (As stipulated in "Description of Services" section.)

$_____ MEALS: Actual and necessary; not to exceed the following rates:
Breakfast $____ Lunch $_____ Dinner $_____

$_____ LODGING: Number of nights ___, not to exceed $_____ per night, plus tax.

$_____ OTHER: (ITEMIZE) _____

CLAIM/PAYMENT PROVISIONS: Quarterly progress reports summarizing professional development activities, and reports with statewide UI data with expenditures invoives submitted to DE

Payment requests should be submitted to the attention of: Bill Silag

FOR DEPARTMENT OF EDUCATION USE ONLY

FUND	AGENCY	ORGN	S/ORG	OBJ	ARC	AMOUNT	PAYMENTS
475	0282	3578			4PL1	$100,000.	
	0282						
	0282						
	0282						
TOTAL CONTRACT AMOUNT						$100,000.0	

PRE-CONTRACT (ATTACHED OR N/A)	SOLE SOURCE (ATTACHED OR N/A)	PRIOR APPROVAL (ATTACHED OR N/A)	

OTHER CONDITIONS/REQUIREMENTS: Unless otherwise stipulated, the rates and requirements listed below shall apply:

Mileage reimbursement rate: 29¢ per mile.

Original Receipts: Must be submitted with a signed claim when the contract is with an individual. Receipts are required for the following: (Credit card receipts are not acceptable)

TRAVEL:	Air coach, taxi fares, related parking fees and car rental.
LODGING:	Reimbursement approved only for those residing outside the designated meeting site. Lodging must be outside contracting party's domicile.
OTHER:	Registration fees and other items (as designated under "Associated Costs" section) require receipts unless specified otherwise.

Itemized Invoice: An agency must submit an itemized invoice detailing the expenses allowed by the contract.

ALL CLAIMS MUST BE FILED WITHIN 30 DAYS FOLLOWING THE CONTRACT SERVICE ENDING DATE.

TERMINATION: This contract may be terminated by either party upon ten- (10) days written notice.

NONTRANSFERENCE: Unless otherwise stipulated in this contract, the contracting party shall not transfer any interest in this contract without prior written approval from the Department of Education.

AMENDMENTS: Requests for an approval of amendments to this agreement must be mutually acceptable and in writing.

INDEMNIFICATION: The contracting party agrees jointly and severally to indemnify and hold the State, it successors and assigns harmless from and against all liability, loss, damage, or expense, including reasonable counsel fees, which the State shall incur by reason of the failure of the contracting party to perform fully and comply with the terms and obligations of this agreement.

AVAILABILITY OF FUNDS: This contract is subject to the anticipated availability of Federal and/or State funds under the program from which it is supported.

ASSURANCE: THE CONTRACTING PARTY, BY SIGNATURE AFFIXED BELOW, ASSURES THE DEPARTMENT THAT SAID CONTRACTING PARTY IS OPERATING IN COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL STATUTES, RULES AND REGULATIONS. INCLUDING CERTIFICATION THAT THE CONTRACTOR AND/OR ITS PRINCIPAL OFFICIALS ARE NOT SUSPENDED OR DISBARRED.

REPRESENTATIONS: VERBAL OR WRITTEN, THAT MAY HAVE BEEN MADE PRIOR TO THE SIGNING OF THIS CONTRACT AND ARE NOT EXPRESSLY STATED IN THE TERMS OF THE CONTRACT, ARE NONBINDING, VOID AND OF NO EFFECT. NEITHER PARTY HAS RELIED ON SUCH PRIOR REPRESENTATIONS IN ENTERING INTO THIS CONTRACTUAL AGREEMENT.

Bill Silag	Consultant	10/7/04
DE CONTACT (Requesting service)	TITLE	DATE
Jamie Fredy	Administrator	10/07/04
DE ADMINISTRATION	TITLE	DATE
		___/___/___
CONTRACTING AGENCY OR INDIVIDUAL	TITLE	DATE
		___/___/___
DE AUTHORIZING SIGNATURE	TITLE	DATE

CONTRACTING PARTY: SIGN, DATE, AND RETURN ORIGINAL COPY TO THE DEPARTMENT. THIS CONTRACT WILL BE VALID WHEN YOU RECEIVE A COPY WITH THE DEPARTMENT OF EDUCATION'S AUTHORIZING SIGNATURE.

AGREEMENT #_____

ISU DRAFT BUDGET
IOWA DEPARTMENT OF EDUCATION
DIVISION OF COMMUNITY COLLEGES AND WORKFORCE PREPARATION
(AS OF 10-12-04)

Principal Investigator: Frankie Santos Laanan
Iowa State University
Funding Period: November 1, 2004 - June 30, 2006

Proposed Projects:
1. Unemployment Insurance Wage Records

	FY05	FY06	TOTAL
Salaries			
Frankie Santos Laanan, Principal Investigator 17.302% of $61,519 base	$10,644	$10,963	$21,607
Project Coordinator 50% of $40,000 base	$13,333	$20,600	$33,933
Total Salaries	$23,977	$31,563	$55,541
Fringe Benefits			
Faculty--26.2% of salary (Laanan, Proj Coord)	$6,282	$8,270	$14,552
Total Fringe Benefits	$6,282	$8,270	$14,552
Total Salaries and Fringe Benefits	$30,259	$39,833	$70,092
Supplies			
Desktop Computer (Dell, 2)	$6,000	$0	$6,000
Supplies for data collection, analysis, reporting	$2,000	$2,000	$4,000
Total Supplies	$8,000	$2,000	$10,000
Travel			
Travel to Community College campuses	$3,000	$5,000	$8,000
Conferences	$2,000	$2,500	$4,500
Total Travel	$5,000	$7,500	$12,500
Total Direct Costs	**$43,259**	**$49,333**	**$92,592**
Indirect Costs (8% of Total Direct Costs)	$3,461	$3,947	$7,407
Total Project Cost	**$46,720**	**$53,280**	**$100,000**

Contractual Agreement Between State of Iowa, Department of Education,
Bureau/Division of Community College and Workforce Preparation AND Iowa State University

ANNUAL WORKPLAN

As of 12-02-05

IA-DOE Agreement: 37305
Vocational Education Accountability
Funding Period: 11/01/04-06/30/06 (FY 05&06)
Funding Amount: $100,000
Principal Investigator: Frankie Santos Laanan

Objective 1. To develop the methodology to match Iowa Community College students' educational data with the Iowa Workforce Development to assess students' postcollege earnings.

Procedures/Activities	Performance Outcomes	Responsible Persons	Timelines
1. Develop research design and methodology • Identify MIS contact at DOE • Obtain MIS data dictionary of educational data of IA community college students • Develop VocEd (CTE) typology • Define target population and sample • Define "leaver" and "completer" cohort(s)	Methodology Report • Description of research design, sampling, vocational education student typology, and "leaver" and "completer" cohorts. • Document definitions and conceptual framework - comparison with other states' methodology and definitions (e.g., CA, WA, FL, NC, etc.)	F. Laanan (ISU) S. Starobin (ISU) J. Compton (ISU) C. Evans (DOE) CTE Advisory Committee	January 2005 ~~June 2005~~ November 2005
2. Develop a statewide Vocational Education Accountability Advisory Committee • Consult with DOE • Identify VocEd Deans, Institutional Researchers, DOE representatives, etc.	Confirm CTE Advisory Committee members • Letters of invitation from Dr. Jan Friedel to Advisory Committee members (purpose, objectives, and expectations) • Monthly meetings beginning ~~March 2005~~ TBD	F. Laanan (ISU) B. Silag (DOE)	~~February 2005~~ TBD
3. Identify key contact at Iowa Workforce Development (IWD) • Establish data matching procedure • Human Subjects clearance	Clearance to obtain copy of IA CC student data (matched dataset of UI wage records) to be housed at ISU • Apply for IRB approval at ISU	F. Laanan (ISU) S. Starobin (ISU) B. Silag (DOE) C. Evans (DOE)	~~March 2005~~ August 2005

Contractual Agreement Between State of Iowa, Department of Education,
Bureau/Division of Community College and Workforce Preparation AND Iowa State University

ANNUAL WORKPLAN

As of 12-02-05

IA-DOE Agreement: 37305
Vocational Education Accountability
Funding Period: 11/01/04-06/30/06 (FY 05&06)
Funding Amount: $100,000
Principal Investigator: Frankie Santos Laanan

Objective 2. To develop and enhance a systematic approach to utilize research to address accountability-driven mandates.

Procedures/Activities	Performance Outcomes	Responsible Persons	Timelines
1. Conduct literature review of economic benefits of community college education • Economic returns of vocational or certificate • Impact of community college education on postcollege earnings • State-by-state comparative analysis	Policy papers, research briefs, and journal articles • Present to DOE and IA CCs • Present findings at national and statewide meetings • Post documents to ISU-IA DOE Partnership web site • Develop bibliography	F. S. Laanan (ISU) J. Compton (ISU) S. Starobin (ISU)	June 2005
2. Collect research and policy reports on vocational education accountability mandates • Federal (national) reports • Statewide reports • Policy Centers, etc.	Maintain library of materials and resources • Copies for ISU Research Team • Copies to IA DOE office • Develop bibliography • Post documents to web site	J. Compton (ISU) S. Starobin (ISU)	June 2005
3. Develop the ISU-Iowa Department of Education Partnership web site • Provide resources • Post news and announcements • Dissemination tool to reach entire state • Develop a Listserve	Maintain web site at ISU server • Provide link from IA DOE CCWP web site to ISU-IA DOE Partnership web site • Solicit feedback from field regarding usefulness of web site • Update web site regularly	F. Laanan (ISU) J. Compton (ISU) S. Starobin (ISU) CTE Advisory Committee	February 2005

Contractual Agreement Between State of Iowa, Department of Education,
Bureau/Division of Community College and Workforce Preparation AND Iowa State University

ANNUAL WORKPLAN

As of 12-02-05

IA-DOE Agreement: 37305
Vocational Education Accountability
Funding Period: 11/01/04-06/30/06 (FY 05&06)
Funding Amount: $100,000
Principal Investigator: Frankie Santos Laanan

Objective 3. To develop and implement statewide professional development technical assistance to Iowa Community Colleges in accessing, formatting, and analyzing Perkins Vocational Education Core Indicators data for program improvement and increasing student success.

Procedures/Activities	Performance Outcomes	Responsible Persons	Timelines
1. Organize and develop regional in-service professional development workshops for vocational (CTE) administrators, CTE faculty, institutional researchers, and college personnel to address the following: • Access, format, and utilize Perkins Accountability data for program improvement and student success	Schedule in-service workshops • Confirm site liaisons and locations • Develop dissemination list and confirm logistics, etc. • Post dates/times/locations on web site • Coordinate workshops with IA DOE consultants • Feedback from CTE Advisory Committee • Consider ICN options	F. Laanan (ISU) S. Starobin (ISU) J. Compton (ISU) B. Silag (DOE) C. Evans (DOE) CTE Advisory Committee	~~June 2005~~ January-April 2006
2. Conduct regional in-service professional development workshops	Develop evaluation for all workshops • Feedback from field	F. Laanan (ISU) S. Starobin (ISU) J. Compton (ISU) B. Silag (DOE)	~~October-December 2005~~ January-April 2006
3. Develop Vocational Education Accountability Perkins Workbooks and related resource materials (i.e., printed and e-Resources) for IA CCs and DOE	Review and feedback from CTE Advisory Committee and DOE • Produce paper copy of workbooks • Produce PDF files of all materials and post to web site	F. Laanan (ISU) J. Compton (ISU) S. Starobin (ISU) B. Silag (ISU) CTE Advisory Committee	~~September 2005~~ January 2006

Contractual Agreement Between State of Iowa, Department of Education,
Bureau/Division of Community College and Workforce Preparation AND Iowa State University

ANNUAL WORKPLAN

As of 12-02-05

IA-DOE Agreement: 37305
Vocational Education Accountability
Funding Period: 11/01/04-06/30/06 (FY 05&06)
Funding Amount: $100,000
Principal Investigator: Frankie Santos Laanan

Objective 4 To create staff development workshops for secondary and postsecondary Career and Technical (CTE) faculty in the use of current CTE research and labor market data for system and program improvement.

Procedures/Activities	Performance Outcomes	Responsible Persons	Timelines
1. Identify target audience of High School and Community College personnel • Develop list of high school CTE programs in Iowa by AEA region • Develop list of Tech Prep partnerships between high schools and IA CCs • Develop contact list of high school CTE Tech Prep coordinator	Publish Iowa high school CTE programs on ISU-IA DOE Partnership web site Provide IA high school CTE Tech Prep list to DOE Invite high school CTE faculty to in-service workshops	F. Laanan (ISU) J. Compton (ISU) S. Starobin (ISU) B. Silag (DOE) K. McGuire (DOE)	~~April 2005~~ January-April 2006
2. Collaborate with Iowa DOE • Identify DOE consultant working with secondary CTE instructors • Develop contact list (e.g., e-mail, mailing address, etc.) • Develop GIS map of IA high schools within CC region (identify Tech Prep partnership or CTE pathway to CC	Publish contact list on ISU-IA DOE Partnership web site Provide GIS map of IA high schools within CC region to DOE and publish on web site	F. Laanan (ISU) J. Compton (ISU) S. Starobin (ISU) B. Silag (ISU)	~~April 2005~~ November 2005
3. Disseminate CTE and Labor Market Information to high school audience • Administrators, teachers, counselors, students, etc.	Develop workbooks and resource materials to be disseminated at the in-service workshops • Create PDF documents • Post documents to web site	F. Laanan (ISU) J. Compton (ISU) S. Starobin (ISU)	~~October-December 2005~~ January-April 2006

QUARTERLY REPORTS

Six quarterly reports were submitted to IDE during the funding period. These reports outline the activities undertaken by the ISU research team from January 2005 through June 2006 and were submitted to the Department of Education after each quarter.

MEMORANDUM

DATE: February 10, 2005

TO: Dr. Bill Silag
Administrative Consultant
Division of Community Colleges and Workforce Preparation
Iowa Department of Education

FROM: Frankie Santos Laanan, Ph.D.
Principal Investigator

SUBJECT: Quarterly Report (November 1, 2004-December 31, 2004)

PROJECT: Vocational and Technical Education Accountability and Core Indicators
Iowa Department of Education Agreement #: 37305
ISU Account #: 472-27-02

Per the contract agreement, I am submitting a Quarterly Progress Report for the grant period covering November 1, 2004 through December 31, 2004.

Statement of Progress

Per the contract, the Contractor is currently on schedule in terms of meeting the objectives outline in the Annual Workplan.

Quarterly Activities

Annual Workplans

During this quarter, the Principal Investigator (PI) drafted the Annual Workplan for the Vocational and Technical Education Accountability and Core Indicators grant. The Annual Workplan articulates the objectives, activities/procedures, performance outcomes, persons responsible, and timeline. The draft Annual Workplan is attached to this Quarterly Report.

Staff Hires

Hired two doctoral students (Jonathan Compton and Elizabeth Cox) as hourly employees during the last quarter of 2004, to assist the PI on the Iowa Department of Education grants. Both are full-time doctoral students in the Department of Educational Leadership and Policy Studies at Iowa State University.

Hired Dr. Soko S. Starobin as an hourly employee from December 13 - 31, 2004. Dr. Starobin's role is to assist the PI in coordinating the two Iowa Department of Education projects.

Web Site Development

During this quarter, the Iowa State University-Iowa Department of Education (ISU-Iowa DE Partnership) was developed. This is a working web site that will accompany the two DE projects as a dissemination tool. A copy of the latest version of the web site is attached to this Quarterly Report. The URL for the web site is listed below:

http://www.public.iastate.edu/~laanan/doe/doe.html

If you have any questions regarding the Quarterly Report, please do not hesitate to contact me at the information listed below.

Frankie Santos Laanan, Ph.D.
Principal Investigator and Assistant Professor
Educational Leadership & Policy Studies
Iowa State University
N243 Lagomarcino Hall
Ames, Iowa 50011-3195
515.294.7292 (office)
515.294.4942 (fax)
laanan@iastate.edu (e-mail)

Attachments

cc: Shona Roberts, Sponsored Programs Accounting, Iowa State University
Trina Zimmer, Research Institute for Studies in Education, Iowa State University
The File

MEMORANDUM

DATE: June 17, 2005

TO: Dr. Bill Silag
Administrative Consultant
Division of Community Colleges and Workforce Preparation
Iowa Department of Education

FROM: Frankie Santos Laanan, Ph.D.
Principal Investigator

SUBJECT: Quarterly Report (January 1, 2005-March 31, 2005)

PROJECT: Vocational and Technical Education Accountability and Core Indicators
Iowa Department of Education Agreement #: 37305
ISU Account #: 472-27-02

Per the contract agreement, I am submitting a Quarterly Progress Report for the grant period covering January 1, 2005 through March 31, 2005.

Statement of Progress

Per the Contract, the Contractor is *currently on schedule in terms of meeting the objectives outline in the Annual Workplan.

Quarterly Activities

Annual Workplan

During the last quarter, the Principal Investigator (PI) drafted the Annual Workplan for the Vocational and Technical Education Accountability and Core Indicators grant. After the review with the Department of Education Staff on January 3, 2005, the PI revised the Annual Workplan. The revised plan is in Appendix 1.

Meeting with the Department of Education Staff

Two formal meetings were held at the Division of Community Colleges and Workforce Preparation, Iowa Department of Education.

January 3, 2005
The PI introduced the Iowa State University Research Team to the Department of Education Staff. Reviewed the Annual Workplan for Vocational Education Accountability. The meeting minutes and material are included in Appendix 2.

February 4, 2005
Reviewed the meeting minutes from the last meeting on January 3, 2005 as well as the revised Annual Workplan. The PI gave a presentation, Assessing Post-College Earnings of Students: The Economic Benefit of Attending Community Colleges to facilitate an understanding of the project objectives. The meeting agenda, minutes, and the PI's presentation material are included in Appendix 3.

Develop Research Design and Methodology

Invited Chris Evans, Educational Consultant – Management Information System to the meetings (January 3, 2005 and February 4, 2005) to discuss variables in the MIS data, sampling, and other technical issues. The ISU Research Team presented a proposed methodology for Iowa as compare with the PI's California study. Obtained the code book of the Fiscal Year 2000 Student Information File and 2005 Reporting Manual from the Department of Education. Appendix 4 includes the proposed methodology chart and the code book.

Develop a Statewide Vocational Education Accountability Advisory Board

Consulted the Department of Education Staff to identify Vocational and Technical Educational Deans, Institutional Researchers, DE Representatives. *The formation of the Advisory Board is under progress – under a review by the Department of Education (see a proposed Advisory Board member list in Appendix 5).

Identify Key Contact at the Iowa Workforce Development (IWD)

Consulted the Department of Education Staff to identify a key contact individual at the Iowa Workforce Development (IWD). ISU Research Team drafted an application for Internal Review Board approval at Iowa State University.

Web Site

In the last quarter, the Iowa State University-Iowa Department of Education (ISU-Iowa DE Partnership) was developed. The ISU Research Team has updated and maintained the web site as a dissemination tool. The URL for the website is listed below:

http://www.public.iastate.edu/~laanan/doe/doe.html

If you have any questions regarding the Quarterly Report, please do not hesitate to contact me at the information listed below.

Frankie Santos Laanan, Ph.D.
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N243 Lagomarcino Hall
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515.294.7292 (office)
laanan@iastate.edu (e-mail)

Attachments

cc: Shona Roberts, Sponsored Programs Accounting, Iowa State University
Marva Ruther, Research Institute for Studies in Education, Iowa State University

MEMORANDUM

DATE: October 3, 2005

TO: Dr. Bill Silag
Administrative Consultant
Division of Community Colleges and Workforce Preparation
Iowa Department of Education

FROM: Frankie Santos Laanan, Ph.D.
Principal Investigator

SUBJECT: Quarterly Report (April 1, 2005 - June 30, 2005)

PROJECT: Vocational and Technical Education Accountability and Core Indicators
Iowa Department of Education Agreement #: 37305
ISU Account #: 472-27-02

Per the contract agreement, I am submitting a Quarterly Progress Report for the grant period covering April 1, 2005 through June 30, 2005.

Statement of Progress

Per the Contract, the Contractor is currently on schedule in terms of meeting the objectives outline in the Annual Workplan. Due to the delay for obtaining a matched data set (Student Data from the Department of Education and UI Wage Data from the Iowa Workforce Development), the timelines for the Objective 3 need modifications.

Quarterly Activities

Meeting with the Department of Education Staff

A formal meeting was held at Iowa State University with the Department of Education Staff and the Research Team.

April 20, 2005
Reviewed the Annual Workplan, specifically for the progress pertaining to the Objective 3. The Principal Investigator recommended that timelines for this objective to be modified due to the delay for obtaining a data set for analysis. The drafts of the Data Security Plan as well as the

prospective Advisory Board Member list were presented to the DOE staff. The presentation at the 47th Annul Conference of the Council for the Study of Community Colleges in Boston, MA on April 8-9, 2005 was also discussed.

Develop Research Design and Methodology

The Code Book of the Fiscal Year 2000 Student Information File and 2005 Reporting Manual from the Department of Education have been reviewed to develop the research design and methodology. Other state's methodologies and definitions were also reviewed as references. The development of the methodology report is in progress. The data security plan has been drafted and presented to the Department of Education for a review (Appendix 1)

Develop a Statewide Vocational Education Accountability Advisory Board

Consulted the Department of Education Staff to identify Vocational and Technical Educational Deans, Institutional Researchers, DE Representatives. *The formation of the Advisory Board is in progress – under a review by the Department of Education (see a proposed Advisory Board member list in Appendix 2).

Conduct Literature Review of Economic Benefit of Community College Education

The literature review is in progress. The report, "*The Socioeconomic Benefits Generated by 15 Community College Districts in Iowa*" has been obtained for the literature review.

Collect Research and Policy Reports on Vocational Education Accountability Mandates

The research and policy reports have been collected and added to the ISU Research Team library. The bibliography of the resources is included in the Appendix 3.

Identify Target Audience of High School and Community College Personnel and Collaborate with Iowa DOE

The Research Team is reviewing high school CTE programs in Iowa. The development of the target audience of high school and community college personnel is in progress.

Dissemination Efforts

A research paper titled: *The Role of Career and Technical Education in Iowa Community Colleges* was authored by the PI and Graduate Research Associate, Jonathan Compton. The paper was presented at the 47th Annual Conference of the Council for the Study of Community College in Boston, MA, April 8-9, 2005. The conference program is included in Appendix 4. The paper is under revisions for a publication.

Web Site

In the last quarter, the Iowa State University-Iowa Department of Education (ISU-Iowa DE Partnership) was developed. The ISU Research Team has updated and maintained the web site as a dissemination tool. The URL for the website is listed below:

http://www.public.iastate.edu/~laanan/doe/doe.html

If you have any questions regarding the Quarterly Report, please do not hesitate to contact me at the information listed below.

Frankie Santos Laanan, Ph.D.
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laanan@iastate.edu (e-mail)

Attachments

cc: Shona Roberts, Sponsored Programs Accounting, Iowa State University
Marva Ruther, Research Institute for Studies in Education, Iowa State University

MEMORANDUM

DATE: December 7, 2005

TO: Dr. Bill Silag
Administrative Consultant
Division of Community Colleges and Workforce Preparation
Iowa Department of Education

FROM: Frankie Santos Laanan, Ph.D.
Principal Investigator

SUBJECT: Quarterly Report (July 1, 2005 - September 30, 2005)

PROJECT: Vocational and Technical Education Accountability and Core Indicators
Iowa Department of Education Agreement #: 37305
ISU Account #: 472-28-06

Per the contract agreement, I am submitting a Quarterly Progress Report for the grant period covering July 1, 2005 through September 30, 2005.

Statement of Progress

Per the Contract, the Contractor is currently on schedule in terms of meeting the objectives outlined in the Annual Workplan. Activities guided by the workplan have been modified due to the delay for obtaining a matched data set (Student Data from the Department of Education and UI Wage Data from the Iowa Workforce Development).

Quarterly Activities

Meeting with the Department of Education Staff

Two meetings were held at the Iowa Department of Education, Des Moines, and Iowa State University, Ames, respectively:

July 8, 2005
Items discussed include the draft of the Data Security Plan. Also, a tentative list of the Advisory Board members were shared with the DE staff. The meeting agenda is in Appendix A.

August 22, 2005
A brief meeting was held at Iowa State University in Ames. The Principal Investigator requested recommendations from the DE staff to expedite the process to obtain the data set for analysis. The drafts of the Data Security Plan were presented to the DOE staff. The meeting minutes are in Appendix A.

Develop Research Design and Methodology

Based on the Code Book of the Fiscal Year 2000 Student Information File and 2005 Reporting Manual from the Department of Education, the ISU Research Team has drafted a methodology report. Several revisions were made from the first draft. The report is currently in progress. The data security plan has been drafted and submitted to the Department of Education for a review. Currently, the ISU Research Team is waiting for suggestions and recommendations from the DE.

Conduct Literature Review of Economic Benefit of Community College Education

The literature on economic benefit of community college education has been collected and reviewed to develop a bibliography. The report, "*The Socioeconomic Benefits Generated by 15 Community College Districts in Iowa*" has been summarized to identify: 1) the significance of the study; 2) objectives; 3) methodology; and 4) limitations. The summary table is included in Appendix 2. Further, state-by-state comparative analysis was summarized and presented in a table (see Appendix B). Additional information regarding the advantages of UI Wage Studies can also be found in Appendix B. The dissertation titled, "*The economic impact of attending Western Iowa Tech Community College*" by Julene Stoik was also obtained for a review.

Collect Research and Policy Reports on Vocational Education Accountability Mandates

The ISU Research Team obtained the Certified Annual Report (CAR) (2001, 2002, 2003, 2004) from the DE staff. The research and policy reports have been collected and added to the ISU Research Team library. The executive summary of the Iowa FY04 CAR Narrative Report is included in the Appendix C.

To Create Staff Development Workshops for Secondary and Postsecondary Career and Technical (CTE) faculty in the use of current CTE research and labor market data for system and program improvement

The ISU Research Team is developing several GIS maps to visually present current community college CTE program data. Two ISU Research Team

members attended a workshop titled: *Mapping Workshop: An Introduction to GIS & Community Analysis* in Omaha, Nebraska on July 11, 2005.

Web Site

In the last quarter, the Iowa State University-Iowa Department of Education (ISU-Iowa DE Partnership) was developed. The ISU Research Team has updated and maintained the web site as a dissemination tool. The URL for the website is listed below:

http://www.cclp.hs.iastate.edu/occrp/doe/vocationaled.html

If you have any questions regarding the Quarterly Report, please do not hesitate to contact me at the information listed below.

Frankie Santos Laanan, Ph.D.
Principal Investigator and Assistant Professor
Educational Leadership & Policy Studies
Iowa State University
N243 Lagomarcino Hall
Ames, Iowa 50011-3795
515.294.7292 (office)
laanan@iastate.edu (e-mail)

Attachments

cc: Lisa Shoemaker, Sponsored Programs Accounting, Iowa State University
Marva Ruther, Research Institute for Studies in Education, Iowa State University

MEMORANDUM

DATE: February 16, 2006

TO: Dr. Bill Silag
Administrative Consultant
Division of Community Colleges and Workforce Preparation
Iowa Department of Education

FROM: Frankie Santos Laanan, Ph.D.
Principal Investigator

SUBJECT: Quarterly Report (October 1, 2005 – December 31, 2005)

PROJECT: Vocational and Technical Education Accountability and Core Indicators
Iowa Department of Education Agreement #: 37305
ISU Account #: 472-28-06

Per the contract agreement, I am submitting a Quarterly Progress Report for the grant period covering October 1, 2005 through December 31, 2005.

Statement of Progress

Per the Contract, the Contractor is currently on schedule in terms of meeting the objectives outlined in the Annual Workplan. Activities guided by the workplan have been modified due to the delay for obtaining a matched data set (Student Data from the Department of Education (DE) and UI Wage Data from the Iowa Workforce Development). The ISU Research Team is making progress of finalizing the Data Security Plan with the DE staff.

Quarterly Activities

Communication with the Department of Education Staff

The ISU Research Team communicated with the Department of Education (DE) staff via telephone or e-mail for their guidance and comments on the progress of the project.

A meeting with Chief Academic Officers of Iowa Community Colleges was scheduled with Dr. Janice Friedel, Administrator and the ISU Research Team to inform the Vocational Education project – Use of the UI records

for Perkins Accountability and CTE program improvements. The meeting will be held on March 8, 2006. Dr. Friedel and the ISU Research Team will be preparing the documents for the meeting.

Develop Research Design and Methodology

The ISU Research Team continued to work on the methodology report. Several revisions were made from the first draft. The report is currently in progress. The data security plan has been drafted and submitted to the Department of Education. The ISU Research Team received a comment from the Department of Education for a revision. Currently, the ISU Research Team is consulting the Office of Sponsored Programs Administration (OSPA) to revise the security plan.

Collect Research and Policy Reports on Vocational Education Accountability Mandates

The ISU Research Team participated in the Iowa Community College Administrators Forum on October 13-14, 2005 to learn about the CTE programs as well as Perkins Accountability reporting. The Forum was held in the Scheman Building, Iowa State Center, Ames, Iowa.

Dissemination of Research and Policy Implications on Iowa Vocational Education Accountability

The ISU Research Team participated in the Iowa CTE meeting on November 10-11, 2005 at the Scheman Building, Iowa State Center, Ames, Iowa. Dr. Janice Friedel, Administrator and the ISU Research Team presented the Vocational Education project – *Use of the UI records for Perkins Accountability and CTE Program Improvements* to the Community College CTE Deans. The copy of the presentation is included in Appendix A.

The ISU Research Team presented at the annual conference of the Association for the Study of Higher Education (ASHE) on November 18, 2005 in Philadelphia, PA. The presentation was entitled: *The Changing Face of Career and Technical Education: Projections for Iowa Community Colleges*. The presentation materials are included in Appendix B.

Create Staff Development Workshops for Secondary and Postsecondary Career and Technical (CTE) faculty in the use of current CTE research and labor market data for system and program improvement

The ISU Research Team is developing several GIS maps to visually present current community college CTE program data. This project is currently in progress.

The ISU Research Team is planning for statewide as well as regional in-service professional development workshops that address Perkins Accountability issues and Iowa Labor Market information. The materials for the workshops are currently in progress.

Iowa Community College CTE Listserve: cte-cciowa@iastate.edu

The Iowa Community College CTE Listserv has been established to disseminate information pertinent to the field. Currently, the ISU Research Team is developing a list of prospective subscribers. The messages being sent through the Listserv will be archived on the Iowa Vocational Education Accountability website.

Web Site

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http://www.cclp.hs.iastate.edu/occrp/doe/vocationaled.html

If you have any questions regarding the Quarterly Report, please do not hesitate to contact me at the information listed below.

Frankie Santos Laanan, Ph.D.
Principal Investigator and Assistant Professor
Educational Leadership & Policy Studies
Iowa State University
N243 Lagomarcino Hall
Ames, Iowa 50011-3795
515.294.7292 (office)
laanan@iastate.edu (e-mail)

Attachments

cc: Donna Neubauer, Sponsored Programs Accounting, Iowa State University
Marva Ruther, Research Institute for Studies in Education, Iowa State University

MEMORANDUM

DATE: May 15, 2006

TO: Dr. Bill Silag
Administrative Consultant
Division of Community Colleges and Workforce Preparation
Iowa Department of Education

FROM: Frankie Santos Laanan, Ph.D.
Principal Investigator

SUBJECT: Quarterly Report (January 1, 2006 – March 31, 2006)

PROJECT: Vocational and Technical Education Accountability and Core Indicators
Iowa Department of Education Agreement #: 37305
ISU Account #: 472-28-06

Per the contract agreement, I am submitting a Quarterly Progress Report for the grant period covering January 1, 2006 through March 31, 2006.

Statement of Progress

Per the Contract, the Contractor is currently on schedule in terms of meeting the objectives outlined in the Annual Workplan. Activities guided by the workplan have been modified due to the delay for obtaining a matched data set (Student Data from the Department of Education (DE) and UI Wage Data from the Iowa Workforce Development).

Quarterly Activities

Communication with the Department of Education Staff

The ISU Research Team met with the Department of Education (DE) staff for their guidance and comments on the progress of the project. The materials that were disseminated at the following meetings are included in Appendix A.

January 4, 2006
A brief meeting with DE staff and the ISU Research Team was held at Iowa State University in Ames. The data security plan, forming of an advisory committee, and upcoming events were discussed.

February 13, 2005
The ISU Research Team reviewed the final data security plan, a proposed methodology and variable list. The definitions of terms were discussed with the DE staff for clarifications and implications for practices. The timeline of obtaining a matched data (UI records and MIS data) from Iowa Workforce Development (IWD) were discussed. Additionally, the timeline for the ISU Research Team to obtain the requested data files were discussed.

March 7, 2006
The ISU Research Team had a meeting with DE staff, Mr. Chris Evans (MIS Consultant) and Mr. Geoffrey Jones (Information Technology Specialist), to discuss the proposed variable list in the matched data (UI records and MIS data). Mr. Evans provided the ISU Research Team a snap shot of the matched data and the National Student Clearinghouse data in a printed format.

Develop Research Design and Methodology

The ISU Research Team continued to work on the methodology report based on the suggestions and recommendations from DE Staff and community college administrators. The current version of the methodology report is included in Appendix B.

Dissemination of Research and Policy Implications on Iowa Vocational Education Accountability

<u>Community College Campus Visit</u>
Dr. Janice Friedel, Administrator and Dr. Frankie Santos Laanan, Principal Investigator visited four community college administrators to introduce the Vocational Education project and solicit their recommendations for the project. The meeting materials that were used for these four visits were included in Appendix C.

February 23, 2006
A meeting with Mr. Greg Shmitz, President of Hawkeye Community College was held in Ames, Iowa.

February 27, 2006
A meeting with Dr. Penelope Wills, President of Northeast Iowa Community College was held in Calmar, Iowa.

March 3, 2006
A meeting with Dr. Pat Keir, Chancellor of the Eastern Iowa Community College District was held in Davenport, Iowa.

March 9, 2006
A meeting with of Indian Hills Community College, Ottumwa, Iowa. Executive Vice President, Keith Sasseen and Vice President of Academic Affairs, Marlene Sprouse were present at the meeting. Dr. Friedel and Dr. Laanan also visited the Iowa Bioprocess Training Center in Eddyville, Iowa. The visit was hosted by Chuck Crabtree, Director and Janet Paulson, Project Coordinator of the Center.

Meeting with the Chief Academic Officers

March 8, 2006
A meeting with Chief Academic Officers of Iowa Community Colleges was scheduled with Dr. Janice Friedel, Administrator and the ISU Research Team to inform the Vocational Education project – Use of the UI records for Perkins Accountability and CTE program improvements. The meeting was held in Iowa Association of Community College Trustees Office. The copy of the presentation and meeting agenda is included in Appendix D.

Create Staff Development Workshops for Secondary and Postsecondary Career and Technical (CTE) faculty in the use of current CTE research and labor market data for system and program improvement

The ISU Research Team is developing several GIS maps to visually present current community college CTE program data. This project is currently in progress.

The ISU Research Team is planning for statewide as well as regional in-service professional development workshops that address Perkins Accountability issues and Iowa Labor Market information. The materials for the workshops are currently in progress.

Iowa Community College CTE Listserve: cte-cciowa@iastate.edu

The Iowa Community College CTE Listserv has been established to disseminate information pertinent to the field. Currently, the ISU Research Team is developing a list of prospective subscribers. The messages being sent through the Listserv will be archived on the Iowa Vocational Education Accountability website.

Web Site

In the last quarter, the Iowa State University-Iowa Department of Education (ISU-Iowa DE Partnership) was developed. The ISU Research Team has updated and maintained the web site as a dissemination tool. The URL for the website is listed below:

http://www.cclp.hs.iastate.edu/occrp/doe/vocationaled.html

If you have any questions regarding the Quarterly Report, please do not hesitate to contact me at the information listed below.

Frankie Santos Laanan, Ph.D.
Principal Investigator and Assistant Professor
Educational Leadership & Policy Studies
Iowa State University
N243 Lagomarcino Hall
Ames, Iowa 50011-3795
515.294.7292 (office)
laanan@iastate.edu (e-mail)

Attachments

cc: Donna Neubauer, Sponsored Programs Accounting, Iowa State University

MEMORANDUM

DATE: July 10, 2006

TO: Dr. Bill Silag
Administrative Consultant
Division of Community Colleges and Workforce Preparation
Iowa Department of Education

FROM: Frankie Santos Laanan, Ph.D.
Principal Investigator

SUBJECT: Quarterly Report (April 1, 2006 – June 30, 2006)

PROJECT: Vocational and Technical Education Accountability and Core Indicators
Iowa Department of Education Agreement #: 37305
ISU Account #: 472-28-06

Per the contract agreement, I am submitting the final Quarterly Progress Report for the grant period covering April 1, 2006 through June 30, 2006.

Statement of Progress

Per the Contract, the Contractor is currently on schedule in terms of meeting the objectives outlined in the Annual Workplan. Activities guided by the Workplan have been modified due to the delay of obtaining a matched data set [Student Data from the Department of Education (DE) and UI Wage Data from the Iowa Workforce Development].

Quarterly Activities

Communication and Collaboration with the Department of Education Staff

The ISU Research Team had regular communication with the Department of Education (DE) representative, Christopher Evans (Consultant, Management Information System), for his consultation in the analytical approach and interpretation of the findings.

April 17, 2006
A meeting with DE staff (Mr. Chris Evans) and the ISU Research Team (Dr. Frankie Stantos Laanan, Dr. Soko Starobin, Mr. Jonathan Compton)

was held at Iowa Department of Education in Des Moines. The methodology report and the logistics of the data delivery were discussed.

April 26, 2006
Mr. Evans met with the ISU Research Team (Dr. Starobin, Mr. Compton) in Ames and hand-delivered three CDs that included: 1) MIS student records; 2) UI records – matched with social security numbers of the 2001 cohort; and 3) National Student Clearinghouse enrollment file based on the 2001 cohort. Mr. Evans provided detailed explanations to the ISU Research Team by opening each files from these CDs. Additionally, Mr. Evans provided cautionary advice regarding the formatting, merging, and interpreting of the variables. The detailed contents of the CDs include the following:

- CD 1: MIS student data (FY 2001), Award files (FY 2002, 2003, 2004, 2005), Course files (FY 2001, 2002, 2003), Pell recipient file, Reference file
- CD 2: UI wage records matched with FY 2001 cohort
- CD 3: National Student Clearinghouse enrollment data

May 10, 2006
The ISU Research Team (Dr. Laanan, Dr. Starobin, Mr. Compton) met with Mr. Evans at Iowa State University, Ames. Mr. Evans submitted a request on behalf of Dr. Friedel to conduct analyses of the following research questions:

1. How many students graduating with an Associate of Arts (AA) degree in fiscal year 2002 transferred within one year, two years, and three years?; and
2. Among Associate of Arts (AA), Associate of Applied Sciences (AAS), diploma, and all awards recipients who were employed in the third quarter of 2002, how many were retained in employment in each subsequent quarter?

The ISU Research Team was informed that the above questions would be used for a presentation by Dr. Janice Friedel.

May 24 & 30, 2006
The ISU Research Team (Dr. Laanan, Mr. Compton) had telephone conferences with Mr. Evans to report on the progress of the data analyses. Prior to the telephone conference, the ISU Research Team submitted the preliminary results to Mr. Evans for his review and comment. Mr. Evans provided comments on the analyses and interpretations of the results.

June 5, 2006
Mr. Evans visited the ISU Research Team (Dr. Laanan, Dr. Starobin, Mr. Compton) in Ames to review the preliminary results of the analyses. The ISU Research Team provided an update of the progress and presented the next action items for further analyses.

June 15, 2006
A telephone conference was held between the ISU Research Team (Dr. Starobin, Mr. Compton) and Mr. Evans to discuss the interpretation and presentation of the preliminary results. Mr. Evans provided comments and recommendations regarding the format of the data presentation.

June 26, 2006
The ISU Research Team (Dr. Starobin, Mr. Compton) held a meeting with Mr. Evans at Iowa State University, Ames. The revised preliminary results were presented to Mr. Evans. Also, the ISU Research Team reviewed the data and statistical analysis (following the SPSS syntax commands) with Mr. Evans for a reliability of the analysis. Mr. Evans recommended that the ISU Research Team to include the preliminary results in the final project report.

Dr. Laanan met with Dr. Friedel at the Iowa Department of Education in Des Moines to discuss the status of the current contract.

June 30, 2006
Dr. Laanan met with Dr. Friedel and Dr. Silag at the Iowa Department of Education in Des Moines to discuss the draft Final Report and preliminary data analyses of the matched UI Wage data and the DE MIS student data.

Develop Research Design and Methodology

The ISU Research Team continued to work on the methodology report based on the suggestions and recommendations from the DE Staff. The revised methodology report will be included in the final project report.

Dissemination of Research and Policy Implications on Iowa Vocational Education Accountability

<u>Community College Campus Visit</u>
Dr. Janice Friedel, Administrator and Dr. Frankie Santos Laanan, Principal Investigator visited Ms. Joan Williams, Vice President of Enrollment Services and other college staff at Southeastern Community College, Burlington to introduce the Vocational Education project and solicit their recommendations for the project. The meeting materials that were used for these four visits are included in Appendix A.

Meeting with the Iowa Workforce Development Administrator

May 12, 2006
A meeting with Mr. Jeff Nall, Workforce Development was scheduled with Dr. Janice Friedel, Administrator and Dr. Frankie Santos Laanan, Principal Investigator in Des Moines. The collaborative effort between the Iowa DE and the ISU Research Team was introduced to Mr. Nall. The copy of the presentation and meeting agenda is included in Appendix B.

Create Staff Development Workshops for Secondary and Postsecondary Career and Technical (CTE) faculty in the use of current CTE research and labor market data for system and program improvement

The ISU Research Team is currently developing several GIS maps to visually present current community college CTE program data. This project is currently in progress.

The ISU Research Team is planning to conduct statewide and regional in-service professional development workshops that address Perkins Accountability issues and Iowa Labor Market information. The materials for the workshops are currently in progress.

Iowa Community College CTE Listserve: cte-cciowa@iastate.edu

The Iowa Community College CTE Listserv has been established to disseminate information pertinent to the field. Currently, the ISU Research Team is developing a list of prospective subscribers. The messages being sent through the Listserv will be archived on the Iowa Vocational Education Accountability website.

Web Site

The Web site for this collaborative research effort between Iowa Department of Education and the ISU Research Team has been developed for administrators, practitioners, and policy makers. The ISU Research Team has updated and maintained the web site as a dissemination tool. The URL for the website is listed below:

http://www.cclp.hs.iastate.edu/occrp/doe/vocationaled.html

Development of the Project Final Report:

The ISU Research Team is currently developing the final report for the project per the contract agreement. The final report will include the executive summary, quarterly reports, data security plan, methodology, dissemination efforts, analysis of data, proposed future initiatives and recommendations, and resources.

If you have any questions regarding the Quarterly Report, please do not hesitate to contact me at the information listed below.

Frankie Santos Laanan, Ph.D.
Principal Investigator and Associate Professor
Educational Leadership & Policy Studies
Iowa State University
N243 Lagomarcino Hall
Ames, Iowa 50011-3795
515.294.7292 (office)
laanan@iastate.edu (e-mail)

Attachments

cc: Lisa Shoemaker, Sponsored Programs Accounting, Iowa State University

DATA SECURITY PLAN

During the project period, the ISU research team drafted a data security plan which outlined the steps that would be taken by ISU in order to ensure that the Department of Education management information system (MIS), unemployment insurance (UI), and National Student Clearinghouse (NSC) data would be kept secure and confidential. These steps included keeping all data on a stand-alone computer in a locked office and allowing access only to individuals who signed an affidavit of non-disclosure. Affidavits were signed by all members of the research team who would have access to the data. The data security plan license to use and analyze the data was approved by the Department of Education administrator. The ISU Office of Sponsored Programs Administration (OSPA) was responsible for binding the agreement between DE and the principal investigator (PI). The data security plan was officially approved in February, 2006. The original version (December 2005) and the revised version (February 2006) are included in this report.

OA—

472-28-06

G1

RECEIVED
DE 8 2005
OSPA

Memo

To: Thane Peterson

From: Frankie Santos Laanan

CC:

Date: December 7, 2005

Re: Security Plan for Restricted-Use Data

Please see the enclosed documents:

1) Security Plan for Restricted-Use Data;

2) IRB Approval Letter (IRB ID No: 05-519) and related documents

for the research project entitled: **The Postsecondary Earnings of Vocational Education Students at Iowa Community Colleges (Account #: 472-28-06)**. This project is funded by the Iowa Department of Education (IA DE), Division of Community Colleges and Workforce Preparation. This project requires the PI and his research team to access to the restricted-use data provided by the IA DE. The enclosed security plan includes the affidavit of nondisclosure, data management, and system security plan. Please be advised that the content of this document has been reviewed and approved by the Iowa Department of Education, Division of Community Colleges and Workforce Preparation.

I would like to request that you will be able to serve as the Senior Official who binds Iowa State University and the Iowa Department of Education, Division of Community Colleges and Workforce Preparation to the terms of the license. Upon your review and approval of the document, please return the original (signed) document to me. I would like to forward the original document to IA DE. If you could return the original document to me by December 20, 2005, it will be greatly appreciated.

If you have any questions regarding the enclosed documents and/or the research project, please feel free to contact me at 294-7292 or laanan@iastate.edu.

Thank you very much for your time and assistance.

Frankie Santos Laanan, PI and Assistant Professor

Security Plan for Restricted-Use Data

Project Title

Postsecondary Earnings of Vocational Education Students at Iowa Community Colleges

Submitted by:

Dr. Frankie Santos Laanan
Principal Investigator
Iowa State University

Date:
December 7, 2005

Processing of this License

A. The term of this license shall be for the period of the grant. If, before the expiration of this license, the Department of Education establishes regulatory standards for the issuance and content of licenses, the Licensee agrees to comply with the regulatory standards.

B. This license may be amended, extended or terminated by mutual written agreement between the Licensee and the Department of Education. Any amendment must be signed by a Senior Official specified in paragraph C. of this license, PI, and the Department of Education Administrator and is effective on the date that all required parties have signed the amendment.

C. The Senior Officer (SO) having the authority to bind the organization to the terms of the license, shall sign this license below. The SO certifies, by his/her signature, that:

1. The organization has the authority to undertake the commitments in this license;
2. The SO has the authority to bind the organization to the provisions of this license; and
3. The PI is the most senior statistical officer for the licensee who has the authority to manage the day-to-day statistical operations of the licensee.

Signature of the Senior Official — Date: 12-9-05

Thane J. Peterson
Type/Print Name of Senior Official

Title: Director, OSPA — Telephone 515-294-5225

D. The Principal Investigator (PI) shall sign this license below. If the SO also acts as the chief statistical officer for the Licensee; viz. as the PI, the SO shall likewise sign under this paragraph as well as having signed under paragraph C.

Signature of the Principal Investigator — Date: 12-06-05

Frankie Santos Laanan, Ph.D.
Type/Print Name of Principal Investigator

Title: Assistant Professor — Telephone 515.294.7292

AFFIDAVIT OF NONDISCLOSURE

Assistant Professor
(Job Title)

December 6, 2005
(Date of Assignment to Project)

Iowa State University
(Organization, State or Local Agency or Instrumentality)

N243 Lagomarcino Hall
Ames, Iowa 50011-3195
(Organization or Agency Address)

Iowa Department of Education and Iowa Workforce Development Matched Dataset
(Data Base or File Containing Individually Identifiable Information*)

I, Frankie Santos Laanan, do solemnly swear (or affirm) that when given access to the subject data base or file, I will not –

(i) use or reveal any individual identifiable information for any purpose other than statistical purposes specified in the survey, project, or contract;

(ii) make any disclosure or publication whereby a sample unit or survey respondent could be identified or the data furnished by or related to any particular person could be identified; or

(iii) permit anyone other than the authorized individuals to examine the individual reports.

(Signature)

* Request all subsequent follow-ups that may be needed. This form cannot be amended, so access to databases not listed will require submitting notarized Affidavits.

City/County of Story Commonwealth/State of Iowa
Sworn to and subscribed before me this 6 day of
Dec, 2005. Witness my hand and official Seal.

(Notary Public/Seal)

3/11/14

AFFIDAVIT OF NONDISCLOSURE

Postdoctoral Research Associate
(Job Title)

December 6, 2005
(Date of Assignment to Project)

Iowa State University
(Organization, State or Local Agency or Instrumentality)

N243 Lagomarcino Hall
Ames, Iowa 50011-3195
(Organization or Agency Address)

Iowa Department of Education and Iowa Workforce Development Matched Dataset
(Data Base or File Containing Individually Identifiable Information*)

I, Soko S. Starobin, do solemnly swear (or affirm) that when given access to the subject data base or file, I will not –

(i) use or reveal any individual identifiable information for any purpose other than statistical purposes specified in the survey, project, or contract;

(ii) make any disclosure or publication whereby a sample unit or survey respondent could be identified or the data furnished by or related to any particular person could be identified; or

(iii) permit anyone other than the authorized individuals to examine the individual reports.

Soko S. Starobin
(Signature)

* Request all subsequent follow-ups that may be needed. This form cannot be amended, so access to databases not listed will require submitting notarized Affidavits.

City/County of Story Commonwealth/State of Iowa
Sworn to and subscribed before me this 6 day of Dec, 2005. Witness my hand and official Seal.

Heidi B. Ekehorn
(Notary Public/Seal)

AFFIDAVIT OF NONDISCLOSURE

Doctoral Research Associate
(Job Title)

December 6, 2005
(Date of Assignment to Project)

Iowa State University
(Organization, State or Local Agency or Instrumentality)

N243 Lagomarcino Hall
Ames, Iowa 50011-3195
(Organization or Agency Address)

Iowa Department of Education and Iowa Workforce Development Matched Dataset
(Data Base or File Containing Individually Identifiable Information*)

I, Jonathan Compton, do solemnly swear (or affirm) that when given access to the subject data base or file, I will not –

(i) use or reveal any individual identifiable information for any purpose other than statistical purposes specified in the survey, project, or contract;

(ii) make any disclosure or publication whereby a sample unit or survey respondent could be identified or the data furnished by or related to any particular person could be identified; or

(iii) permit anyone other than the authorized individuals to examine the individual reports.

Jonathan Compton
(Signature)

* Request all subsequent follow-ups that may be needed. This form cannot be amended, so access to databases not listed will require submitting notarized Affidavits.

City/County of Story Commonwealth/State of Iowa
Sworn to and subscribed before me this 6 day of
Dec, 2005. Witness my hand and official Seal.

Heidi B. Eschon
(Notary Public/Seal)

3/11/14

AFFIDAVIT OF NONDISCLOSURE

Doctoral Student
(Job Title)

December 1, 2005
(Date of Assignment to Project)

Iowa State University
(Organization, State or Local Agency or Instrumentality)

N243 Lagomarcino Hall
Ames, Iowa 50011-3195
(Organization or Agency Address)

Iowa Department of Education and Iowa Workforce Development Matched Dataset
(Data Base or File Containing Individually Identifiable Information*)

I, Ken Maguire, do solemnly swear (or affirm) that when given access to the subject data base or file, I will not –

(i) use or reveal any individual identifiable information for any purpose other than statistical purposes specified in the survey, project, or contract;

(ii) make any disclosure or publication whereby a sample unit or survey respondent could be identified or the data furnished by or related to any particular person could be identified; or

(iii) permit anyone other than the authorized individuals to examine the individual reports.

Ken Maguire
(Signature)

* Request all subsequent follow-ups that may be needed. This form cannot be amended, so access to databases not listed will require submitting notarized Affidavits.

~~City~~/County of Polk ~~Commonwealth~~/State of Iowa
Sworn to and subscribed before me this 1st day of
Dec, 2005. Witness my hand and official Seal.

Carol J. Greta
(Notary Public/Seal)

NOTARIAL SEAL IOWA
CAROL J. GRETA
COMMISSION NO. 125473
MY COMMISSION EXPIRES
7-28-06

System Security Plan
Management Review and Approval

I have reviewed the contents of this security plan, which describes the protection measures for the Iowa Department of Education and Iowa Workforce Development Matched Dataset:

I hereby certify that this system meets all the requirements of the license and security procedures and that the in-place security safeguards adequately protect the restricted-use data.

Steve Glasman 12-9-05
(Senior Official) (Date)

Steve Glasman 12-06-05
(Principal Investigator) (Date)

Steve Glasman 12-06-05
(System Security Officer) (Date)

1. System Identification

Standalone Computer

The restricted-use data (CD-ROM format) will be run at the licensed site on a standalone PC (Dell Optiplex GX280, Intel Pentium 4 Processor, 3.4 Ghz running Microsoft Windows XP Operating System). No modem is attached to the PC. The restricted-use data will be removed from the system each day after use and any residual data will be purged by writeover software.

The licenses site is as follows:

Iowa State University
Lagomarcino Hall, Room N225C
Ames, IA 50011
Telephone: 515-294-9121

2. Restricted-Use Data

List the restricted-use dataset that this plan covers:

This Security Plan covers the following restricted-use dataset:

- Iowa Department of Education and Iowa Workforce Development Matched Dataset

Individuals with access to data:

- Frankie Santos Laanan, PhD, Principal Investigator, Assistant Professor
- Soko Starobin, PhD, Postdoctoral Research Associate
- Jonathan Compton, Doctoral Student, Research Associate
- Ken Maguire, Doctoral Student

3. System Security Measures

A General Security Requirements

Assign Security Requirements

Dr. Frankie Santos Laanan, who is assigned to serve as the Principal Investigator (PI), shall also serve as the System Security Officer (SSO). Dr. Laanan shall assume the duties of the SSO and shall be responsible for maintaining the day-to-day security of the licensed data.

The SSO's assigned duties shall include the implementation, maintenance, and periodic update of the security plan to protect the data in strict compliance with statutory and regulatory requirements.

Develop and Implement Security Plan

The Licensee (i.e., Iowa State University) shall develop and implement a Restricted-Use Data Security Plan before permitting any access to the subject data. The Senior Official, Principal Investigator, and System Security Officer shall sign the implemented security plan and provide a copy to the Iowa Department of Education.

Restrict Access to Data

Individuals who will have access to the restricted-use data will be limited to individuals who submit a signed and executed Affidavit of Nondisclosure. Specifically, only professional/technical and support staff who have signed an Affidavit of Nondisclosure may have access to the data.

The Department of Education will provide the data that include a cohort of students enrolled in Iowa Community Colleges during the 2001-2002 (completers and leavers) academic year. The domain of the cohort includes students with a social security number and were enrolled during the academic year.

Individuals who will be excluded from the cohort are:

Without social security number;
Enrolled in secondary education;
Enrolled in one year following the end of the cohort year at any community colleges in Iowa.

The elements in the dataset to be provided by the Department Education to the licensee are the followings, but are not limited to:

Case ID (Student ID)*
Student CIP Major or Program CIP Number
Birth Date
Race/Ethnicity
Residency
Gender
Earned Credit Hours
Course Credit Hours
College Number
Course Number
Award Received this year from Community College
Identification Code Set – Special Emphasis

Disadvantaged*

*Some requested variables will be computed and/or generated by the Department of Education.

The Iowa Workforce Development will provide the following data elements to the Department of Education to generate a data file for the licensee. The elements include, but not limited to:

Gross Quarterly Earnings of 16 Quarters
Industry Code
Name of the Employer

Additions/revisions to the data elements may be subject to amendment of this agreement by both parties.

Use Data at Licensed Site Only

Licensee shall retain the original version of the subject data and all copies or extracts at a single location (i.e., the licensed site) and shall make no copy or extract of the subject data available to anyone except an authorized staff member. The single location is the following:

Iowa State University
Lagomarcino Hall, Room N225C
Ames, IA 50011
Telephone: 515-294-9121

Licensee shall not permit removal of any subject data from the licensed site without first notifying, and obtaining written approval from, the Iowa Department of Education. This includes using data at home or providing it to a sub-contractor to use off-site.

Response to Outside Request for Subject Data

No access to subject data is permitted unless specified in this agreement.

Licensee agrees to notify the Iowa Department of Education immediately when it receives any legal, investigatory, or other demand for disclosure of subject data under conditions that are inconsistent with any requirement of this license.

Return Original Data to Iowa Department of Education

Licensee shall return to the Iowa Department of Education the original subject data when the research that is the subject of the agreement has been completed or the license terminates, whichever occurs first. All other individually identifiable

information (e.g., the one backup copy, working notes) shall be destroyed under Iowa Department of Education or by approved Iowa Department of Education procedures.

Use of Data for Department of Education Purposes Only

ISU may publish the findings made by these studies, but will send all publications to the Department of Education at least thirty (30) days prior to public disclosure to provide opportunity for review and comment and to determine if Department of Education Confidential Information are contained therein. ISU agrees to remove Department of Education Confidential Information as requested by the Department of Education prior to disclosure. If the Department of Education raises no objection within the notification period above, then ISU has the right to proceed with publication. ISU shall have the final authority to determine the scope and content of any publications, except for removal of Department of Education Confidential Information as described above.

B Physical Handling, Storage, and Transportation

Protect Machine-Readable Media and Printed Material

Machine-readable media and printed material shall be protected from unauthorized individuals. Subject data on machine-readable media shall be secured from authorized access (e.g., locked in a secure cabinet when not in use, only necessary copies made.)

To ensure that license dates are not exceeded, all portable media will be labeled with the expiration date of the license. If the user changes the media, or develops subsets, new labels with the expiration date will be affixed. Additionally, simple and effective cataloging and/or tracking system to know who has possession and responsibility for what media at all times will be implemented. The Principal Investigator will ensure that anyone having possession of the data must hold an affidavit, including computer personnel who mount tapes or load data on the system. Data shall not be in a computer facility library unless all who have access to the library media hold affidavits.

Avoid Disclosure from Printed Material

Printed material containing individually identifiable information shall always be secured from unauthorized access (e.g. locked in a secure cabinet when not in use).

Licensee shall ensure that all printouts, tabulations, and reports are edited for any possible disclosures of subject data. In planning and producing analyses and tabulations, the general rule is not to publish a cell in which there are fewer than three (3) respondents or where the cell information could be obtained by

subtraction. In addition, care will be taken not to disclose information through subsequent use of the same data with variables from other databases.

Restricted Copying of Data

The Licensee is accountable for any copies of the subject data, or subsets, that are made. If the data are copied, the Licensee shall ensure that each copy is:

- Made only when necessary for performing the licensed statistical research;
- Protected at the same level as the original confidential data;
- Made available only to those persons authorized to access the subject data; and
- Destroyed upon completion of the purpose for which the copy was established.

The Licensee shall make ONLY ONE BACKUP COPY OF THE ENTIRE DATABASE at the beginning of the loan period. This backup copy will be protected under the same Security Procedures as the original database. That is, the backup copy will be kept in a secured locked cabinet and made available only to those persons authorized to access the subject data.

Limit Transporting the Data

The Licensee shall ensure that the restricted-use data are accessed at one site only (N232A Lagomarcino Hall, Ames, IA 50011). Only the following methods shall be used for transporting the data within that site, to a new license site as approved by the Iowa Department of Education, or to and from the Iowa Department of Education:

- An individual with a signed Affidavit of Nondisclosure (that is on file at the Iowa Department of Education);
- A "bonded courier," who must sign for the sealed package, and who is responsible for the data during transport; or
- By certified mail.

C Computer Security Requirements

The computer that will be used to analyze the restricted-use data is a STANDALONE single-user PC, which has no connections to another computer or LAN.

Limit Room/Area Access

The data will be secured from unauthorized access. Only individuals who have submitted a signed Affidavit of Nondisclosure will have access to the room. The

computer will be secured during business hours and locked after close of business.

Passwords

The Principal Investigator will be responsible for assigning the passwords to obtain access to the restricted database. Passwords will be used and shall be unique. The password will be 6-8 characters in length, and contain at least one non-alphanumeric character (e.g., ?, &, +), and will be changed at least every three months.

Notification (Warning Screen)

A warning sign will be attached to the computer monitor in a prominent location and will include the following message:

WARNING

STATE RESTRICTED-USE DATA

UNAUTHORIZED ACCESS TO LICENSES INDIVIDUALLY IDENTIFIABLE INFORMATION WILL RESULT IN PROSECUTION.

Read-Only Access

User access authorization to the original data shall be Read-Only. Restricted-use survey database will not be modified or changed in any way. Only extrapolations and reading of the original data will be permitted by authorized users.

No Connections to Other Computers

When processing individually identifiable information on a standalone computer, all connections to another computer (e.g., via modem, cable, wireless) will be shut down and/or disconnected.

Lock Computer and/or Room

When the authorized user is away from the computer, the subject data will be protected by locking the computer and/or room. For example, the computer will be shutdown and/or the power-on password will be activated (password protected screen saver). Additionally, the room will be locked to prevent an unauthorized individual from gaining access to the computer.

Automatic "Shutdown" of Inactive Computer

The computer will automatically activate a password protected screen saver when a period of defined inactivity is detected. The defined period of inactivity shall be three to five minutes.

Do Not Backup Restricted-Use Data

Licensee shall not make routine or system backups of restricted-use data except for the one backup copy of the entire restricted-use database.

Staff Changes

The passwords will be changed accordingly when staff changes are made.

Overwrite Hard Disk Data

At the end of the project period, the Licensee shall overwrite the hard disk to delete any and all files, thus making previous data unreadable.

Appendix 1

System Security Measures Check List

Security Measures – Standalone Computer

Summary of Security Controls for Standalone Computer		Action Completed
1.	General Security Requirements	
	a. Assign security responsibilities	
	b. Develop and implement Security Plan	
	c. Restrict access to data (to affidavit signers only)	
	d. Use data at licensed site only	
	e. Response to outside request for subject data	
	f. Return original data to the Iowa Department of Ed. (post-project)	
	g. Additional controls (as determined by PI):	
2.	Physical Handling, Storage, and Transportation	
	a. Protect machine-readable data and printed material	
	b. Avoid disclosure from printed material	
	c. Restricted copying of data	
	d. Limit transporting the data	
	e. Additional controls (as determined by PI):	

System Security Measures Check List (Cont.)

Summary of Security Controls for Standalone Computer		Action Completed
3.	Computer Security Requirements	
	a. Limit room/area access	
	b. Passwords—unique, 6-8 characters with one non-alphanumeric, change at least every three months	
	c. Notification (warning screen)	
	d. Read-only access	
	e. Shut down all connections to other computers	
	f. Physically lock computer/room	
	g. Enable automatic "shutdown"	
	h. No routine backups of restricted-use data	
	i. Change passwords accordingly when staff changes	
	j. Overwrite hard disk data—end of project/repairs	
	k. Additional controls (as determined by PI):	

Appendix 2

The Statistical Purpose for the Restricted Use Data

The purpose of the research project is to examine the impact of career and technical education on student achievement, transition, and labor market entry of students in postsecondary education. I am interested in employing multivariate statistics to investigate various student outcomes. For example, the types of statistical techniques I plan to employ include the following: testing the mean difference between groups (e.g., analysis of variance), multiple regression (e.g., hierarchical, logistic, etc.), and factor analysis (e.g., exploratory and confirmatory). The studies I plan to conduct will go beyond the descriptive nature and will endeavor to employ causal-comparative and predictive types of research.

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office of Research Assurances
Vice Provost for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: November 30, 2005

TO: Frankie Santos Laanan

FROM: Human Subject Research Compliance Office

PROJECT TITLE: The Postsecondary Earnings of Vocational Education Students at Iowa Community Colleges

RE: IRB ID No.: 05-519
APPROVAL DATE: November 29, 2005 **REVIEW DATE:** November 9, 2005

LENGTH OF APPROVAL: One year **CONTINUING REVIEW DATE:** November 28, 2006

TYPE OF APPLICATION: ☒ New Project ☐ Continuing Review

Your human subjects research project application, as indicated above, has been approved by the Iowa State University IRB #1 for recruitment of subjects not to exceed the number indicated on the application form. All research for this study must be conducted according to the proposal that was approved by the IRB. If written informed consent is required, the IRB-stamped and dated Informed Consent Document(s), approved by the IRB for this project only are attached. Please make copies from the attached "masters" for subjects to sign upon agreeing to participate. The original signed Informed Consent Document should be placed in your study files. A copy of the Informed Consent Document should be given to the subject.

The IRB must conduct **continuing review** of research at intervals appropriate to the degree of risk, but not less than once per year. Renewal is the PI's responsibility, but as a reminder, you will receive notices at least 60 days and 30 days prior to the next review. **Please note the continuing review date for your study.**

Any **modification** of this research project must be submitted to the IRB for review and approval, prior to implementation. Modifications include but are not limited to: changing the protocol or study procedures, changing investigators or sponsors (funding sources), including additional key personnel, changing the Informed Consent Document, an increase in the total number of subjects anticipated, or adding new materials (e.g., letters, advertisements, questionnaires). Any future correspondence should include the IRB identification number provided and the study title.

You must promptly report any of the following to the IRB: (1) **all serious and/or unexpected adverse experiences** involving risks to subjects or others; and (2) **any other unanticipated problems involving risks** to subjects or others.

Your research records may be audited at any time during or after the implementation of your study. Federal and University policy require that all research records be maintained for a period of three (3) years following the close of the research protocol. If the principal investigator terminates association with the University before that time, the signed informed consent documents should be given to the Departmental Executive Officer to be maintained.

Research investigators are expected to comply with the University's Federal Wide Assurance, the Belmont Report, 45 CFR 46 and other applicable regulations prior to conducting the research. These documents are on the Human Subjects Research Office website or are available by calling (515) 294-4566.

Upon completion of the project, a Project Closure Form will need to be submitted to the Human Subjects Research Office to officially close the project.

C: ELPS

For IRB Use Only		
	Review Date: 11/9/05	IRB ID: 05-519
	Approval Date: 11/29/05	Length of Approval: 1yr
	Approval Expiration Date: 11/28/06	FULL Committee Review:
	EXEMPT per 45 CFR 46.101(b): ____ Date:	Minimal Risk: /
	EXPEDITED per 45 CFR 46.110(b) 5	More than Minimal Risk:
	Category ____, Letter ____	Project Closed Date:

ISU NEW HUMAN SUBJECTS RESEARCH FORM

IRB
NOV 0 3 2005

SECTION I: GENERAL INFORMATION

Principal Investigator (PI): Frankie Santos Laanan	Phone: 294-7292	Fax: 294-4342
Degrees: Ph.D.	Correspondence Address: N246 Lagomarcino Hall	
Department: Educational Leadership and Policy Studies	Email Address: laanan@iastate.edu	
Center/Institute: N/A	College: Education	
PI Level: ☒ Faculty ☐ Staff ☐ Postdoctoral ☐ Graduate Student ☐ Undergraduate Student		

Title of Project: The Postsecondary Earnings of Vocational Education Students at Iowa Community Colleges

Project Period (Include Start and End Date): [*mm/dd/yy*][*11/01/05*] to [*mm/yy/dd*][*06/30/06*]

FOR STUDENT PROJECTS

Name of Major Professor/Supervising Faculty:	Signature of Major Professor/Supervising Faculty:
Phone:	Campus Address:
Department:	Email Address:

Type of Project: (check all that apply)
☒ Research ☐ Thesis ☐ Dissertation ☐ Class project
☐ Independent Study (490, 590, Honors project) ☐ Other. Please specify:

KEY PERSONNEL

List all members and relevant experience of the project personnel. This information is intended to inform the committee of the training and background related to the specific procedures that the each person will perform on the project.

NAME & DEGREE(S)	SPECIFIC DUTIES ON PROJECT	TRAINING & EXPERIENCE RELATED TO PROCEDURES PERFORMED, DATE OF TRAINING
1. Frankie Santos Laanan, PhD UCLA	Principal Investigator	National Institutes of Health Human Participants protections Education for Research Teams On-line Training (11/15/2002)--refer to certificate (enclosed)
2. Soko Starobin, PhD University of North Texas	Post Doctoral Research Associate	National Institutes of Health Human Particpant Protections Education for Research Teams On-Line Training (08/14/03)
3. Jonathan Compton, MA ISU	Doctoral Student and Research Assistant	ISU Human Subject Training, 9/19/2000
4.		

FUNDING INFORMATION

If internally funded, please provide account number:
If externally funded, please provide funding source and account number: Iowa Department of Education, 472.28.06
If funding is pending please provide OSPA Record ID on GoldSheet:
Title on GoldSheet if Different Than Above:
Other: *e.g., funding will be applied for later.*

SCIENTIFIC REVIEW

Although the compliance committees are not intended to conduct peer review of research proposals, the federal regulations include language such as "consistent with sound research design," "rationale for involving animals or humans" and "scientifically valuable research," which requires that the committees consider in their review the general scientific relevance of a research study. Proposals that do not meet these basic tests are not justifiable and cannot be approved. If a compliance review committee(s) has concerns about the scientific merit of a project and the project was not competitively funded by peer review or was funded by corporate sponsors, the project may be referred to a scientific review committee. The scientific review committee will be ad hoc and will consist of your ISU peers and outside experts as needed. If this situation arises, the PI will be contacted and given the option of agreeing that a consultant may be contacted or withdrawing the proposal from consideration.

☐ Yes ☒ No Has or will this project receive peer review?

If the answer is "yes," please indicate who did or will conduct the review:

If a review was conducted, please indicate the outcome of the review:

NOTE: RESPONSE CELLS WILL EXPAND AS YOU TYPE AND PROVIDE SUFFICIENT SPACE FOR YOUR RESPONSE.

COLLECTION OR RECEIPT OF SAMPLES

Will you be: (Please check all the apply.)

☐ Yes ☒ No Receiving samples from outside of ISU? See examples below.
☐ Yes ☒ No Sending samples outside of ISU? See examples below.

Examples include: genetically modified organisms, body fluids, tissue samples, blood samples, pathogens.

If you will be receiving samples from or sending samples outside of ISU, please identify the name of the outside organization(s) and the identity of the samples you will be sending or receiving outside of ISU:

N/A

Please note that some samples may require a USDA Animal Plant Health Inspection Service (APHIS) permit, a USPHS Centers for Disease Control and Prevention (CDC) Import Permit for Etiologic Agents, a Registration for Select Agents, High Consequence Livestock Pathogens and Toxins or Listed Plant Pathogens, or a Material Transfer Agreement (MTA) (http://www.ehs.iastate.edu/bs/shipping.htm).

STUDY OBJECTIVES

Briefly explain in **language understandable to a layperson** the specific aim(s) of the study.

The purpose of this study is to use data from the Iowa Department of Education (IA DE) and the Iowa Workforce Development office to compare the post-college earnings of community college vocational students in Iowa. The data will be matched by the IA DE and provided to the PI for aggregated analysis.

BENEFIT

Explain in **language understandable to a layperson** how the information gained in this study will benefit participants or the advancement of knowledge, and/or serve the good of society.

The results from this study will be directly applicable to Iowa Department of Education and community college practioners and policy makers to aid in understanding and improving the outcomes of participation in vocational education at Iowa community colleges, and the role of community colleges in educating Iowa's workforce.

ASSURANCE

- I certify that the information provided in this application is complete and accurate and consistent with any proposal(s) submitted to external funding agencies.
- I agree to provide proper surveillance of this project to ensure that the rights and welfare of the human subject or welfare of animal subjects are protected. I will report any problems to the appropriate compliance review committee(s).
- I agree that I will not begin this project until receipt of official approval from all appropriate committee(s).
- I agree that modifications to the originally approved project will not take place without prior review and approval by the appropriate committee(s), and that all activities will be performed in accordance with all applicable federal, state, local and Iowa State University policies.

CONFLICT OF INTEREST

A conflict of interest can be defined as a set of conditions in which an investigator's or key personnel's judgment regarding a project (including human or animal subject welfare, integrity of the research) may be influenced by a secondary interest (e.g., the proposed project and/or a relationship with the sponsor). ISU's Conflict of Interest Policy requires that investigators and key personnel disclose any significant financial interests or relationships that may present an actual or potential conflict of interest. By signing this form below, you are certifying that all members of the research team, including yourself, have read and understand ISU's Conflict of Interest policy as addressed by the ISU Faculty Handbook (http://www.provost.iastate.edu/faculty.) and have made all required disclosures.

☐ Yes ☒ No Do you or any member of your research team have an actual or potential conflict of interest?
☐ Yes ☐ No If yes, have the appropriate disclosure form(s) been completed?

SIGNATURES

11-01-05
Signature of Principal Investigator Date

11.1.05
Signature of Department Chair Date

PLEASE NOTE: Any changes to an approved protocol must be submitted to the appropriate committee(s) before the changes may be implemented.

Please proceed to SECTION II.

SECTION II: ENVIRONMENTAL HEALTH AND SAFETY INFORMATION

☐ Yes ☒ No Does this project involve human cell or tissue cultures (primary OR immortalized), or human blood components, body fluids or tissues? If the answer is "no", please proceed to SECTION III: APPLICATION FOR IRB APPROVAL. If the answer is "yes," please proceed to Part A: Human Cell Lines.

PART A: HUMAN CELL LINES

☐ Yes ☒ No Does this project involve human cell or tissue cultures (primary OR immortalized cell lines/strains) that have been documented to be free of bloodborne pathogens? If the answer is "yes," please attach copies of the documentation. If the answer is "no," please answer question 1 below.

1) Please list the specific cell lines/strains to be used, their source and description of use.

CELL LINE	SOURCE	DESCRIPTION OF USE

2) Please refer to the ISU "Bloodborne Pathogens Manual," which contains the requirements of the OSHA Bloodborne Pathogens Standard. Please list the specific precautions to be followed for this project below (e.g., retractable needles used for blood draws):

Anyone working with human cell lines/strains that have not been documented to be free of bloodborne pathogens is required to have Bloodborne Pathogen Training annually. Current Bloodborne Pathogen Training dates must be listed in Section I for all Key Personnel. Please contact Environmental Health and Safety (294-5359) if you need to sign up for training and/or to get a copy of the Bloodborne Pathogens Manual (http://www.ehs.iastate.edu/bs/bbp.htm).

PART B: HUMAN BLOOD COMPONENTS, BODY FLUIDS OR TISSUES

☐ Yes ☒ No Does this project involve human blood components, body fluids or tissues? If "yes", please answer all of the questions in the "Human Blood Components, Body Fluids or Tissues" section.

1) Please list the specific human substances used, their source, amount and description of use.

SUBSTANCE	SOURCE	AMOUNT	DESCRIPTION OF USE
E.g., Blood	*Normal healthy volunteers*	*2 ml*	*Approximate quantity, assays to be done.*

2) Please refer to the ISU "Bloodborne Pathogens Manual," which contains the requirements of the OSHA Bloodborne Pathogens Standard. Specific sections to be followed for this project are:

Anyone working with human blood components, body fluids or tissues is required to have Bloodborne Pathogen Training annually. Current Bloodborne Pathogen Training dates must be listed in Section I for all Key Personnel. Please contact Environmental Health and Safety (294-5359) if you need to sign up for training and/or to get a copy of the Bloodborne Pathogens Manual (http://www.ehs.iastate.edu/bs/bbp.htm).

FOR ENVIRONMENTAL HEALTH AND SAFETY USE ONLY

Signature of Biological Safety Officer

Date

Please proceed to Section III.

SECTION III: STUDY SPECIFIC INFORMATION

PART A: PROJECT INVOLVEMENT

1) ☐ Yes ☒ No Is this project part of a Training, Center, Program Project Grant?
Director Name:
Overall IRB ID:
2) ☐ Yes ☒ No Is the purpose of this project to develop survey instruments?
3) ☐ Yes ☒ No Does this project involve an investigational new drug (IND)? Number:
4) ☐ Yes ☒ No Does this project involve an investigational device exemption (IDE)? Number:
5) ☒ Yes ☐ No Does this project involve existing data or records?
6) ☐ Yes ☒ No Does this project involve secondary analysis?
7) ☐ Yes ☒ No Does this project involve pathology or diagnostic specimens?
8) ☐ Yes ☒ No Does this project require approval from another institution? Please attach letters of approval.

PART B: MEDICAL HEALTH INFORMATION OR RECORDS

1) ☐ Yes ☒ No Does your project require the use of a health care provider's records concerning past, present, or future physical, dental, or mental health information about a subject? The Health Insurance Portability and Accountability Act established the conditions under which protected health information may be used or disclosed for research purposes. If your project will involve the use of any past or present clinical information about someone, or if you will add clinical information to someone's treatment record (electronic or paper) during the study you must complete and submit the Application for Use of Protected Health Information.

PART C: ANTICIPATED ENROLLMENT

Number of Subjects Total: 31,000 Males: 15,000 Females: 16,000	
Check if any enrolled subjects are: ☐ Minors (Under 18) Age Range of Minors: _____ ☐ Pregnant Women/Fetuses ☐ Cognitively Impaired ☐ Prisoners	Check below if this project involves either: ☒ Adults, non-students ☐ Minor ISU students ☐ ISU students 18 and older ☐ Other (explain) _____
List Estimated Percent of the Anticipated Enrollment that will be Minorities:	
American Indians: 0.11%	Alaskan Native: _____
Asian or Pacific Islander: 2.23%	Black or African American: 1.81
Latino: _____	Hispanic: _____

PART D: SUBJECT SELECTION

Please use additional space as necessary to adequately answer each question.

1) Describe procedures for identifying subjects (*e.g., ads, fliers, word of mouth, email list, etc.*)

The target population (Iowa community college students enrolled in the 2001-2002 school year) will be identified from Iowa Department of Education MIS data.

2) Attach a copy of any recruitment material such as ad, fliers, e-mail messages, etc.

3) How will the subjects be selected? (*e.g., where will the names come from*?)

The students in the target population will be dervied from student data generated by the Iowa Department

of Education.

4) Please list the inclusion/exclusion for subject selection and include an explanation.

Students who were enrolled in vocational programs at any of Iowa's community colleges in 2001-02 school year.

Please answer each question. If the question does not pertain to this study, please type not applicable (N/A).

PART E: RESEARCH PLAN

Include sufficient detail for IRB review of this project independent of the grant, protocol, or other documents.

1) Describe study procedures to which subjects will be exposed (e.g. for blood draws, include frequency and amount, who will be drawing the blood and their training).

N/A

2) For studies involving pathology/diagnostic specimens, indicate whether specimens will be collected prospectively and/or already exist "on the shelf" at the time of submission of this review form. If prospective, describe specimen procurement procedures; indicate whether any additional medical information about the subject is being gathered, and whether specimens are linked at any time by code number to the subject's identity.

N/A

3) For studies involving deception, please justify the deception and indicate the debriefing procedure, including the timing and information to be presented to subjects.

N/A

PART F: CONSENT PROCESS

1) Explain how the subjects will be contacted (*e.g., letter, phone, email, in person, etc.*) If the subjects are under 18, include how the parents or guardians will be approached as well.

The subjects will not be contacted individually. A secondary data set provided by the Iowa Department of Education will be used.

2) Describe how informed consent will be obtained (*e.g., who will contact the subjects, how many times, etc.*) Describe in detail the entire consent process.

N/A

PART G: CONSENT AND ASSENT PROCESS FOR ENROLLING MINORS

1) If your study involves minors, please explain how parental consent will be obtained prior to enrollment of the minor(s).

N/A

2) Please explain how assent will be obtained from minors, prior to their enrollment. Also, please explain if the assent process will be documented (*e.g., a simplified version of the consent form, combined with the consent document).* "Assent" according to the federal regulations "...means a child's affirmative agreement to participate in research. Mere failure to object should not, absent affirmative agreement, be construed as assent."

N/A

PART H: DATA ANALYSIS

1) Describe how the data will be analyzed (*e.g. statistical package, statistical evaluation, statistical measures used to evaluate results*)

The data will be analyzed using SPSS 12.0. Both descriptive and multivariate statistics will be employed to analyze the data.

2) If applicable, please indicate the anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:

_____
Month/Day/Year

PART I: BENEFITS

1) Describe if there will be a benefit to the subject or if the benefit is to society. Please note that compensation is not a benefit according to the federal regulations.

The results from this study will benefit the Iowa Department of Education and community college administrators and policy makers in Iowa in making decisions about the effectiveness of career and technical programs in the state. Subjects will not benefit directly from this study.

PART J: RISKS

The concept of risk goes beyond physical risk and includes risks to subjects' dignity and self-respect as well as psychological, emotional, legal, social or financial risk.

1) ☐ Yes ☒ No Is the ***probability*** of the harm or discomfort anticipated in the proposed research greater than that encountered ordinarily in daily life or during the performance of routine physical or psychological examinations or tests?

2) ☐ Yes ☒ No Is the ***magnitude*** of the harm or discomfort greater than that encountered ordinarily in daily life, or during the performance of routine physical or psychological examinations or tests?

3) Describe any risks or discomforts to the subjects and how they will be minimized and precautions taken.

No risks or discomforts will be experience by the subjects.

4) If this study involves vulnerable populations, including minors, pregnant women, prisoners, educationally or economically disadvantaged, what additional protections will be provided to minimize risks?

N/A

PART K: COMPENSATION

1) ☒ No ☐ Yes Will subjects receive compensation for their participation? If yes, please explain.

Do not make the payment an inducement, only a compensation for expenses and inconvenience. If a person is to receive money or another token of appreciation for their participation, explain when it will be given and any conditions of full or partial payment. (E.g., volunteers will $5.00 for each of the five visits in the study or a total of $25.00 if he/she completes the study. If the subject withdraws from participation, they will receive $5.00 for each of the visits completed.) It is considered undue influence to make completion of the study the basis for compensation.

PART L: CONFIDENTIALITY

1) Describe below the methods you will use to ensure the confidentiality of data obtained (*e.g., who has access to the data, where the data will be stored, security measures for web-based surveys and computer storage, how long data (specimens) will be retained, etc.*)

Data will be stored on a stand-alone, password-protected computer in a locked room (Lagomarcino N225C). Only those whose names are listed on this form will have access to the data. All reports utilizing or generated through use of the dataset shall be published and released by the Iowa Department of Education. Any research conducted utilizing these data shall have the written permission of the Iowa Department of Education.

Checklist for Attachments

The following are attached (please check ones that are applicable):

☐ A copy of the informed consent document **OR** ☐ Letter of information with elements of consent to subjects
☐ A copy of the assent form if minors will be enrolled
☐ Letter of approval from cooperating organizations or institutions allowing you to conduct research at their facility
☐ Data-gathering instruments (including surveys)
☐ Recruitment fliers or any other documents the subjects will see

Two sets of materials should be submitted for each project – the original signed copy of the application form, one copy and two sets of accompanying materials. Federal regulations require that one copy of the grant application or proposal must be submitted for comparison.

FOR IRB USE ONLY:

Initial action by the Institutional Review Board (IRB):

☒ Project approved. Date: 11/29/05 05-519
☐ Pending further review. Date: _____
☐ Project not approved. Date: _____

Follow-up action by the IRB:

Dianne Anderson
IRB Approval Signature

11/29/05
Date

Austin-Eason, Ginny [PRV/R]

From: Laanan, Frankie S [EL PS]
Sent: Friday, November 11, 2005 1:41 PM
To: Austin-Eason, Ginny [PRV/R]
Cc: Laanan, Frankie S [EL PS]; Starobin, Soko [EL PS]
Subject: Re: IRB ID 05-519 "The Postsecondary Earnings of Vocational Education Students at Iowa Community Colleges

Dear Ginny,

The secondary data set will have as the unique identifier "social security numbers." The SSN is required in order to link the Department of Education MIS data with the Iowa Workforce Development UI Wage data. Once the UI wage data are matched with the cohort SSN, I will work with the Department of Education to add the educational data elements to each record.

Please let me know if you need further assistance or clarification. Thanks in advance for your assistance.

--Frankie

At 10:56 AM 11/11/2005, you wrote:

> Dear Frankie,
>
> The IRB Reviewer is requesting additional information for the above referenced study. Will the secondary data set provided have identifiers, or will you have the capability to link the data to identifiers?
>
> Thank you for your assistance.
>
> With kind regards
>
> Ginny Austin Eason
> IRB Administrator
> Iowa State University
> 1138 Pearson Hall
> Ames, IA 50011
> 515 294 4566 (T)
> 515 294 4267 (F)

==========

Frankie Santos Laanan

11/11/2005

Contractual Agreement Between State of Iowa, Department of Education,
Bureau/Division of Community College and Workforce Preparation AND Iowa State University

ANNUAL WORKPLAN

As of 10-28-05

IA-DOE Agreement: 37305
Vocational Education Accountability
Funding Period: 11/01/04-06/30/06 (FY 05&06)
Funding Amount: $100,000
Principal Investigator: Frankie Santos Laanan

Objective 1. To develop the methodology to match Iowa Community College students' educational data with the Iowa Workforce Development to assess students' postcollege earnings.

Procedures/Activities	Performance Outcomes	Responsible Persons	Timelines
1. Develop research design and methodology • Identify MIS contact at DOE • Obtain MIS data dictionary of educational data of IA community college students • Develop VocEd (CTE) typology • Define target population and sample • Define "leaver" and "completer" cohort(s)	Methodology Report • Description of research design, sampling, vocational education student typology, and "leaver" and "completer" cohorts. • Document definitions and conceptual framework - comparison with other states' methodology and definitions (e.g., CA, WA, FL, NC, etc.)	F. Laanan (ISU) S. Starobin (ISU) J. Compton (ISU) C. Evans (DOE) VEA Advisory Committee	January 2005 ~~June 2005~~ November 2005
2. Develop a statewide Vocational Education Accountability Advisory Board • Consult with DOE • Identify VocEd Deans, Institutional Researchers, DOE representatives, etc.	Confirm VEA Advisory Board members • Letters of invitation from Dr. Jan Friedel to Advisory Board members (purpose, objectives, and expectations) • Monthly meetings beginning ~~March 2005~~ TBD	F. Laanan (ISU) B. Silag (DOE)	~~February 2005~~ TBD
3. Identify key contact at Iowa Workforce Development (IWD) • Establish data matching procedure • Human Subjects clearance	Clearance to obtain copy of IA CC student data (matched dataset of UI wage records) to be housed at ISU • Apply for IRB approval at ISU	F. Laanan (ISU) S. Starobin (ISU) B. Silag (DOE) C. Evans (DOE)	~~March 2005~~ August 2005

ISU IRB #1 05-519
~~Approved Date: November 29, 2005~~
Expiration Date: November 28, 2006
Initial by gc

Contractual Agreement Between State of Iowa, Department of Education,
Bureau/Division of Community College and Workforce Preparation AND Iowa State University

ANNUAL WORKPLAN

As of 10-28-05

IA-DOE Agreement: 37305
Vocational Education Accountability
Funding Period: 11/01/04-06/30/06 (FY 05&06)
Funding Amount: $100,000
Principal Investigator: Frankie Santos Laanan

Objective 2. To develop and enhance a systematic approach to utilize research to address accountability-driven mandates.

Procedures/Activities	Performance Outcomes	Responsible Persons	Timelines
1. Conduct literature review of economic benefits of community college education • Economic returns of vocational or certificate • Impact of community college education on postcollege earnings • State-by-state comparative analysis	Policy papers, research briefs, and journal articles • Present to DOE and IA CCs • Present findings at national and statewide meetings • Post documents to ISU-IA DOE Partnership web site • Develop bibliography	F. S. Laanan (ISU) J. Compton (ISU) S. Starobin (ISU)	June 2005
2. Collect research and policy reports on vocational education accountability mandates • Federal (national) reports • Statewide reports • Policy Centers, etc.	Maintain library of materials and resources • Copies for ISU Research Team • Copies to IA DOE office • Develop bibliography • Post documents to web site	J. Compton (ISU) S. Starobin (ISU)	June 2005
3. Develop the ISU-Iowa Department of Education Partnership web site • Provide resources • Post news and announcements • Dissemination tool to reach entire state • Develop a Listserve	Maintain web site at ISU server • Provide link from IA DOE CCWP web site to ISU-IA DOE Partnership web site • Solicit feedback from field regarding usefulness of web site • Update web site regularly	F. Laanan (ISU) J. Compton (ISU) S. Starobin (ISU) VEA Advisory Committee	February 2005

ISU IRB #1 05-519
Approval Date: November 29, 2005
Expiration Date: November 28, 2006
Initial by ge

Contractual Agreement Between State of Iowa, Department of Education,
Bureau/Division of Community College and Workforce Preparation AND Iowa State University

ANNUAL WORKPLAN

As of 10-28-05

IA-DOE Agreement: 37305
Vocational Education Accountability
Funding Period: 11/01/04-06/30/06 (FY 05&06)
Funding Amount: $100,000
Principal Investigator: Frankie Santos Laanan

Objective 3. To develop and implement statewide professional development technical assistance to Iowa Community Colleges in accessing, formatting, and analyzing Perkins Vocational Education Core Indicators data for program improvement and increasing student success.

Procedures/Activities	Performance Outcomes	Responsible Persons	Timelines
1. Organize and develop regional in-service professional development workshops for vocational (CTE) administrators, CTE faculty, institutional researchers, and college personnel to address the following: • Access, format, and utilize Perkins Accountability data for program improvement and student success	Schedule in-service workshops • Confirm site liaisons and locations • Develop dissemination list and confirm logistics, etc. • Post dates/times/locations on web site • Coordinate workshops with IA DOE consultants • Feedback from VTE Advisory Board • Consider ICN options	F. Laanan (ISU) S. Starobin (ISU) J. Compton (ISU) B. Silag (DOE) C. Evans (DOE) VTE Advisory Board	~~June 2005~~ January-April 2006
2. Conduct regional in-service professional development workshops	Develop evaluation for all workshops • Feedback from field	F. Laanan (ISU) S. Starobin (ISU) J. Compton (ISU) B. Silag (DOE)	~~October-December 2005~~ January-April 2006
3. Develop Vocational Education Accountability Perkins Workbooks and related resource materials (i.e., printed and e-Resources) for IA CCs and DOE	Review and feedback from VTE Advisory Board and DOE • Produce paper copy of workbooks • Produce PDF files of all materials and post to web site	F. Laanan (ISU) J. Compton (ISU) S. Starobin (ISU) B. Silag (ISU) VTE Advisory Committee	~~September 2005~~ January 2006

ISU IRB #1 05-519
Approved Date: November 29, 2005
Expiration Date: November 28, 2006
Initial by ge

Contractual Agreement Between State of Iowa, Department of Education,
Bureau/Division of Community College and Workforce Preparation AND Iowa State University

ANNUAL WORKPLAN

As of 10-28-05

IA-DOE Agreement: 37305
Vocational Education Accountability
Funding Period: 11/01/04-06/30/06 (FY 05&06)
Funding Amount: $100,000
Principal Investigator: Frankie Santos Laanan

Objective 4 To create staff development workshops for secondary and postsecondary Career and Technical (CTE) faculty in the use of current CTE research and labor market data for system and program improvement.

Procedures/Activities	Performance Outcomes	Responsible Persons	Timelines
1. Identify target audience of High School and Community College personnel • Develop list of high school CTE programs in Iowa by AEA region • Develop list of Tech Prep partnerships between high schools and IA CCs • Develop contact list of high school CTE Tech Prep coordinator	Publish Iowa high school CTE programs on ISU-IA DOE Partnership web site Provide IA high school CTE Tech Prep list to DOE Invite high school CTE faculty to in-service workshops	F. Laanan (ISU) J. Compton (ISU) S. Starobin (ISU) B. Silag (DOE) K. McGuire (DOE)	~~April 2005~~ January-April 2006
2. Collaborate with Iowa DOE • Identify DOE consultant working with secondary CTE instructors • Develop contact list (e.g., e-mail, mailing address, etc.) • Develop GIS map of IA high schools within CC region (identify Tech Prep partnership or CTE pathway to CC	Publish contact list on ISU-IA DOE Partnership web site Provide GIS map of IA high schools within CC region to DOE and publish on web site	F. Laanan (ISU) J. Compton (ISU) S. Starobin (ISU) B. Silag (ISU)	~~April 2005~~ November 2005
3. Disseminate CTE and Labor Market Information to high school audience • Administrators, teachers, counselors, students, etc.	Develop workbooks and resource materials to be disseminated at the in-service workshops • Create PDF documents • Post documents to web site	F. Laanan (ISU) J. Compton (ISU) S. Starobin (ISU)	~~October-December 2005~~ January-April 2006

ISU IRB #1 05-519
~~Approved Date: November 29, 2005~~
Expiration Date: November 28, 2006
Initial by
ge

RECEIVED
2/3/06
OSPA

Memo

To: Thane Peterson

From: Frankie Santos Laanan

Date: February 3, 2006

Re: Security Plan for Restricted-Use Data

Please see the enclosed document:

Security Plan for Restricted-Use Data for the research project entitled: *The Postsecondary Earnings of Vocational Education Students at Iowa Community Colleges* (Account #: 472-28-06).

Please note that the edits were made on page 11 of the original document, and the attached document is the revised version the security plan.

If you have any questions regarding the enclosed document and/or the research project, please feel free to contact me at 294-7292 or laanan@iastate.edu.

Thank you very much for your time and assistance.

Frankie Santos Laanan, PI and Assistant Professor

please copy and
- for me f.u
and return to
pl

Security Plan for Restricted-Use Data

Project Title

Postsecondary Earnings of Vocational Education Students at Iowa Community Colleges

Submitted by:

Dr. Frankie Santos Laanan
Principal Investigator
Iowa State University

Date:
February 3, 2006 (Revised)

Processing of this License

A. The term of this license shall be for the period of the grant. If, before the expiration of this license, the Department of Education establishes regulatory standards for the issuance and content of licenses, the Licensee agrees to comply with the regulatory standards.

B. This license may be amended, extended or terminated by mutual written agreement between the Licensee and the Department of Education. Any amendment must be signed by a Senior Official specified in paragraph C. of this license, PI, and the Department of Education Administrator and is effective on the date that all required parties have signed the amendment.

C. The Senior Officer (SO) having the authority to bind the organization to the terms of the license, shall sign this license below. The SO certifies, by his/her signature, that:

1. The organization has the authority to undertake the commitments in this license;
2. The SO has the authority to bind the organization to the provisions of this license; and
3. The PI is the most senior statistical officer for the licensee who has the authority to manage the day-to-day statistical operations of the licensee.

Thane S. Peterson — 2-9-06

Signature of the Senior Official — Date

Thane S. Peterson

Type/Print Name of Senior Official

Title: Director, OSRA — Telephone 515-294-5225

D. The Principal Investigator (PI) shall sign this license below. If the SO also acts as the chief statistical officer for the Licensee; viz. as the PI, the SO shall likewise sign under this paragraph as well as having signed under paragraph C.

Frankie Laanan — 12-06-05

Signature of the Principal Investigator — Date

Frankie Santos Laanan, Ph.D.

Type/Print Name of Principal Investigator

Title: Assistant Professor — Telephone 515.294.7292

AFFIDAVIT OF NONDISCLOSURE

Assistant Professor
(Job Title)

December 6, 2005
(Date of Assignment to Project)

Iowa State University
(Organization, State or Local Agency or Instrumentality)

N243 Lagomarcino Hall
Ames, Iowa 50011-3195
(Organization or Agency Address)

Iowa Department of Education and Iowa Workforce Development Matched Dataset
(Data Base or File Containing Individually Identifiable Information*)

I, Frankie Santos Laanan, do solemnly swear (or affirm) that when given access to the subject data base or file, I will not –

(i) use or reveal any individual identifiable information for any purpose other than statistical purposes specified in the survey, project, or contract;

(ii) make any disclosure or publication whereby a sample unit or survey respondent could be identified or the data furnished by or related to any particular person could be identified; or

(iii) permit anyone other than the authorized individuals to examine the individual reports.

(Signature)

* Request all subsequent follow-ups that may be needed. This form cannot be amended, so access to databases not listed will require submitting notarized Affidavits.

City/County of Story Commonwealth/State of Iowa
Sworn to and subscribed before me this 6 day of
Dec, 2005. Witness my hand and official Seal.

(Notary Public/Seal)

AFFIDAVIT OF NONDISCLOSURE

Postdoctoral Research Associate (Job Title)	December 6, 2005 (Date of Assignment to Project)
Iowa State University (Organization, State or Local Agency or Instrumentality)	
N243 Lagomarcino Hall Ames, Iowa 50011-3195 (Organization or Agency Address)	Iowa Department of Education and Iowa Workforce Development Matched Dataset (Data Base or File Containing Individually Identifiable Information*)

I, Soko S. Starobin, do solemnly swear (or affirm) that when given access to the subject data base or file, I will not –

(i) use or reveal any individual identifiable information for any purpose other than statistical purposes specified in the survey, project, or contract;

(ii) make any disclosure or publication whereby a sample unit or survey respondent could be identified or the data furnished by or related to any particular person could be identified; or

(iii) permit anyone other than the authorized individuals to examine the individual reports.

Soko S. Starobin
(Signature)

* Request all subsequent follow-ups that may be needed. This form cannot be amended, so access to databases not listed will require submitting notarized Affidavits.

City/County of Story Commonwealth/State of Iowa
Sworn to and subscribed before me this 6 day of
Dec, 2005. Witness my hand and official Seal.

Heidi B. Ekehorn
(Notary Public/Seal)

AFFIDAVIT OF NONDISCLOSURE

Doctoral Research Associate (Job Title)	December 6, 2005 (Date of Assignment to Project)
Iowa State University (Organization, State or Local Agency or Instrumentality)	
N243 Lagomarcino Hall Ames, Iowa 50011-3195 (Organization or Agency Address)	Iowa Department of Education and Iowa Workforce Development Matched Dataset (Data Base or File Containing Individually Identifiable Information*)

I, Jonathan Compton, do solemnly swear (or affirm) that when given access to the subject data base or file, I will not –

(i) use or reveal any individual identifiable information for any purpose other than statistical purposes specified in the survey, project, or contract;

(ii) make any disclosure or publication whereby a sample unit or survey respondent could be identified or the data furnished by or related to any particular person could be identified; or

(iii) permit anyone other than the authorized individuals to examine the individual reports.

Jonathan Compton
(Signature)

* Request all subsequent follow-ups that may be needed. This form cannot be amended, so access to databases not listed will require submitting notarized Affidavits.

City/County of Story Commonwealth/State of Iowa
Sworn to and subscribed before me this 6 day of
Dec, 2005. Witness my hand and official Seal.

Heidi B. Eschon
(Notary Public/Seal)

3/11/14

AFFIDAVIT OF NONDISCLOSURE

Doctoral Student (Job Title)	December 1, 2005 (Date of Assignment to Project)
Iowa State University (Organization, State or Local Agency or Instrumentality)	
N243 Lagomarcino Hall Ames, Iowa 50011-3195 (Organization or Agency Address)	Iowa Department of Education and Iowa Workforce Development Matched Dataset (Data Base or File Containing Individually Identifiable Information*)

I, Ken Maguire, do solemnly swear (or affirm) that when given access to the subject data base or file, I will not –

(i) use or reveal any individual identifiable information for any purpose other than statistical purposes specified in the survey, project, or contract;

(ii) make any disclosure or publication whereby a sample unit or survey respondent could be identified or the data furnished by or related to any particular person could be identified; or

(iii) permit anyone other than the authorized individuals to examine the individual reports.

Ken Maguire
(Signature)

* Request all subsequent follow-ups that may be needed. This form cannot be amended, so access to databases not listed will require submitting notarized Affidavits.

~~City~~/County of Polk ~~Commonwealth~~/State of Iowa
Sworn to and subscribed before me this 1st day of
Dec, 20 05. Witness my hand and official Seal.

Carol J. Greta
(Notary Public/Seal)

NOTARIAL SEAL IOWA
CAROL J. GRETA
COMMISSION NO. 125473
MY COMMISSION EXPIRES
7-29-06

System Security Plan
Management Review and Approval

I have reviewed the contents of this security plan, which describes the protection measures for the Iowa Department of Education and Iowa Workforce Development Matched Dataset:

I hereby certify that this system meets all the requirements of the license and security procedures and that the in-place security safeguards adequately protect the restricted-use data.

(Senior Official)	2-9-06 (Date)
(Principal Investigator)	12-06-05 (Date)
(System Security Officer)	12-06-05 (Date)

1. System Identification

Standalone Computer

The restricted-use data (CD-ROM format) will be run at the licensed site on a standalone PC (Dell Optiplex GX280, Intel Pentium 4 Processor, 3.4 Ghz running Microsoft Windows XP Operating System). No modem is attached to the PC. The restricted-use data will be removed from the system each day after use and any residual data will be purged by writeover software.

The licenses site is as follows:

Iowa State University
Lagomarcino Hall, Room N225C
Ames, IA 50011
Telephone: 515-294-9121

2. Restricted-Use Data

List the restricted-use dataset that this plan covers:

This Security Plan covers the following restricted-use dataset:

- Iowa Department of Education and Iowa Workforce Development Matched Dataset

Individuals with access to data:

- Frankie Santos Laanan, PhD, Principal Investigator, Assistant Professor
- Soko Starobin, PhD, Postdoctoral Research Associate
- Jonathan Compton, Doctoral Student, Research Associate
- Ken Maguire, Doctoral Student

3. System Security Measures

A General Security Requirements

Assign Security Requirements

Dr. Frankie Santos Laanan, who is assigned to serve as the Principal Investigator (PI), shall also serve as the System Security Officer (SSO). Dr. Laanan shall assume the duties of the SSO and shall be responsible for maintaining the day-to-day security of the licensed data.

The SSO's assigned duties shall include the implementation, maintenance, and periodic update of the security plan to protect the data in strict compliance with statutory and regulatory requirements.

Develop and Implement Security Plan

The Licensee (i.e., Iowa State University) shall develop and implement a Restricted-Use Data Security Plan before permitting any access to the subject data. The Senior Official, Principal Investigator, and System Security Officer shall sign the implemented security plan and provide a copy to the Iowa Department of Education.

Restrict Access to Data

Individuals who will have access to the restricted-use data will be limited to individuals who submit a signed and executed Affidavit of Nondisclosure. Specifically, only professional/technical and support staff who have signed an Affidavit of Nondisclosure may have access to the data.

The Department of Education will provide the data that include a cohort of students enrolled in Iowa Community Colleges during the 2001-2002 (completers and leavers) academic year. The domain of the cohort includes students with a social security number and were enrolled during the academic year.

Individuals who will be excluded from the cohort are:

Without social security number;
Enrolled in secondary education;
Enrolled in one year following the end of the cohort year at any community colleges in Iowa.

The elements in the dataset to be provided by the Department Education to the licensee are the followings, but are not limited to:

Case ID (Student ID)*
Student CIP Major or Program CIP Number
Birth Date
Race/Ethnicity
Residency
Gender
Earned Credit Hours
Course Credit Hours
College Number
Course Number
Award Received this year from Community College
Identification Code Set – Special Emphasis

Disadvantaged*

*Some requested variables will be computed and/or generated by the Department of Education.

The Iowa Workforce Development will provide the following data elements to the Department of Education to generate a data file for the licensee. The elements include, but not limited to:

Gross Quarterly Earnings of 16 Quarters
Industry Code
Name of the Employer

Additions/revisions to the data elements may be subject to amendment of this agreement by both parties.

Use Data at Licensed Site Only

Licensee shall retain the original version of the subject data and all copies or extracts at a single location (i.e., the licensed site) and shall make no copy or extract of the subject data available to anyone except an authorized staff member. The single location is the following:

Iowa State University
Lagomarcino Hall, Room N225C
Ames, IA 50011
Telephone: 515-294-9121

Licensee shall not permit removal of any subject data from the licensed site without first notifying, and obtaining written approval from, the Iowa Department of Education. This includes using data at home or providing it to a sub-contractor to use off-site.

Response to Outside Request for Subject Data

No access to subject data is permitted unless specified in this agreement.

Licensee agrees to notify the Iowa Department of Education immediately when it receives any legal, investigatory, or other demand for disclosure of subject data under conditions that are inconsistent with any requirement of this license.

Return Original Data to Iowa Department of Education

Licensee shall return to the Iowa Department of Education the original subject data when the research that is the subject of the agreement has been completed or the license terminates, whichever occurs first. All other individually identifiable

information (e.g., the one backup copy, working notes) shall be destroyed under Iowa Department of Education or by approved Iowa Department of Education procedures.

Use of Data for Department of Education Purposes Only

ISU will compile reports based on the analysis of the data set. The reports generated will be delivered to the Iowa Department of Education for review, comment and publication. Any proposed publication for submission to a peer-reviewed journal that includes information from the data set or makes reference to the Iowa Department of Education data set will be provided to the Iowa Department of Education for review and comment. ISU will remove any and all Iowa Department of Education confidential information from the proposed publication. Any proposed publication is intended to be collaborative in nature and jointly published.

B Physical Handling, Storage, and Transportation

Protect Machine-Readable Media and Printed Material

Machine-readable media and printed material shall be protected from unauthorized individuals. Subject data on machine-readable media shall be secured from authorized access (e.g., locked in a secure cabinet when not in use, only necessary copies made.)

To ensure that license dates are not exceeded, all portable media will be labeled with the expiration date of the license. If the user changes the media, or develops subsets, new labels with the expiration date will be affixed. Additionally, simple and effective cataloging and/or tracking system to know who has possession and responsibility for what media at all times will be implemented. The Principal Investigator will ensure that anyone having possession of the data must hold an affidavit, including computer personnel who mount tapes or load data on the system. Data shall not be in a computer facility library unless all who have access to the library media hold affidavits.

Avoid Disclosure from Printed Material

Printed material containing individually identifiable information shall always be secured from unauthorized access (e.g. locked in a secure cabinet when not in use).

Licensee shall ensure that all printouts, tabulations, and reports are edited for any possible disclosures of subject data. In planning and producing analyses and tabulations, the general rule is not to publish a cell in which there are fewer than three (3) respondents or where the cell information could be obtained by

subtraction. In addition, care will be taken not to disclose information through subsequent use of the same data with variables from other databases.

Restricted Copying of Data

The Licensee is accountable for any copies of the subject data, or subsets, that are made. If the data are copied, the Licensee shall ensure that each copy is:

- Made only when necessary for performing the licensed statistical research;
- Protected at the same level as the original confidential data;
- Made available only to those persons authorized to access the subject data; and
- Destroyed upon completion of the purpose for which the copy was established.

The Licensee shall make ONLY ONE BACKUP COPY OF THE ENTIRE DATABASE at the beginning of the loan period. This backup copy will be protected under the same Security Procedures as the original database. That is, the backup copy will be kept in a secured locked cabinet and made available only to those persons authorized to access the subject data.

Limit Transporting the Data

The Licensee shall ensure that the restricted-use data are accessed at one site only (N232A Lagomarcino Hall, Ames, IA 50011). Only the following methods shall be used for transporting the data within that site, to a new license site as approved by the Iowa Department of Education, or to and from the Iowa Department of Education:

- An individual with a signed Affidavit of Nondisclosure (that is on file at the Iowa Department of Education);
- A "bonded courier," who must sign for the sealed package, and who is responsible for the data during transport; or
- By certified mail.

C <u>Computer Security Requirements</u>

The computer that will be used to analyze the restricted-use data is a STANDALONE single-user PC, which has no connections to another computer or LAN.

Limit Room/Area Access

The data will be secured from unauthorized access. Only individuals who have submitted a signed Affidavit of Nondisclosure will have access to the room. The

computer will be secured during business hours and locked after close of business.

Passwords

The Principal Investigator will be responsible for assigning the passwords to obtain access to the restricted database. Passwords will be used and shall be unique. The password will be 6-8 characters in length, and contain at least one non-alphanumeric character (e.g., ?, &, +), and will be changed at least every three months.

Notification (Warning Screen)

A warning sign will be attached to the computer monitor in a prominent location and will include the following message:

WARNING

STATE RESTRICTED-USE DATA

UNAUTHORIZED ACCESS TO LICENSES INDIVIDUALLY IDENTIFIABLE INFORMATION WILL RESULT IN PROSECUTION.

Read-Only Access

User access authorization to the original data shall be Read-Only. Restricted-use survey database will not be modified or changed in any way. Only extrapolations and reading of the original data will be permitted by authorized users.

No Connections to Other Computers

When processing individually identifiable information on a standalone computer, all connections to another computer (e.g., via modem, cable, wireless) will be shut down and/or disconnected.

Lock Computer and/or Room

When the authorized user is away from the computer, the subject data will be protected by locking the computer and/or room. For example, the computer will be shutdown and/or the power-on password will be activated (password protected screen saver). Additionally, the room will be locked to prevent an unauthorized individual from gaining access to the computer.

Automatic "Shutdown" of Inactive Computer

The computer will automatically activate a password protected screen saver when a period of defined inactivity is detected. The defined period of inactivity shall be three to five minutes.

Do Not Backup Restricted-Use Data

Licensee shall not make routine or system backups of restricted-use data except for the one backup copy of the entire restricted-use database.

Staff Changes

The passwords will be changed accordingly when staff changes are made.

Overwrite Hard Disk Data

At the end of the project period, the Licensee shall overwrite the hard disk to delete any and all files, thus making previous data unreadable.

Appendix 1

System Security Measures Check List

Security Measures – Standalone Computer

	Summary of Security Controls for Standalone Computer	Action Completed
1.	General Security Requirements	
	a. Assign security responsibilities	
	b. Develop and implement Security Plan	
	c. Restrict access to data (to affidavit signers only)	
	d. Use data at licensed site only	
	e. Response to outside request for subject data	
	f. Return original data to the Iowa Department of Ed. (post-project)	
	g. Additional controls (as determined by PI):	
2.	Physical Handling, Storage, and Transportation	
	a. Protect machine-readable data and printed material	
	b. Avoid disclosure from printed material	
	c. Restricted copying of data	
	d. Limit transporting the data	
	e. Additional controls (as determined by PI):	

System Security Measures Check List (Cont.)

Summary of Security Controls for Standalone Computer		Action Completed
3.	Computer Security Requirements	
	a. Limit room/area access	
	b. Passwords—unique, 6-8 characters with one non-alphanumeric, change at least every three months	
	c. Notification (warning screen)	
	d. Read-only access	
	e. Shut down all connections to other computers	
	f. Physically lock computer/room	
	g. Enable automatic "shutdown"	
	h. No routine backups of restricted-use data	
	i. Change passwords accordingly when staff changes	
	j. Overwrite hard disk data—end of project/repairs	
	k. Additional controls (as determined by PI):	

Appendix 2

The Statistical Purpose for the Restricted Use Data

The purpose of the research project is to examine the impact of career and technical education on student achievement, transition, and labor market entry of students in postsecondary education. I am interested in employing multivariate statistics to investigate various student outcomes. For example, the types of statistical techniques I plan to employ include the following: testing the mean difference between groups (e.g., analysis of variance), multiple regression (e.g., hierarchical, logistic, etc.), and factor analysis (e.g., exploratory and confirmatory). The studies I plan to conduct will go beyond the descriptive nature and will endeavor to employ causal-comparative and predictive types of research.

DEVELOPMENT OF METHODOLOGY

The methodology report partially fulfills the first objective of the contract: "to develop the methodology to match Iowa Community College students' educational data with the Iowa Department of Labor to assess students' postcollege earnings." The report contains a detailed description of the analytical approach and variables used in the study. Much of the proposed analyses are guided by previous studies that have been conducted in other states such as California, Washington, Florida, and North Carolina. In addition, research designs described in scholarly publications were reviewed in order to create a methodological approach for the state of Iowa (e.g., Grubb, 2002; Laanan, 1998; Sanchez, Laanan, & Wisely, 1999; Seppanen, 2000).

To date, the methodology report is a work in progress and will continue to be developed as one of the objectives for fiscal year 2007. Feedback from an advisory committee will provide valuable insights from practitioners regarding the meaningful and relevant analyses and interpretation of the data for program improvement and accountability purposes.

Running Head: POSTCOLLEGE EARNINGS OF IOWA CTE STUDENTS

Using UI Wage Records to Assess Postcollege Earnings of Iowa Career and Technical Education Students

Frankie Santos Laanan

Jonathan I. Compton

Soko Starobin

Iowa State University

Janice Nahra Friedel

Iowa Department of Education

The purpose of this study is to understand the relationship between educational attainment and postcollege earnings for students who were enrolled in career and technical education programs in Iowa community colleges. The methodology of the study has emerged from analysis of many other studies that have been conducted in the past. In particular, much of the methodology is based on studies that have been conducted in California (Sanchez, Laanan, and Wiseley, 1999), Florida (Pfeiffer, 1998), Washington (Seppanen, 2000) and other states (Grubb, 2002). An overview of some of these studies is provided in Appendix F.

The following research questions guide this investigation:

- How do students' post-college earnings differ from last year in college, first year out and third year out by age group, economic status, race, gender, and career and technical education (CTE) program?
- How do earnings differ between students who complete a CTE certificate or Associate's degree and those who do not complete a credential?

Data Sources

Phase I: Matching Data

A matched dataset will be used for this study based on data derived from the Iowa Workforce Development and the Iowa Department of Education (see figure 1). Unemployment Insurance (UI) wage data will be collected from the Iowa Workforce Development for 16 employment quarters. This will be matched with student records and demographic and educational data from the Iowa Department of Education Management Information System (MIS). The data will be used to assess earnings for the last year in college (July 1, 2002), the first year after enrollment (July 1, 2003), and the third year after enrollment (July 1, 2005) (See

figure 2). Social Security Numbers will be used to match Iowa Workforce Development data with Iowa Department of Education data.

The initial data match will be based on approximately 100,000 students enrolled in any of Iowa's community colleges during the 2001-2002 academic year. However, the analysis will be delimited to approximately 60,000 Career and Technical Education program leavers and completers for the 2001-2002 cohort year (see figure 3). Completers are defined as those who complete either an Associates Degree or a Certificate and were not found to be enrolled in any postsecondary institution in the year following completion (2002-2003). Leavers are defined as those who complete at least one-half credit or eight hours of positive attendance during the academic year without receiving a degree or certificate and who also were not found to be enrolled in any postsecondary institution in the following year (2002-2003).

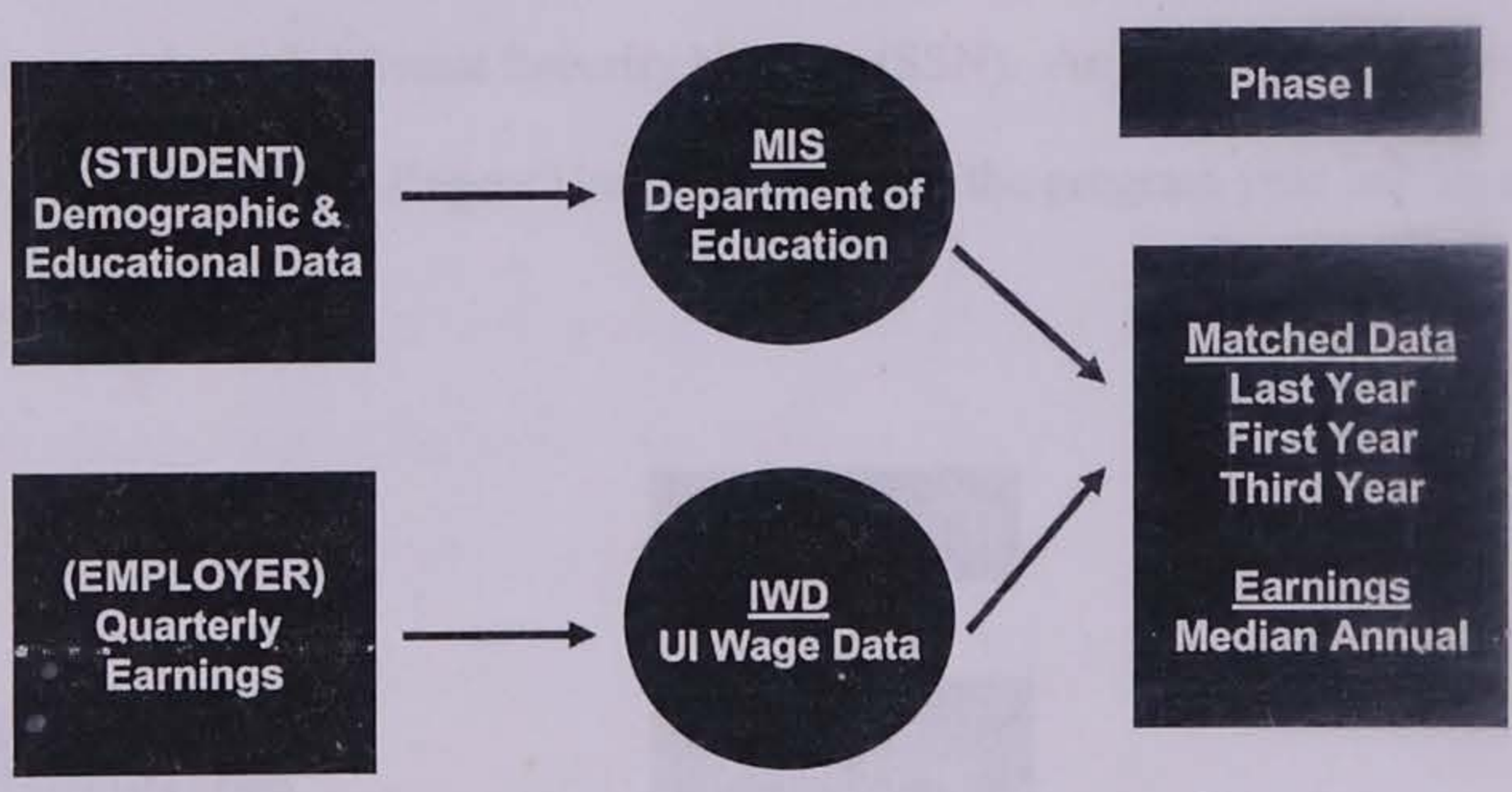

Figure 1: Phase 1 Data Matching

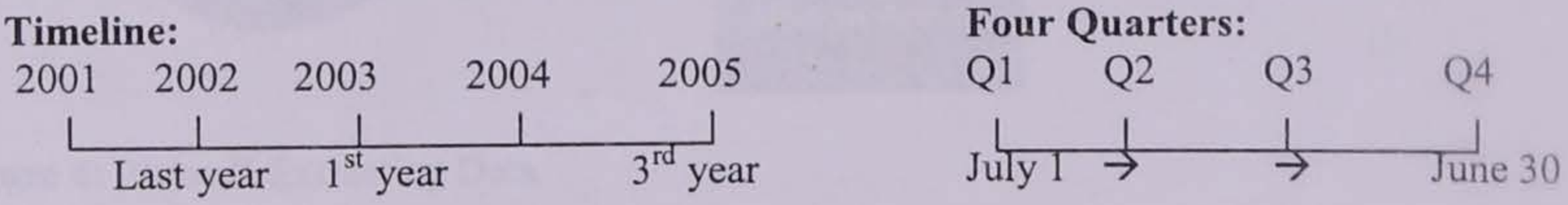

Figure 2: Timeline of cohort enrollment and four quarters of employment

Source: F.S. Laanan & Research Team * DE Sponsored Research * 03-20-06

Domain of Students:

Last Year in 2001-2002
Data from 15 colleges
Cohort: N=100,000

Definitions:

"Leaver" (Completed some units)
"Completer" (obtained an AA, AS, AAS, AAA, AGS, Diploma, or Certificate)

Figure 3: Domain of Students

Phase II: Extracting Data

Figure 4 illustrates the process of extracting data from the file. The cohort domain will consist of students with a valid Social Security Number (SSN). Any students who were enrolled in K-12 or any of the three Iowa Regent Universities during the program year will be excluded from the data set.

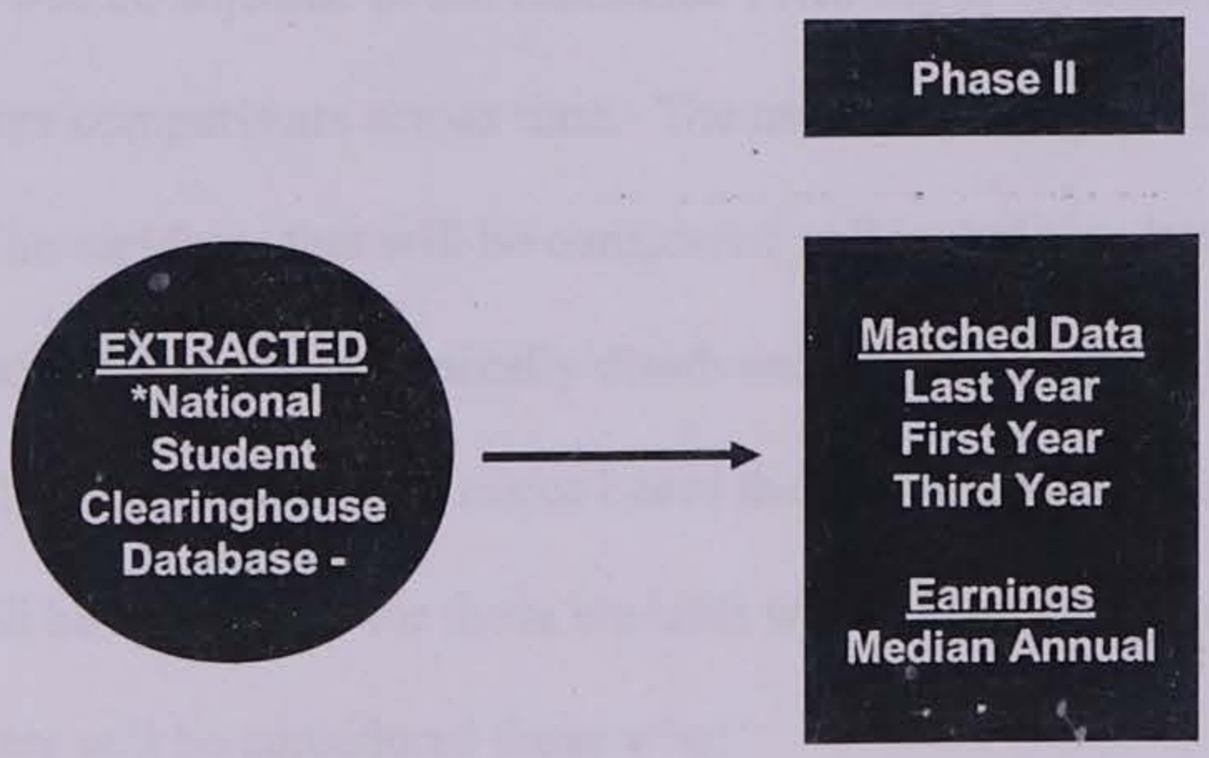

Figure 4: Phase II Extracting Data

Source: F.S. Laanan & Research Team * DE Sponsored Research * 03-20-06

Any individuals enrolled in the following academic year (2002-2003) in any four-year institutions nationwide will be identified through the National Student Clearinghouse. These records will be extracted from the data. If possible, students employed in other states will be identified through matching data from neighboring states. It may not be possible to get UI data for individuals who are:

- In the military
- Federal government employees
- Self-employed
- Unemployed
- Not in the workforce

Analytical Approach

Descriptive and comparative analyses will be conducted on the data. Earnings for the last year of enrollment will be compared with earnings from the third year after enrollment, and earnings from the first year after enrollment will be compared with the third year after enrollment. All earnings will be adjusted to the Consumer Price Index adjusted to 2005 dollars in order to standardize comparisons across time. The median earnings will be used rather than the mean.

The variables that will be considered will include students' age, race or ethnicity, gender, and economic status (economically disadvantaged). See Appendixes B and C for complete variable lists. Also students' major based the Classification of Instructional Programs (CIP) codes will be considered for those students with at least 12 credits in one major program.

Completers will be considered those who:

- Obtain an AA, AS, AAS, AAA, or AGS degree
- Obtain a certificate

Leavers will be divided into those who complete:

- .01 to 11.9 credits
- 12 to 23.9 credits
- 24 or more credits

Earnings will only be considered for those earning a minimum of $10,712 per year, and individuals must have been employed during all four quarters of the year in order to be included in the analysis. Annual earnings will be determined by summing the earnings of all four quarters.

Median Earnings by Educational Attainment

Aggregated analyses of median earnings by educational attainment will be conducted on all students in the cohort based for the last year in, first year out, and third year out, with students being divided into groups based on the number of credits completed (.01 to 11.99 credits, 12 to 23.99 credits or 24 or more credits) for leavers or the award received (Certificate or Associates degree) for completers. The same analysis will be conducted for students under 25, students 25 and over, and students from economically disadvantaged backgrounds.

Median Earnings of Vocational Students

Median earnings of vocational students (defined as students with at least 12 credits in one program area) by educational attainment will also be conducted. Students will be divided into groups based on the number of credits completed (12 to 23.99 credits or 24 or more credits) for leavers or the award received (Certificate or Associates degree) for completers. Median earnings of vocational students will also be considered by race/ethnicity (white and non-white individuals), and by gender. Figure 5 shows an example of possible categories of analysis from the study conducted in California. Based on the preliminary analysis of the data, the researchers will develop a model for Iowa similar to the one shown below for California.

Source: F.S. Laanan & Research Team * DE Sponsored Research * 03-20-06

Typology of California Community College Students by Enrollment Concentration (1992-93 Cohort)

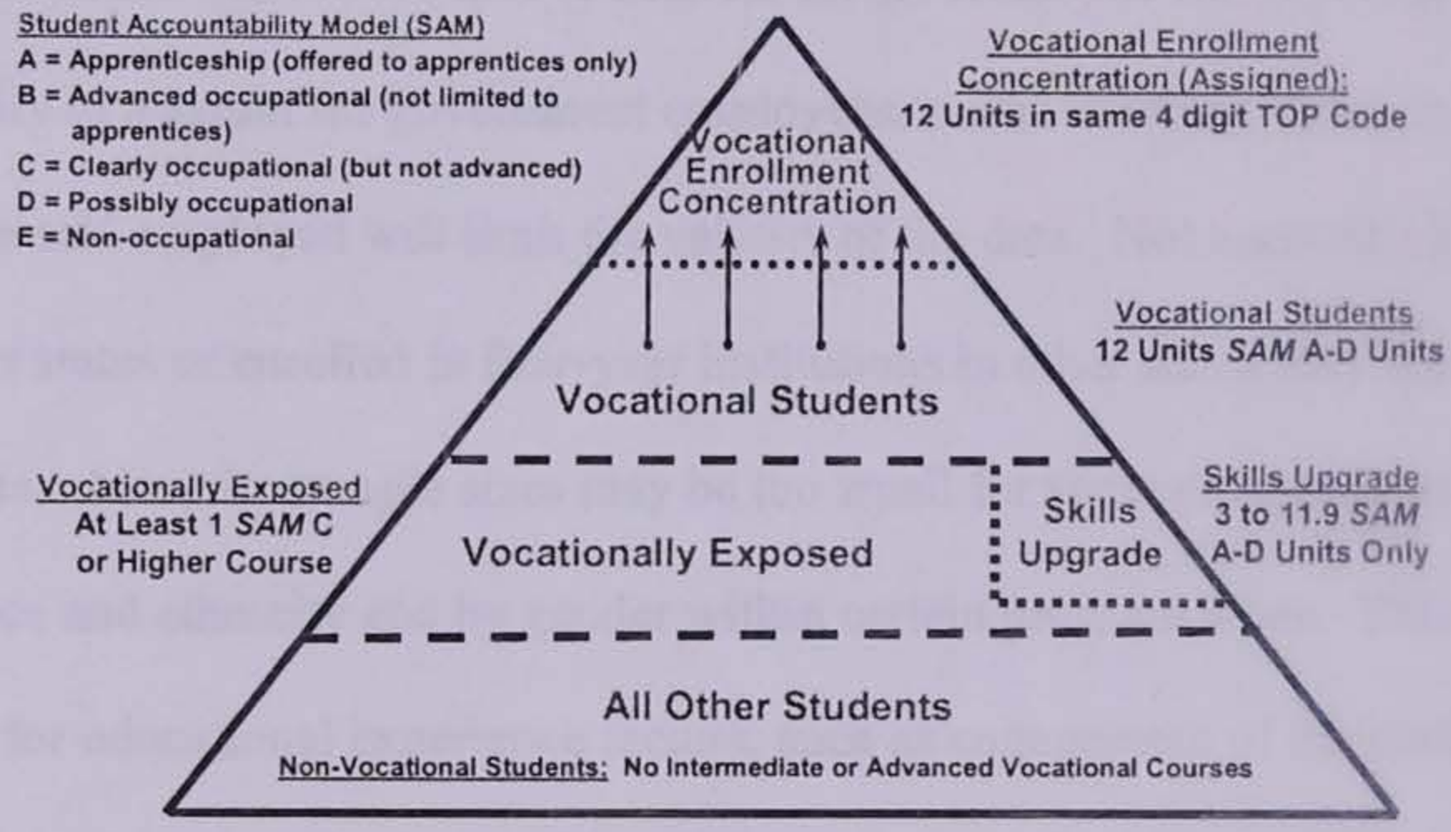

Figure 5: California Model of Concentrations

Median earnings of vocational students by program area will be based on the 16 career clusters (Agriculture and Natural Resources; Business and Administrative Services; Communications; Construction; Education and Training: Financial Services; Government and Public Administration; Health Services; Hospitality and Tourism; Human Services; Information Technology Services; Legal and Protective Services; Logistics, Transportation, and Distribution Services; Manufacturing; Science, Engineering, and Technical Services; Wholesale/Retail Sales and Services). Also the 6 Iowa clusters will be considered (Business Information, Management, and Marketing; Agriculture and Natural Resources; Arts and Communications; Engineering, Industrial Technological Sciences; Family and Human Services; Health Services). These analyses will divide students into the same leaver and completer groupings (if sample sizes permit) as above (12 to 23.99 credits, 24 or more credits, Certificate, or Associates degree). Further analysis will also be conducted by individual programs.

Source: F.S. Laanan & Research Team * DE Sponsored Research * 03-20-06

Limitations

This study will have some limitations as well that must be addressed. First, the results will be valid to the extent that we are able to account for all sectors of employment in the UI wage file. Inability to account for government employees, postal workers, those in the military, and those who are self-employed will limit the validity of the data. Not accounting for those employed in other states or enrolled in four-year institutions in other states may also limit the validity of the data. Also, the sample sizes may be too small for some disaggregated analyzes, particularly by race and ethnicity and by gender within certain program areas. This study also does not account for educational experience factors, such as engagement of the student. The percent of students matched in the database is not the same as an employment rate since not all students will be accounted for. Finally, the data are intended to be descriptive in nature, which means that some types of analyses may not be possible or appropriate.

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Source: F.S. Laanan & Research Team * DE Sponsored Research * 03-20-06

Appendix A: Definitions

Completer: A student who is enrolled during the 2001-2002 academic year (not necessarily a new enrollee), has received an associates degree or certificate, and is not enrolled in any postsecondary institution in the following academic year. Students who were concurrently enrolled in high school or any of the three Iowa universities during the academic year are excluded.

Leaver: A student who is enrolled during the 2001-2002 academic year (not necessarily a new enrollee), is not enrolled in any postsecondary institution in the following academic year, and did not complete an associates degree or certificate during the 2001-2002 academic year. Students who were concurrently enrolled in high school or any of the three Iowa universities during the academic year are excluded.

Vocational Concentrator: A student who has completed at least 12 credits in any one vocational major program.

Appendix B: Coding and Scaling of Variables Being Requested from MIS

Variables from MIS	Coding/Scale	Definition
Background Characteristics		
Social Security Number	unique 9-digit numeric	Social Security Number
Gender	1=male, 2=female	
Birth date	YYYYMMDD	Date of birth
Race/Ethnicity	1=American Indian or Alaskan Native, 2=Asian or Pacific Islander, 3=Black, 4=Hispanic, 5=White, 6=Choose not to reply	
Special Population - LEP	1=yes, 0=no	Limited English Proficient
Special Population - Disadvantaged	1=yes, 0=no	Having economic or academic disadvantages and need special assistance to participate and succeed in State Board approved programs or who desire specially designed programs.
*Pell Grant Recipient	1=yes, 0=no	Pell Grant Recipient (Source: Iowa Student Aid Commission)
Special Population – Disabled	1=yes, 0=no	Person with physical or metal disability.
Special Population - Single parent	1=yes, 0=no	An individual who is: a) unmarried or legally separated from a spouse; and b) has a minor child(ren) for which the parent has either custody or joint custody, or is pregnant.
Special Population – Displaced Homemaker	1=yes, 0=no	A person who has been a homemaker exclusively but who now because of dissolution of marriage, death or disability of spouse, must prepare for paid employment.
Special Population - Criminal Offender	1=yes, 0=no	An individual who has been charged with or convicted of any criminal offense, including a youth offender or a juvenile offender.
Special Population - Served with Support Services	1=yes, 0=no	Individuals who are members of one or more special populations who received supplemental assistance beyond what is provided other students in order to succeed in their program.
Student CIP Major or Program CIP Number	8 digits	First 8 digits including leading zeros - Student major

(table continues)

Source: F.S. Laanan & Research Team * DE Sponsored Research * 03-20-06

Variables from MIS	Coding/Scale	Definition
Career Clusters	1=Agriculture and Natural Resources, 2=Construction, 3=Manufacturing, 4=Logistics, Transportation, and Distribution Services, 5=Information Technology Services, 6=Wholesale/Retail Sales and Services, 7=Financial Services, 8=Hospitality and Tourism, 9=Business and Administrative Services, 10=Health Services, 11=Human Services, 12=Arts and Communications Services, 13=Legal and Protective Services, 14=Scientific, Engineering, and Technical Services, 15=Education and Training Services, 16=Public Administration/Government Services	Career Clusters defined by programs and CIP code
Iowa Career Clusters	1=Agriculture and Natural Resources; 2=Arts and Communications; 3=Business Information, Management, and Marketing; 4=Engineering, Industrial Technological Sciences; 5=Family and Human Services; 6=Health Services; 7=College Parallel; 8=Multi-occupational	Career Clusters defined by programs and CIP code
College Number	2 digits	The two character District Number (01 through 16)
Identification Code Set-Object and Purpose	02=Secondary- Career/Tech, 03=Credit, 22=Not-Eligible	
Award Code	1=AA, 2=AS, 3=AGS, 4=AAA, 5=AAS, 6=Diploma, 7=Certificate, 8=Other, Z=Non-graduate program completer (Tech-Prep/Perkins)	Associate degree attainment
High School Student	0=no, 1=yes	High School Enrollment
Vocational Certificate Attainment	0=no, 1=yes	Vocational Certificate Attainment
*Credits attempted FY 2000 through FY 2002	continuous	Cumulative credit hours attempted July 1, 1999 through June 30, 2002. (Source: MIS computed variable)
*Credits attempted FY 2000	continuous	Cumulative credit hours attempted July 1, 1999 through June 30, 2000.
*Credits attempted FY 2001	continuous	Cumulative credit hours attempted July 1, 2000 through June 30, 2001.
*Credits attempted FY 2002	continuous	Cumulative credit hours attempted July 1, 2001 through June 30, 2002.
*Credits attempted FY 2003	continuous	Cumulative credit hours attempted July 1, 2002 through June 30, 2003.

Source: F.S. Laanan & Research Team * DE Sponsored Research * 03-20-06

For Median Earnings by Educational Attainment		
*Credits attempted FY 2000 through FY 2002	continuous	Cumulative credit hours attempted July 1, 1999 through June 30, 2002. (Source: MIS computed variable)
Vocational Certificate Attainment on June 30, 2002	0=no, 1=yes	Vocational Certificate Attainment
Degree Attainment on June 30, 2002	1=AA, 2=AS, 3=AGS, 4=AAA, 5=AAS, 6=Diploma, 7=Certificate, 8=Other, Z=Non-graduate program completer (Tech-Prep/Perkins)	Associate degree attainment
For Median Earnings of Vocational Students		
*Credits attempted FY 2000 through FY 2002	continuous	Cumulative credit hours attempted July 1, 1999 through June 30, 2002. (Source: MIS computed variable)
Credit hours in one Vocational area	continuous	Note: looking for at least 12 hours earned in one vocational program area
Credit hours in any Vocational area	continuous	Note: looking for at least 12 hours earned in any vocational program area
Student CIP Major or Program CIP Number	8 digits	First 8 digits including leading zeros - Student major
Career Clusters	1=Agriculture and Natural Resources, 2=Construction, 3=Manufacturing, 4=Logistics, Transportation, and Distribution Services, 5=Information Technology Services, 6=Wholesale/Retail Sales and Services, 7=Financial Services, 8=Hospitality and Tourism, 9=Business and Administrative Services, 10=Health Services, 11=Human Services, 12=Arts and Communications Services, 13=Legal and Protective Services, 14=Scientific, Engineering, and Technical Services, 15=Education and Training Services, 16=Public Administration/Government Services	Career Clusters defined by programs and CIP code
Iowa Career Clusters	1=Agriculture and Natural Resources; 2=Arts and Communications; 3=Business Information, Management, and Marketing; 4=Engineering, Industrial Technological Sciences; 5=Family and Human Services; 6=Health Services; 7=College Parallel; 8=Multi-occupational	Career Clusters defined by programs and CIP code
Vocational Certificate Attainment on June 30, 2002	0=no, 1=yes	Vocational Certificate Attainment
Vocational Degree Attainment on June 30, 2002	1=AA, 2=AS, 3=AGS, 4=AAA, 5=AAS, 6=Diploma, 7=Certificate, 8=Other, Z=Non-graduate program completer (Tech-Prep/Perkins)	Vocational Associate degree attainment

(table continues)

Source: F.S. Laanan & Research Team * DE Sponsored Research * 03-20-06

Appendix C: Coding and Scaling of Variables from UI Records

Variables from UI Records	Coding/Scale	Definition
Student SSN	Student identifier	Student SSN
Individual wage entries	Continuous	Individual entries of each wage per employer, per quarter
Quarterly Wages	Continuous	Sum of earnings for each of the 16 quarters
Annual earning in 2002	Continuous	Sum of earnings for all four quarters of 2002 (4th quarter 2001-3rd quarter 2002)
Annual earning in 2003	Continuous	Sum of earnings for all four quarters of 2003 (4th quarter 2002-3rd quarter 2003)
Annual earning in 2005	Continuous	Sum of earnings for all four quarters of 2005 (4th quarter 2004-3rd quarter 2005)
NAICS Industry Code (2002)	Industry code identifier	Industry code identifier for each employer

Source: F.S. Laanan & Research Team * DE Sponsored Research * 03-20-06

Appendix D: State and National Career Clusters

Iowa Career Clusters

- Business Information, Management, and Marketing
- Agriculture and Natural Resources
- Arts and Communications
- Engineering, Industrial Technological Sciences
- Family and Human Services
- Health Services
- College Parallel
- Multi-Occupational

National Career Clusters

- Agriculture, Food, and Natural Resources
- Architecture and Construction
- Arts, A/V Technology and Communications
- Business, Managements and Administration
- Education and Training
- Finance
- Government and Public Administration
- Health Science
- Hospitality and Tourism
- Human Services
- Information Technology
- Law and Public Safety, Corrections and Security
- Manufacturing
- Marketing, Sales and Services
- Science, Technology, Engineering and Mathematics
- Transportation, Distribution and Logistics

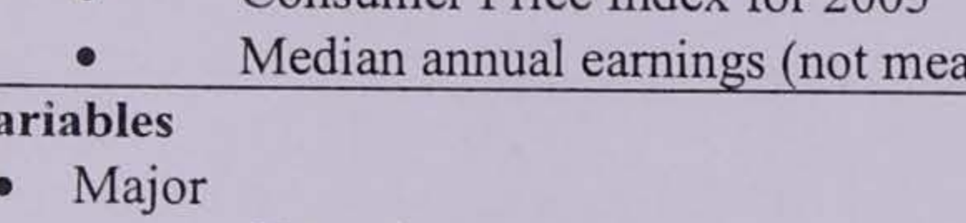
Source: F.S. Laanan & Research Team * DE Sponsored Research * 03-20-06

Appendix E: Summary of Proposed Iowa Methodology

1. Methodology

- **UI Wage data**
- **MIS data**

Timeline:



Four Quarters:

2.1 Cohort Group

60,000 vocational leavers and completers for 2001-2002 cohort

- Social Security Number
- Must have worked all 4 quarters
- Must have complete a minimum of 8 hours or ½ credit
- Excluded are military, Federal employees, self-employed, unemployed, not in workforce, or no SSN
- Cross check with National Clearinghouse
- Cross check with neighboring states if possible

2.2 Earnings

- Consumer Price Index for 2005
- Median annual earnings (not mean)

3 Variables

- Major
  - CIP codes
  - at least 12 credits in one program
- Age
- Ethnicity
- Special Populations
  - LEP
  - Disadvantaged ("economic or academic disadvantages")
  - Disabled
  - Single Parent
  - Displaced Homemaker
  - Criminal Offender
  - Served with Support Services
- Gender
- If possible industry of employment and full-time/part-time employment status will also be collected

Educational Attainment

Leavers	**Completers**
.01-11.9 units	AA or AS
12-23.99 units	Certificate
24 + units	

Source: F.S. Laanan & Research Team * DE Sponsored Research * 03-20-06

DISSEMINATION EFFORTS

During the project period, the ISU research team used several avenues for dissemination of scholarly work and information about the project to both national and statewide audiences. These activities partially fulfill the second objective of the contract: "to develop and enhance a systematic approach to utilize research to address accountability-driven mandates."

Meetings with DE Staff and Community College Administrators

Dr. Janice Friedel, Administrator of the Iowa Department of Education, Division of Community Colleges and Workforce Preparation, and Dr. Frankie Santos Laanan, Principal Investigator of this project, conducted several meetings with community college administrators during the project period. The purpose of these meetings was to discuss the Iowa Community College *Vocational Education Accountability* project with the community college field, addressing their concerns and getting feedback from them. An example of a PowerPoint presentation used during these presentations is included in this section. The following is a list of presentations conducted by Dr. Friedel and Dr. Laanan between October 2005 and May 2006:

- October 13-14, 2005: Iowa Community College Administrators Forum, Ames, Iowa
- November 11, 2005: Meeting with the CTE Deans of the Iowa Community Colleges, Ames, Iowa
- February 23, 2006: Meeting with Greg Schmitz, President of Hawkeye Community College, Ames, Iowa

- February 27, 2006: Meeting with Dr. Penelope Wills, President of Northeast Iowa Community College, Calmar, Iowa
- March 3, 2006: Meeting with Dr. Patricia Keir, Chancellor of Eastern Iowa Community College District, Davenport, Iowa
- March 8, 2006: Meeting with the Chief Academic Officers (CAOs) of Iowa community colleges, Des Moines, Iowa
- March 9, 2006: Meeting with Keith Sasseen, Executive Vice President, and Dr. Marlene Sprouse, Vice President for Academic Affairs, Indian Hills Community College, Ottumwa, Iowa; visit to Iowa Bioprocess Training Center, hosted by Chuck Crabtree, Director, and Janet Paulson, Project Coordinator of the Center
- April 19, 2006: Meeting with Joan Williams, Vice President of Student Affairs, and other staff members at Southeastern Community College, Burlington, Iowa
- May 12, 2006: Meeting with Jeff Nall, Interim Deputy Director, Iowa Workforce Development, Des Moines, Iowa

Conference Presentations

During the project period, Dr. Laanan and his research team attended professional and scholarly meetings and made presentations. PowerPoint presentations and a poster from these conferences are included in this section. The following is a list of conference presentations conducted between April 2005 to April 2006:

- April 7-9, 2005: Research paper entitled *The role of career and technical education in Iowa community colleges;* presented at the Council for the Study of Community Colleges (CSCC) in Boston (2005)
- November 17-19, 2005: Poster entitled *The changing face of career and technical education in Iowa;* presented at the Association for the Study of Higher Education (ASHE) conference in Philadelphia (2006)
- April 21-22, 2006: Research paper entitled *Forgotten majority: Community college UI wage studies in smaller states;* presented at the Council for the Study of Community Colleges in Long Beach

Publication

One manuscript was submitted and accepted for publication in the *Community College Journal of Research and Practice* (CCJRP), which is published by the Taylor and Francis Group. The complete text of the publication is available in this section. The following is the journal citation:

Laanan, F. S., Compton, J., & Friedel, J. N. (2006). The role of career and technical education in Iowa community colleges. *Community College Journal of Research and Practice, 30*(4), 292-310.

VEA Project Website

The project website (http://www.cclp.hs.iastate.edu/occrp/doe/vocationaled.html) was designed as an internet site that Iowa community college practitioners could visit in

order to learn about the project, learn about the current issues in CTE accountability, and find links to other web sites that contain valuable resources about CTE and community colleges. Selected images of the website are provided in this section.

Use of the UI Records for Perkins Accountability and Program Improvement Purposes

Janice N. Friedel
Administrator
Division of Community Colleges and Workforce Preparation
Iowa Department of Education

Frankie Santos Laanan
Assistant Professor
Educational Leadership & Policy Studies
Iowa State University

Meeting at Southeastern Community College
Burlington, Iowa
April 19, 2006

Background

- 1996 Iowa Code Mandating Customer Tracking System
- Perkins Accountability (1998)
- Community College Performance Indicators
- National Student Clearinghouse Contract

Background

- Iowa's Perkins Accountability Measures
- Unemployment Insurance (UI) Record - Data elements
- Use and limitations of MIS / UI data match
- Purpose of today's presentation

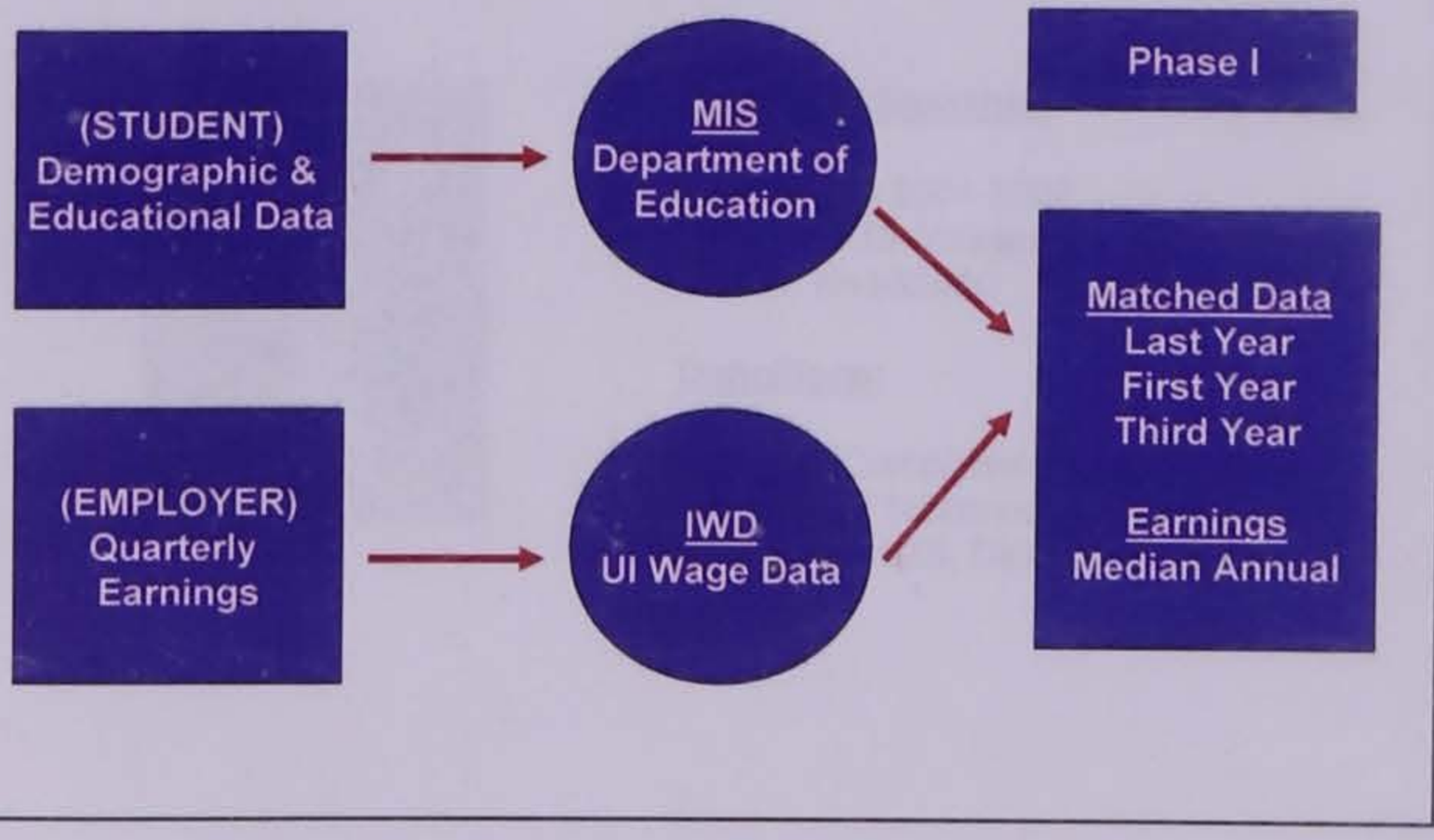
Project Objectives

- Develop the methodology to match Iowa Community College students' educational data with the Iowa Workforce Development to assess students' postcollege earnings;
- Develop and enhance a systematic approach to utilize research to address accountability-driven mandates; and
- Develop and implement statewide professional development technical assistance to Iowa Community College in accessing, formatting, and analyzing Perkins Vocational Education Core Indicators data for program improvement and increasing student success

Proposed Methodology

- Data Matching Procedure
  - Iowa Workforce Development Unemployment Insurance (UI) wage records data
  - Iowa Department of Education MIS educational data
  - National Student Clearinghouse

Data Sources



Data Extraction

Phase II

EXTRACTED
*National
Student
Clearinghouse

→

Matched Data
Last Year
First Year
Third Year

Earnings
Median Annual

Data Sources

Matched Data
Last Year
First Year
Third Year

Earnings
Median Annual

Domain of Students:

Last Year in 2001-2002
Data from 15 colleges
Cohort: N=100,000

Definitions:

"Leaver" (Completed some units)
"Completer" (obtained an AA, AS, AAS, AAA, AGS, Diploma, or Certificate)

Student Cohort Reporting Domain

- Students reported with a valid Social Security Number (SSN);
- Not enrolled in K-12 during cohort year (*CC MIS*);
- Not enrolled in the year following the end of the cohort year at any Iowa community college (*CC MIS*); and
- Postsecondary enrollment following exit from Iowa Community College (*National Student Clearinghouse, CC-MIS, UI Records*)

Further Discussion Items

- Categories of credits completed
  - For example:
    - .01-11.9 credits
    - 12.0-23.9 credits
    - 24+ credits
- Relationship between educational attainment and earnings

IWD Base Wage File

Excluded from the UI Wage File

- Federal Employees
- Postal Services
- Military
- Out-of-State Employees
- Self-Employed and Unemployed
- Individuals not in the workforce

Understanding the Data

Median Earnings

- Annual income is derived by summing earnings for those who worked all four quarters in the academic year.

Proposed Analysis

2001-2002 Cohort

- Career and Technical Students
- Arts & Sciences Students (To be discussed)
- Demographic Variables:
  - Age
  - Gender
  - Special Population
  - Ethnicity
  - Program Major
  - Length of Time in Program
  - Credit Hours Completed, Number of Terms, etc.

Contact Information

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Website: www.cclp.hs.iastate.edu

Career and Technical Education in Iowa

A Scholarly Paper Presented at CSCC
April 10, 2005

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Background of Iowa Community Colleges

- Department of Education: Division of Community Colleges and Workforce Preparation
- Fifteen community college districts
- 81,962 unduplicated credit students in 2004, up from 66,093 in 2000.
- Career and technical students comprised 37% of credit enrollment

Review of Literature

- New Vocationalism / New Economy
  - Technology
  - Globalization
  - Constant change
  - Integration of academic and vocational

(Bragg, 2001)

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Review of Literature (cont.)

- What do we call it?
  - CTE/Vocational Education/Occupational /Workforce Training, etc.
- Career and Technical Pathways
  - Multiple pathways
  - Stop out/ non-traditional (Grubb, 1996)

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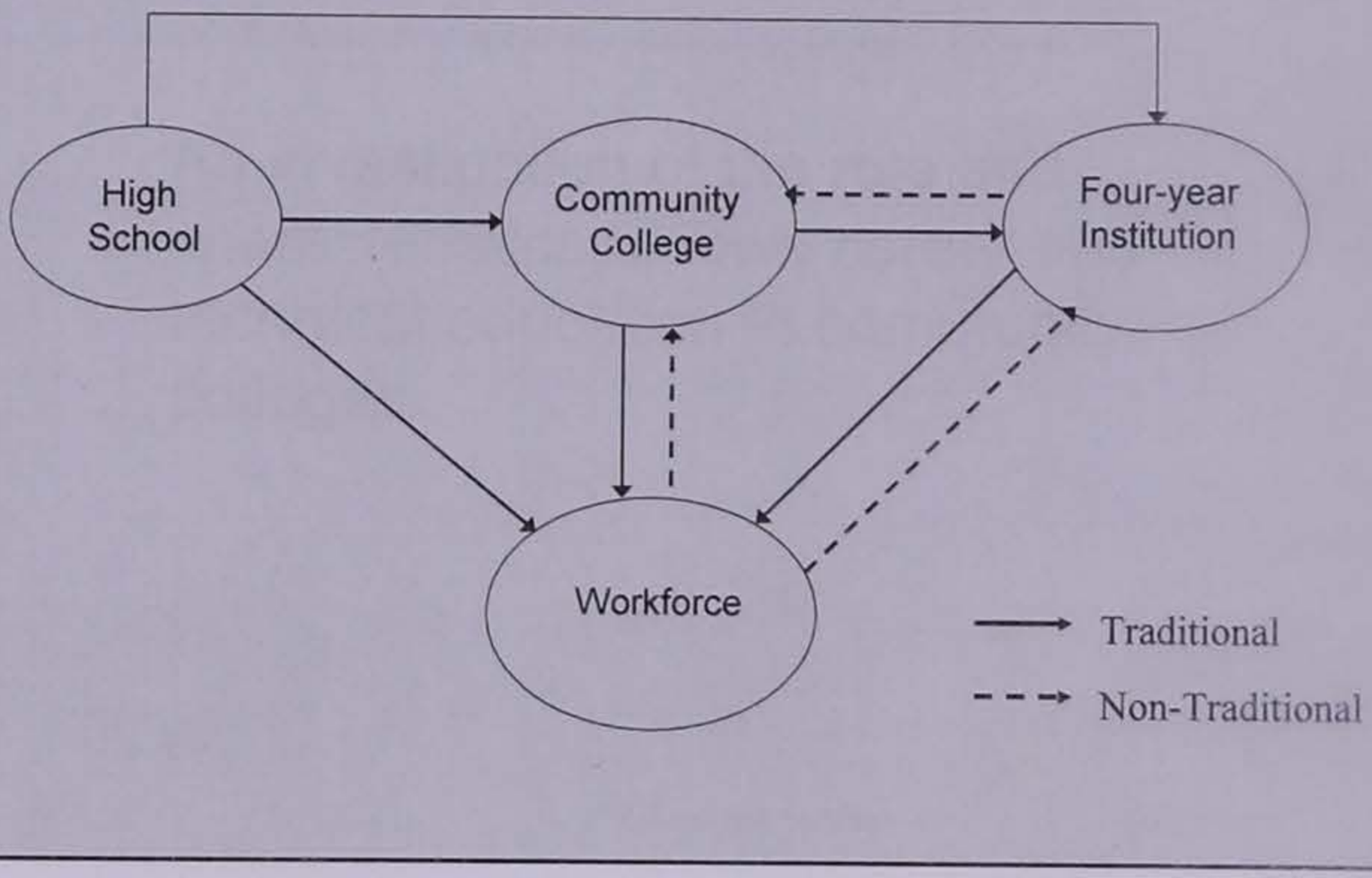
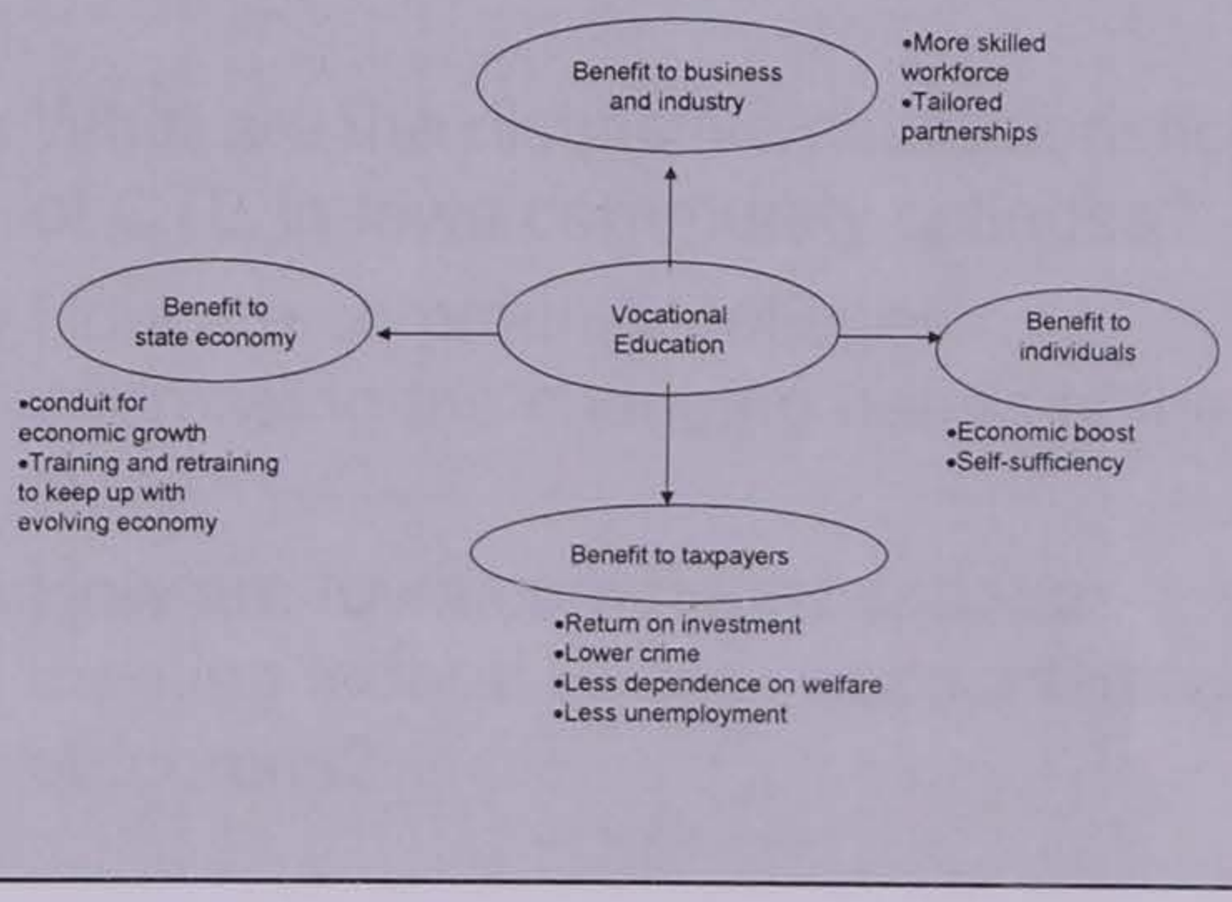
Career and Technical Pathways



Conceptual Framework



Purpose

An investigation of the role and characteristics of Iowa career and technical education in community colleges

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Research Questions

- What are the distinctive characteristics of CTE in Iowa community colleges?
- How are community colleges addressing the changing needs of the state?
- How are Iowa community colleges meeting federal Perkins accountability outcomes?

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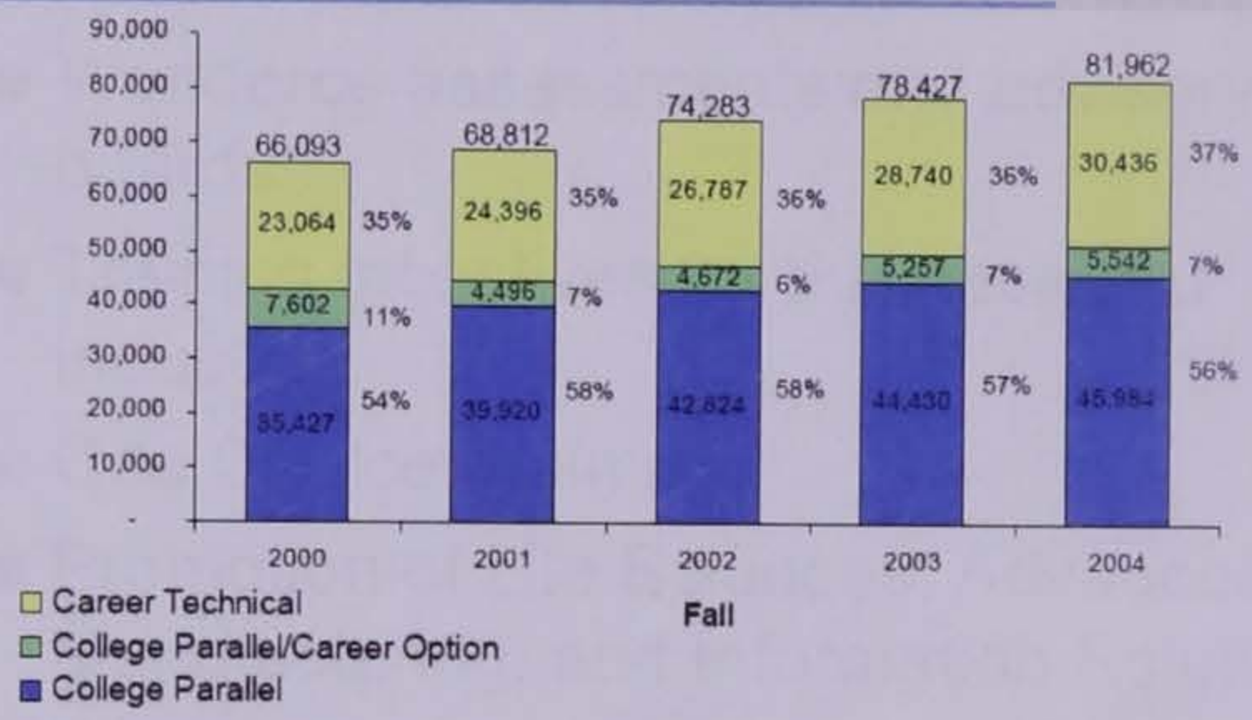
Iowa Community College Fall Credit Enrollments, Fall 2000, Fall 2001, Fall 2002, Fall 2003, and Fall 2004.



Source: Iowa Department of Education

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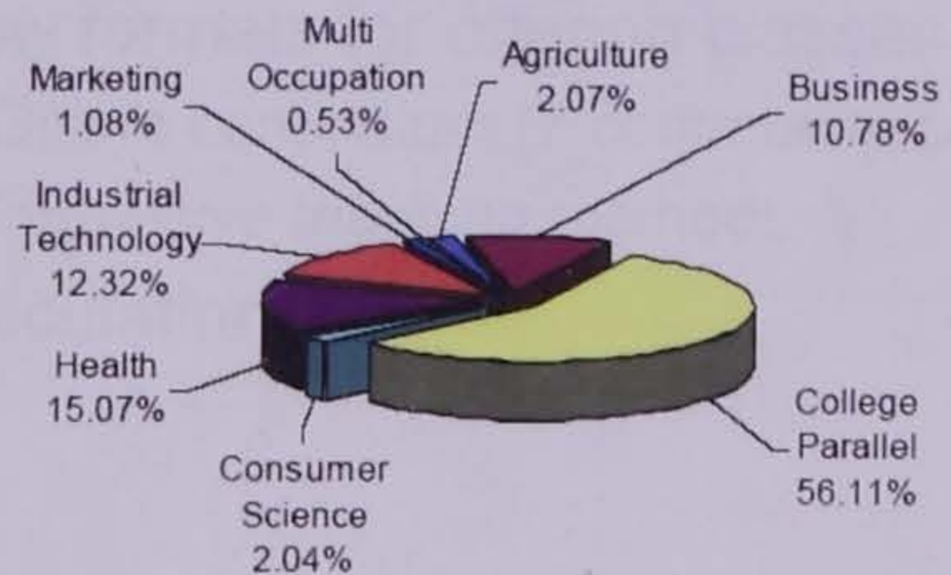
Iowa Community College Enrollment by Majors Fall 2004.



Source: Iowa Department of Education

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CTE Responsiveness in Iowa

- Workforce assessments and advisory boards
- Training incentives for business and industry
- One Source Training
- Promotion of Life Sciences, Advanced Manufacturing, and Information Solutions

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Iowa CTE pathways

- New formats for offering classes
  - Online consortium (7 community colleges)
  - Innovative teaching methods
- Articulation

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Perkins Accountability

- Student attainment
- Credential attainment
- Retention, completion, and employment
- Participation in and completion of nontraditional programs

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Non-traditional enrollment

Agriculture	Percentage Male					Percentage Female				
	FY 99	FY-00	FY 01	FY 02	FY 03	FY 99	FY 00	FY 01	FY 02	FY 03
Agricultural Business & Services	79.78	78.98	76.82	75.43	81.77	19.58	21.02	23.18	24.57	18.23
Ag Power & Technology	98.96	99.44	98.76	97.86	97.96	1.04	0.56	1.24	2.14	2.04
Ag Production	63.44	65.30	59.45	56.44	51.25	35.59	34.70	40.34	43.56	48.75
Horticulture	58.64	59.27	61.54	58.01	62.09	41.36	40.73	38.46	41.99	37.91
Natural Resources	73.57	69.70	73.17	76.23	73.57	25.71	30.30	26.83	23.77	26.43

Business & Marketing	Percentage Male					Percentage Female				
	FY 99	FY 00	FY 01	FY 02	FY 03	FY 99	FY 00	FY 01	FY 02	FY 03
Business Administration & Management/Finance	15.03	17.92	20.50	24.31	25.34	84.94	82.08	79.50	75.67	74.59
Information Technology	54.89	56.97	58.01	63.52	63.30	45.07	43.03	41.93	35.89	35.87
Specialty Marketing	40.92	17.92	25.86	26.76	25.27	59.08	67.35	74.14	73.24	74.73
General Marketing	45.09	56.97	45.83	48.53	49.52	54.91	56.31	54.17	51.47	50.48

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Health	Percentage Male					Percentage Female				
	FY 99	FY 00	FY 01	FY 02	FY 03	FY 99	FY 00	FY 01	FY 02	FY 03
Dental Careers	4.00	3.14	2.59	3.10	3.63	96.00	96.86	97.41	96.90	96.37
Health Care Administration	20.61	13.12	12.81	11.78	7.16	79.39	86.88	87.19	88.04	92.84
Allied Health Careers-Diagnostic & Therapeutic	10.73	10.08	13.44	11.61	15.19	89.27	89.92	86.56	87.90	84.39
Allied Health - Emergency Nursing Care: RN, Practical Nursing, Nursing Asst.	55.91	61.79	54.46	52.21	47.21	44.09	38.10	45.33	46.89	51.61
	7.65	7.64	7.76	8.56	8.32	92.31	92.36	92.13	91.22	91.46

Family & Consumer Sciences	Percentage Male					Percentage Female				
	FY 99	FY 00	FY 01	FY 02	FY 03	FY 99	FY 00	FY 01	FY 02	FY 03
Human Services	63.11	62.09	64.21	60.47	60.82	36.77	37.91	35.79	39.53	39.18
Culinary Arts and Food Service	50.76	51.40	52.59	59.66	59.71	49.24	48.60	47.41	40.34	40.29
Child Care	3.53	2.98	2.78	3.66	3.51	96.28	97.02	97.22	96.34	96.49
Home Furnishing & Equip	3.77	2.33	2.15	4.28	3.57	96.23	97.67	97.85	95.72	96.43

Industrial Technology	Percentage Male					Percentage Female				
	FY 99	FY 00	FY 01	FY 02	FY 03	FY 99	FY 00	FY 01	FY 02	FY 03
Arts Media and Communications	46.11	47.28	46.77	47.97	48.83	53.28	52.72	53.23	52.03	51.17
Architectural Engineering	80.29	80.83	83.31	83.68	84.48	19.58	19.06	16.69	16.32	15.40
Electrical Technology	87.30	88.07	90.72	87.90	91.14	12.70	11.93	9.28	12.10	8.86
Advanced Technology	79.04	73.53	72.96	77.41	83.53	20.96	26.47	27.04	22.59	16.18
Safety and Quality Control	69.71	64.58	66.36	72.00	68.42	30.29	35.42	33.64	28.00	31.58
Construction	91.98	93.95	93.16	97.15	94.90	6.88	5.96	6.84	2.43	4.25
Industrial Electronics	89.99	88.46	90.23	89.63	90.00	10.01	11.47	9.77	10.17	7.76
Transportation	94.76	94.76	94.62	94.98	95.37	5.24	5.24	5.38	4.59	4.06
Manufacturing	90.29	91.06	92.70	92.87	94.50	9.71	8.94	7.30	7.06	5.43

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Issues for the future

- Shrinking population (the number of 18-24 year olds in the state will shrink from 288,000 to 266,000 between 2005 and 2015)
- Immigration (Latino population nearly tripled between 1990-2000) (U.S. Census Bureau)
- Aging faculty and staff (39% of faculty and staff will retire by 2015) (Ebbers, Wild, Friedel, 2003)

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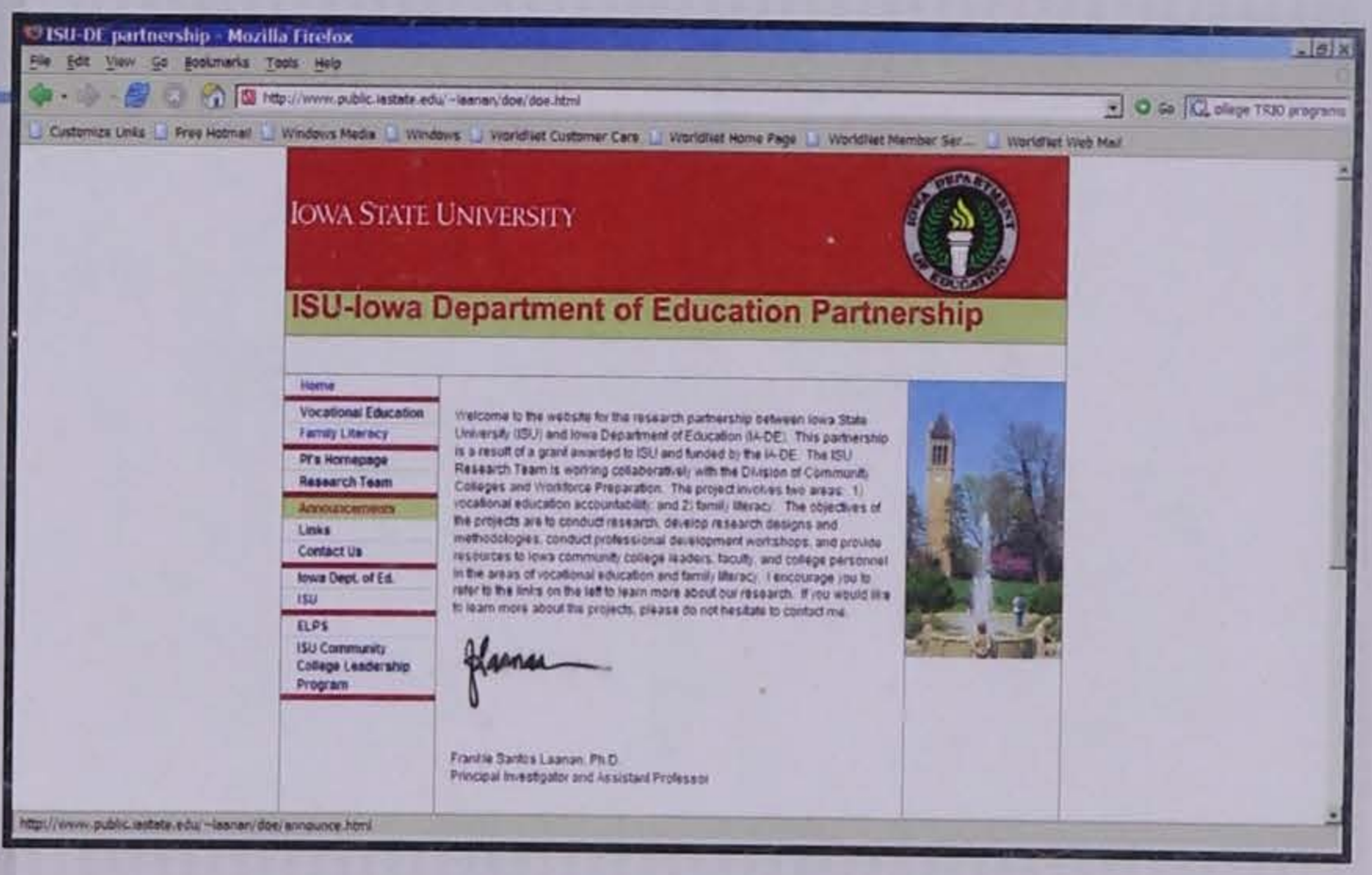
Conclusion and Implications

- Creativity in dealing with changing needs of students and changing needs of workforce
- Importance of collaboration between community colleges and with four-year institutions
- Collaborate with Iowa Workforce Development and Iowa Department of Ed. to develop the methodology to assess students' post-college earnings

www.public.iastate.edu/~laanan/doe/doe.html



The Changing Face of Career and Technical Education (CTE) in Iowa

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Outline

As the nature of the workforce changes, community colleges and the state structures governing them must develop new approaches and policies to keep career and technical education (CTE) programs relevant.

Changes in Iowa's economy and demographics will change the role of community colleges in the future. The poster will discuss these changes, the impact these changes will have on community colleges, and the response that community colleges must make to these issues.

Research Questions
- How is Iowa's workforce changing?
- What are Iowa community colleges doing to address these changes?
- What must career and technical education programs and state leaders do to keep up with these changes?

Population Statistics

- 18-24 year olds in Iowa will shrink from 288,000 to 266,000 between 2005 and 2015 (U.S. Census Bureau, 2002).
- Immigration: Latino/a population of Iowa in 2000 was 82,473 (2.8% of total population) up from 32,647 (1.2% of the population) in 1990 (U.S. Census Bureau, 2001).

Explosive Growth Rates in Hispanic Population 1990-2000

Source: Census Bureau, U.S. Department of Commerce

Iowa Workforce Development, 2004

Change in Iowa Population from 1990-2000

Theoretical Framework

- *New Vocationalism* responding to changing workforce (Bragg, 2001).
- *New Economy*-- rapid increase in the number of jobs requiring no more than a 2-year degree
- Low-wage, low-skill jobs have been replaced with high-tech, high-skill jobs requiring strong math, science, and language skills (Bragg, 2001; Carnevale, 2000).
- To stay competitive in such an environment, many students need to be prepared to pursue a four-year degree after completion of their two-year programs (Bailey & Matsuzuka, 2003; Barley & Orr, 1997).

IOWA COMMUNITY COLLEGES

Source: Iowa Department of Education, Bureau of Community Colleges

Aging Community College Faculty and Staff

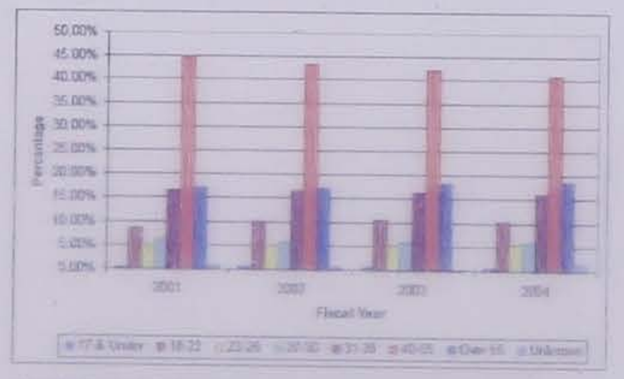
- Between 2002 and 2010, 39% of CTE faculty in Iowa will retire
- 38% of administrators will retire (Ebbers, Wild, & Friedel, 2003)

Employee age percentage: Fiscal years 2001-2004

Fiscal Year	17 & Under	18-22	23-26	27-30	31-39	40-55	Over 55	Unknown
2001	0.42%	8.65%	4.94%	6.19%	16.65%	45.10%	17.20%	0.85%
2002	0.60%	10.04%	5.27%	5.92%	16.61%	43.58%	17.32%	0.66%
2003	0.62%	10.63%	5.49%	5.99%	16.41%	42.25%	18.30%	0.31%
2004	0.54%	10.37%	5.58%	5.94%	16.27%	41.05%	18.62%	1.43%

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

Employee age percentage: Fiscal years 2001-2004



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

Changing Workforce

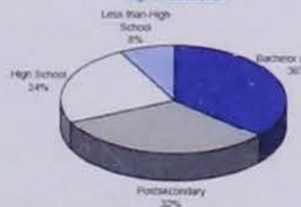
Iowa's Top 20 Fastest Growing Jobs 2000 - 2010

Occupational Title	Iowa Percent Change	2003 Iowa Wages	U.S. Percent Change	2003 U.S. Wages
Computer Software Engineers, Applications	82	$31.77	100	$36.42
Computer Support Specialists	81	18.00	97	20.50
Computer Software Engineers, Systems Software	57	NS	90	37.69
Network & Computer Systems Administrators	73	24.29	82	28.43
Network Systems & Data Communications Analysts	75	27.29	77	29.84
Desktop Publishers	48	13.17	67	16.15
Database Administrators	52	25.44	66	29.54
Personal & Home Care Aides	47	8.62	62	8.18
Computer Systems Analysts	44	28.54	60	31.82
Medical Assistants	40	11.33	57	11.99
Social & Human Service Assistants	37	11.59	54	12.24
Physician Assistants	47	31.28	53	31.15
Medical Records & Health Information Technicians	42	11.66	49	12.77
Computer & Information Systems Managers	44	36.62	48	45.78
Physical Therapist Aides	36	10.17	46	10.00
Occupational Therapist Aides	NS	NS	45	12.21
Physical Therapist Assistants	39	14.37	45	17.67
Audiologists	29	22.96	45	25.23
Computer & Information Scientists, Research	NS	31.85	40	40.64
Occupational Therapist Assistants	28	16.08	40	18.04

NS - Not Surveyed in Iowa

Source: Labor Market and Economic Research Bureau, Iowa Workforce Development

Iowa's Fastest-Growing Jobs Demand Higher Education



Source: Labor Market and Economic Research Bureau, Iowa Workforce Development

68% of jobs require at least some higher education

(Iowa Workforce Development, 2004)

How Iowa Community Colleges are Adapting

- Improvement of articulation agreements
- University of Iowa Bachelor of Applied Studies
- Encouraging participation in targeted industry clusters (life sciences, information solutions, and advanced manufacturing)
- Iowa Community College Online Consortium
- One Source Training—Single contact point for statewide business and industry training needs
- Entrepreneurship training for teachers—integrate entrepreneurship with career and technical programs

(Iowa Department of Ed., 2005)

Iowa Community College Online Consortium

Implications for the Future

- Importance of the role of Iowa Community Colleges in Workforce Development
- Strengthen relationships between and among institutions and state government agencies (Improve coordination between K-12, community college, public 4-year and state agencies)
- Encourage seamless transitions between secondary, community college, and 4-year institutions
- Continue to improve articulation agreements between CCs and 4-years at the program level

Forgotten Majority:
Community College UI Wage Studies in Smaller States

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Janice Friedel
Iowa Department of Education

Council for the Study of Community Colleges
Long Beach, California
April 22, 2006

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OFFICE OF COMMUNITY COLLEGE RESEARCH & POLICY

Purpose of the Study

- The purpose of this study is to investigate the methods used by state studies of postcollege earnings that have employed unemployment insurance (UI) wage data.

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Research Questions

- What methodologies have been employed by states (i.e., small, rural, etc.) in utilizing the UI wage file since 2000?
- What are the current and foreseeable challenges of smaller states in conducting UI wage studies?

UI Wage Research

- Unemployment insurance (UI) records matched with student enrollment data to learn about economic outcomes of education
- Response to accountability mandates (Perkins, WIA)
- Program improvement
- Limitations of UI wage

Accountability

- Performance based funding
- Surveys are no longer sufficient to provide the information needed to meet accountability mandates (Mundhenk, 2000)
- UI wage studies provide a more comprehensive picture of postcollege earnings
- Two tiers of accountability: internal and external (Stevens, 1998)

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Pioneering States

- First states to conduct UI studies were California, Florida, North Carolina, Texas, and Washington in the 1990s

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Other States

- More recently UI studies have been conducted in Iowa, Illinois, Maryland, Ohio, New Mexico, Wyoming and other states

Methodological Issues

- Small states or small studies may have challenges in getting access to data and may lack resources
- Sample size may limit ability to do certain types of analysis
- Must be creative and resourceful
- Cannot compare apples and oranges (Grubb, 2002)

High School Control Group

Western Iowa Tech Community College (Stoik, 2004)

- Comparison groups: Completers, Leavers, and Applicants
- Applicants applied but did not attend and were not found to be attending anywhere else.
- Applicants come from different cohort years, but serve as proxy for control group.
- Graduates earned more than non-completers and those who attended no postsecondary education. Non-completers earned more than those who attended no postsecondary education.

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Staying in or Leaving the State

Ohio (Ohio Board of Regents, 2005)

- In Ohio community college graduates are consistently more likely than graduates of Ohio's public four-year institutions to continue working in the state (88% of community college graduates stayed in state 6 months after graduation)

Maryland (Stevens, 2003)

- 75% of community college graduates were found to be working within the state of Maryland one year after graduation
- As UI studies account for more individuals, this will become a more accurate way to determine whether graduates stay in state or leave

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Combining UI data with survey data

Wyoming (Wyoming Department of Education, 2003)

- Survey data combined with UI wage data provides a strong picture of employment outcomes
- UI wage matches with nine states allowed tracking of employment patterns
- Community college graduates earn on average $3.75 more per hour than the entry-level wage

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Type of Training

Maryland (Stevens, 2003)

- Maryland looked at four non-credit training programs plus credit-based vocational programs from the pre-training year to the third year
- They found 15-30% increases in median earnings for dislocated workers and other worker training/retraining programs (inflation adjusted)
- Increases of over 100% were found for economically disadvantaged training program (JTPA), but with still modest final earnings (from $6,500 to $13,500: Can that be called success?)

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Student Characteristics

- Many state studies failed to account for student characteristics such as gender, race/ethnicity, age, and economic status. In some cases this may be due to confidentiality issues
- Age is particularly important because of the different goals of younger and older students

Age

New Mexico (NMCHE, 2002)

- Collected data on the year prior to community college enrollment and the year after community college enrollment
- Did not account for age
- Without controlling for age the study compared high school students and older employed individuals together
- Other studies accounted for age found that older students have higher earnings and less change in earnings

Gender

Truman College, Chicago (Brauchle & Hastings, 2002)

- Men who were leavers or certificate completers had higher earnings than women for both the last year in college and the second year out of college
- However, women who completed certificates or associate degrees had significantly higher change in earnings
- Results support Sanchez, Laanan, & Wiseley, 1999: Completion of a credential shrinks the gender gap

Economic Status

Truman College, Chicago (Brauchle & Hastings, 2002)

- Economically disadvantaged individuals who earn associate degrees or certificates make significant increases in earnings, greater than those who do not complete a degree or certificate (215% increase from last year to second year)
- Results support Sanchez, Laanan & Wisely, 1999

Methodological Limitations

- Comparative analyses (different ages, different cohort years)
- Exaggerated success (e.g., comparing last year of high school earnings with postcollege earnings)
- Not controlling for further education
- Short-term earnings (only six months or one year after completion)
- Limitations of UI Wage file (what is/are not accounted)

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State	Data Sources	Variables	Methodology	Basic Findings	Limitations/ Delimitations	Sources of information
California	UI records; MIS records	Major, age, ethnicity, economic status, gender, economic status, program of study	700,564 matched records First year in, first year out, and third year out 1992-1993 Cohort	Program completers have greater gains than leavers, particularly for economically disadvantaged students; earnings gap for women closes for vocational students	Does not account for military, federal employees, self-employed, unemployed, or those working in other states. The FETPIP system can be used for more longitudinal studies of earnings over time.	Freidlander, 1996; Sanchez, Laanan & Wiseley, 1999; Sanchez & Laanan, 1998; Laanan, 1998 Grubb, 2002; Pfeiffer, 1998; FETPIP, 1996, 2005
Florida	UI Records; MIS Records; National Student Clearinghouse; Postal service; Department of Defense; Federal employees, WRIS	Employment, full-time earnings, job training relatedness and placement rates; Completers and leavers; Type of degree or certificate program; can compare high school graduates with community college	FETPIP collects data from 4th quarter after and 4 years after Data collected yearly	A higher percentage of community college graduates were employed in Florida than any other group; Short-term analysis showed that AS completers made more than bachelorÕsdegree completers, but bachelorÕsdegree completers had greater gains		
North Carolina		Age, completon level, distinguishing students who leave and return to school. Distinguishing part-time workers	Includes data from Department of Corrections, Labor, and Employment and Training, as well as K-12, CC, and university system			Grubb, 2002; Gracie, 1998; http://www.nccc s.cc.nc.us/Exter nal_Affairs/ncag gfs.htm
Texas		Reports Academic, Technical, and Tech. prep. leavers and graduates who are either working only or who are working and pursuing higher education.	Local control: individual colleges have carried out most of the analysisÑ very little statewide analysis			Grubb, 2002
Washington	Data warehouse; UI records; match with neighboring states	Gender; ethnicity; Major (high, middle, and low-wage occupaton groups); industry of employment before and after college; compare with goals of students (transfer or non-transfer)	200,000 students per year in the system 3rd quarter before start of college and 3rd quarter after college. Data is collected annually	The study found that high wage occupations such as health, industrial tech, and electronics have higher premium for completers than for non-completers. As a result of the information provided by the system, the state has focused on providing programs in high-wage areas and on including more minority students in underrepresented programs.		Grubb, 2002; Seppanen, 2000; http://www.wtb.wa.gov/wtr04.pdf

State	Data Sources	Variables	Methodology	Basic Findings	Limitations/ Delimitations	Sources of information
Illinois (Truman College, Chicago)	Student data; UI records	Age, gender, degree or certificate, economic status	1,449 matched records Last year in (FY 1997), First year out (FY 1998), second year out (FY 1999)	Economically disadvantaged individuals who earn associates degrees or certificates make significant increases in earnings, greater than those who do not complete a degree or certificate (215% increase from last year to second year)	Researchers were not allowed access to raw data; small sample size	Brauchle & Hastings, 2002
Iowa (Western Iowa Tech)	Student data; UI records; National Student Clearinghouse	Completers, leavers, and applicants; Program category; number of employers; gender	557 completers 23,999 leavers 1,447 applicants Annual wage gains for four years; analyzed using ANOVA 1994-1999 leavers; 1999 completers; 1994-1999 applicants	Completers earn more than leavers, and leavers earn more than applicants	Cohort years of comparison groups are not the same	Stoik, 2004
Maryland	Data from three workforce training programs; apprenticeship data; Community college certificate and degree data; UI records	Type of training; program category; individual community college and region	21,766 matched records Analyze earnings from pre-year (97-98), exit-year (98-99), and post-years one (99-00), two (00-01), and three (01-02) Leaving or completing FY 1999	75% of career graduates were found to be working in Maryland one year after graduation, the highest wages and most dramatic earnings gains were for completers of health programs; economically disadvantaged program had great increase but moderate final wages	Does not address gender, race/ ethnicity, age, etc. Does not address leavers	Stevens, 2003
New Mexico	UI records;	Industry of employment	5,700 completers Certificate, degree, or at least 45 credits; Tracked wages one year before enrollment and one year after enrollment		Without age information the pre-year data is not meaningful, high school students and older workers together	New Mexico Commission on Higher Education, 2002
Ohio	Ohio Board of Regents data, Ohio Department of Jobs, annual match of fourth quarter earnings since 1998	Discipline Area; Major; Level of degree (community college, baccalaureate, and masterÕs data); State of Residence/retention in state;	4th quarter earnings from 1999 compared with 4th quarter earnings of 2000, 2001, 2002, and 2003	Growth in earnings is greater for bachelorÕs degree recipients; Associates degree		Ohio Board of Regents, 2005
Wyoming	UI, MIS, match with nine states, survey of employers	State of Origin; age; gender; industry; survey of employers	Tracked graduates one year after graduation Track employment in 9 states through memoranda of agreement		Only tracked one year after graduation, does not account for students enrolled in further postsecondary education	Wyoming Department of Education, 2003

Overall Findings

- Earnings are consistently greater for completers than non-completers
- Graduates of health and high-tech programs such as electronics consistently earn more than those in other programs
- Women have a greater increase in earnings with educational attainment
- Economically disadvantaged individuals have sizeable increases in earnings
- Forgotten majority ???

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THE ROLE OF CAREER AND TECHNICAL EDUCATION IN IOWA COMMUNITY COLLEGES

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This scholarly paper describes and analyzes the role of career and technical education (CTE) in Iowa community colleges. Iowa's community colleges are doing a good job of responding to the changing workforce needs of the state and providing smooth career pathways. However, changes in the population and economy of the state will call for further changes in CTE programs. The distinctive characteristics of CTE in Iowa community colleges, the impact of community college CTE programs on the state's economy, the role of accountability, and the future implications for CTE in the state are discussed. Recommendations based on the results of the study include improving articulation agreements, increasing retention among at-risk students, and increasing collaboration among Iowa's 15 community colleges.

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INTRODUCTION

Career and technical education (CTE) has played an important role in the vitality of state economies. Responsive, relevant, and rigorous CTE programs lead to a more educated, productive, and highly skilled workforce (Grubb, 1996). Community colleges have been the primary provider of CTE at the postsecondary level in nearly every state, including Iowa.

Iowa's economy, like that of much of the country, is changing rapidly. In 1982, one out of five jobs in Iowa were manufacturing jobs; in 2002 that number had decreased to one out of six. The state is losing low-wage, low-skilled manufacturing jobs. These must be replaced with higher-wage jobs that require verbal, math, and technology skills (Iowa Workforce Development, 2003). State leaders, including Iowa Governor Tom Vilsack, have also emphasized the importance of biotechnology, advanced manufacturing, and insurance and financial services as the three major growth areas that the state is focused on strengthening (Vilsack, 2005).

These changes reflect a major shift in the economy of Iowa, as well as the nation; a shift which calls for a highly skilled workforce. A highly skilled workforce requires excellent training and retraining, and community colleges will be at the heart of that task. The state of Iowa contains 15 community college regions, each of which consists of one distinct community college or district. The state governance of Iowa's community colleges is the Division of Community Colleges and Workforce Preparation, which is within the Iowa Department of Education. In 2004, Iowa's community colleges enrolled 81,962 unduplicated credit students, up from 66,093 in 2000. Of all students enrolled in credit classes in 2004, 30,436 (37%) were enrolled in career and technical programs, up from 23,064 students (35%) in 2000 (Iowa Department of Education, 2004a).

The purpose of this paper is to describe and analyze the role of career and technical education (CTE) in Iowa community colleges. The distinctive characteristics of the Iowa CTE, the impact of CTE on the state's economy, projections for the future of CTE, and the implications for policymakers and community college professionals are discussed.

While there can be little doubt that CTE programs nationwide serve an important function of training workers for productive careers, it is also true that many CTE programs remain out-dated and under funded. This leaves students who wish to transfer to a 4-year degree program without the preparation needed to succeed in that transition (Jacobs, 2001). In the state of Iowa, much progress has been made in CTE programs in community colleges to make them more relevant and responsive. Very little has been written about Iowa community colleges and CTE in Iowa. This paper aims to cover the gap by discussing a case study of CTE in Iowa community colleges. The state of Iowa provides a unique context

for discussing the role and impact of vocational education on a state's economy. It is hoped that the findings of this study will provide valuable information to policymakers and lawmakers in Iowa and other states.

This investigation intends to address the following questions:

1. What are the distinctive characteristics of CTE in Iowa community colleges?
2. How are community colleges addressing the changing needs of the state?
3. How are CTE programs in Iowa being held accountable for success?
4. What are the future projections for CTE in Iowa?

LITERATURE REVIEW

Definition of Career and Technical Education

The terms vocational education and career and technical education are often used interchangeably to describe 2-year or prebaccalaureate education that is designed to lead to directly to employment (Cohen & Brawer, 2003). Vocational education, also referred to as career technical education, workforce development, or workforce preparation, has existed in various forms for centuries (Wonacott, 2003). In the 20th century, as community colleges began to emerge, they took on the role of educating and training the workforce for vocational or occupational jobs. According to Grubb (1996), midskilled workers account for 3/4 of all employees in the United States, and community colleges have been the major source for training these workers.

In recent years, many low-wage, low-skill jobs have been replaced with high-tech, high-skill jobs. Many of jobs require strong math, science, and language skills. The result is that training for such jobs requires a strong academic component. To stay competitive in such an environment, many of students will also need to be prepared to pursue a 4-year degree after completion of their 2-year programs (Bailey & Matsuzuka, 2003; Barley & Orr, 1997).

Starting in the 1990s, a shift began to take place in the role of vocational education (Bragg, 2001). The phrase *new economy* was used to describe the rapid increase in the number of jobs requiring no more than a 2-year college degree (Carnevale, 2000). The term *new vocationalism* was coined to describe the changing role of vocational education in preparing workers for this new economy (Bragg, 2001). According to Lynch (2000), new vocationalism involves training for jobs that are "characterized by

international activity, cyberspace, ever-changing market demands and standards, rapid product life cycle, ever-increasingly sophisticated computers and [the] need for a more thorough knowledge of the holistic (the gestalt) of the business environment rather than just specific skills or narrow job tasks" (p. 162). The shift brought about by this new vocationalism requires increased emphasis on technology in the curriculum and integration of academic and technical education (Bragg, 2001).

In light of these changes in the nature of workforce training, it may be appropriate to update the terminology to highlight these changes. For some, the term *vocational education* may hold connotations of more traditional forms of workforce training, while the term *career and technical education* (CTE) highlights the changing nature of workforce training and points toward a positive future.

Within the changing context of CTE, states and individual community colleges must make changes in the way they think about, organize, and support vocational education efforts at community colleges. CTE students must be prepared to work in an environment in which language skills and technology skills are increasingly important. CTE students need to be prepared for a workplace that is constantly changing.

Benefits of Community College Attendance

The theory of human capital provides a framework for considering the value of community college education. The theory argues that a more educated workforce leads to a stronger economy and, therefore, investments in education are returned through the benefits to the economy and the society (Sweetland, 1996). This theory has been applied to examine the value of community colleges by Sanchez, Laanan, and Wisely (1999) and others.

Much has been written about the economic advantages of a community college education and of vocational training in the context of various states. These studies have found significant economic advantages for individuals who complete a community college degree or certificate (Grubb, 1999, 2002a, 2002b; Laanan, 1998; National Assessment of Vocational Education, 1999, 2004; Sanchez & Laanan, 1998; Sanchez et al., 1999). Overall, these studies have concluded that individuals who complete a vocational degree or certificate earn more than those who take classes without completing a degree. More education typically leads to a higher economic return.

The benefits of community college attendance in the state of Iowa can be drawn from a study that was conducted by CCbenefits, Inc. In 2003 the state of Iowa commissioned CCbenefits, Inc., to do a study

of the socioeconomic benefits of attending Iowa community colleges (Christophersen & Robison, 2003). According to the study, Iowa community colleges provide a significant return on the investment of taxpayers. They found that Iowa taxpayers see an annual 9.5% return on their investment in community colleges. Students receive an average $107 in increased wages per year for each credit they complete, or $3035 in increased wages for each full-time year of course work completed. They also found that the state benefits from less crime, less dependence on welfare, less unemployment, and improved health because of community college attendance. The result of the decreased spending on these problems is a savings of $49.8 million each year. These results offer positive implications about the value of CTE in Iowa.

Figure 1 illustrates a framework for examining the value of CTE in Iowa. First, the benefit to business and industry is a more skilled workforce and partnerships with community colleges that provide training for specific skills that are needed by the employers. The businesses benefit from the high quality, efficient education provided by the community college and from having a highly skilled workforce. Individual employees and students benefit by experiencing a boost in earnings through promotions or better job opportunities. In some cases, such as the welfare-to-work program, these individuals may benefit from increased self-sufficiency and improved self-esteem by reducing their dependence on welfare. The benefit to taxpayers is that they receive a return on their investments

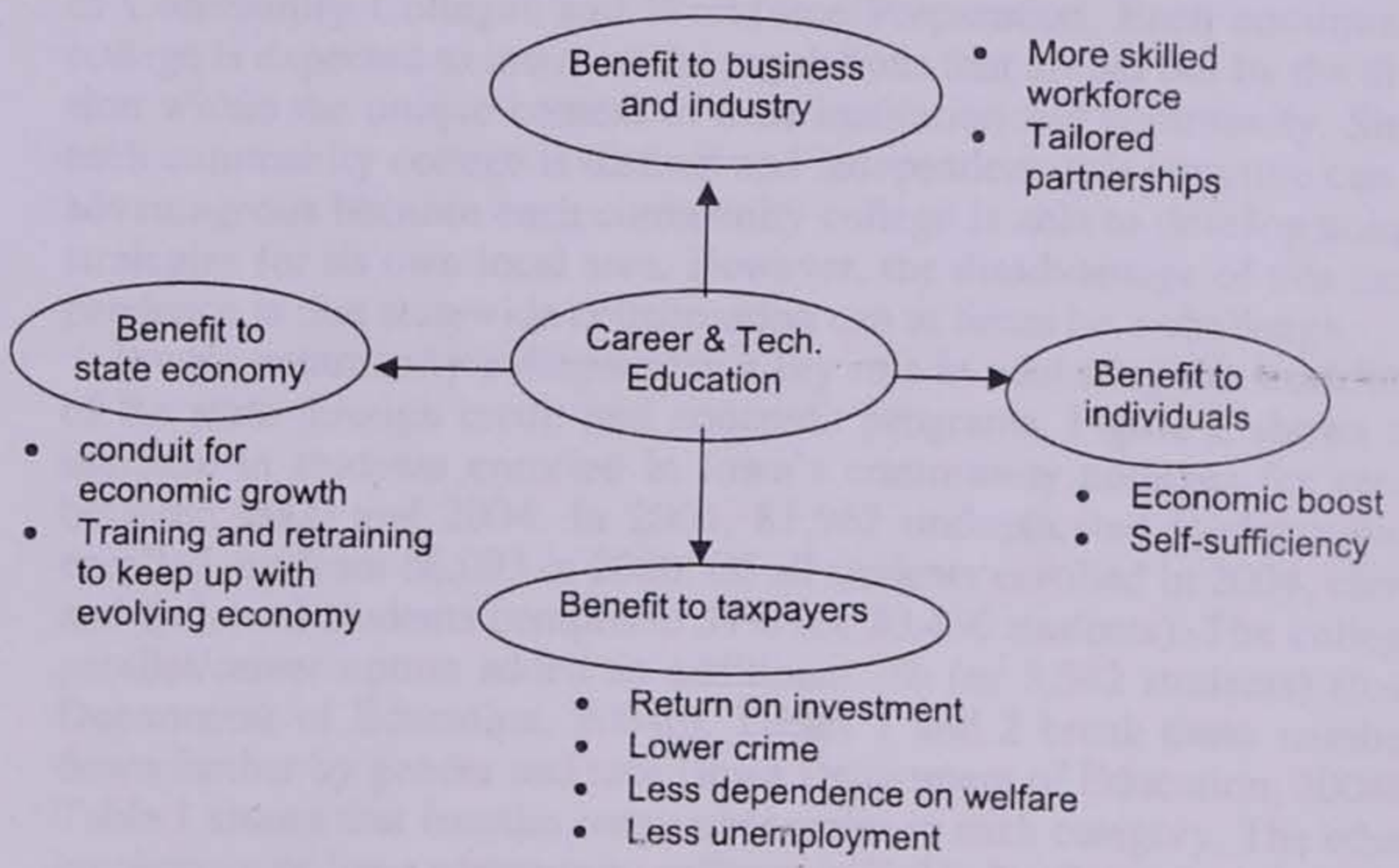

Figure 1. Model of the benefits of CTE training in Iowa.

in education. Education leads to a decrease in crime, which leads to a decrease in imprisonment. These decreases lighten a double burden on society since taxpayers must pay to lock up prisoners and each person who is in prison is one person who is not working and contributing to the economy (Christophersen & Robison, 2003). Finally, the benefit to the entire state economy is that vocational training is a conduit for economic growth. Community colleges provide a way of staying competitive within a constantly changing economic environment. Community colleges are able to stay current with the changing needs of individual communities, and train or retrain individuals as needed.

CAREER AND TECHNICAL EDUCATION IN IOWA COMMUNITY COLLEGES

Description of Community Colleges in Iowa

Iowa community colleges are independent systems that are held accountable to the Iowa Department of Education, Division of Community Colleges and Workforce Preparation. One community college leader pointed out that "it is important to remember that Iowa has a system of community colleges, not a community college system" (quoted in Iowa Department of Education, 2004d, p. 1). The governing agency for Iowa's 15 community colleges is the Iowa Department of Education, Division of Community Colleges and Workforce Preparation. Each community college is expected to interpret the regulations that are set out by the division within the unique context of their institution and community. Since each community college is distinct and independent, this structure can be advantageous because each community college is able to develop unique strategies for its own local area. However, the disadvantage of this independence is that statewide collaboration can at times be a challenge.

Iowa's community colleges play a key role in educating the workforce of the state through credit and noncredit programs. Figure 2 shows the increase in students enrolled in Iowa's community colleges for credit between 2000 and 2004. In 2004, 81,962 unduplicated students were enrolled, up from 66,093 in 2000. Of all students enrolled in 2004, career and technical students comprised 37% (or 30,436 students). The college-parallel/career option added an additional 7% (or 5,542 students) (Iowa Department of Education, 2004b). Tables 1 and 2 break these numbers down further by gender and race (Iowa Department of Education, 2004b). Table 1 shows that females outnumber males in each category. The ethnic breakdown of Iowa community colleges in Table 2 reflects the ethnic distribution of the state, which is 93.9% white (U.S. Census Bureau, 2001).

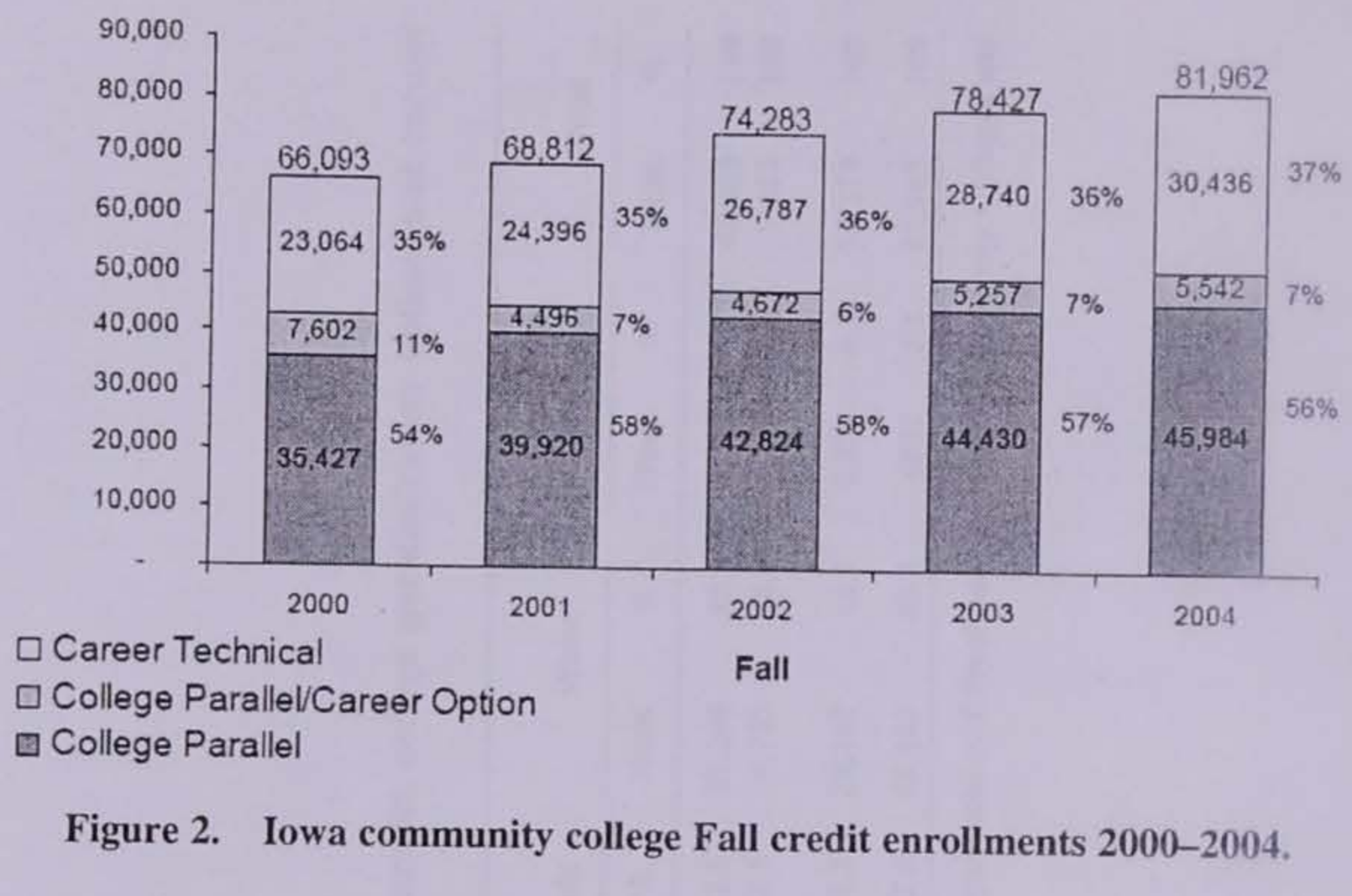

Figure 2. Iowa community college Fall credit enrollments 2000–2004.

Of the 81,939 students in credit-based community college programs in Iowa in 2004, 56.11% majored in college-parallel programs, 15.07% majored in health, 12.32% majored in industrial technology, 10.78% majored in business, and the remaining 4% majored in consumer science, marketing, or multioccupations (Iowa Department of Education, 2004b).

In addition to credit enrollment, Iowa community colleges provide community education through a great numbers of non-credit programs. Table 3 shows the enrollment in non-credit programs. While credit

Table 1. Fall 2004 credit enrollees: Gender distribution in college parallel, college parallel/career option, and career/technical

	Males		Females		
Program	Number	Percent of total	Number	Percent of total	Total
College parallel	20,026	43.6	25,950	56.4	45,976
College parallel/ career option	2,279	41.1	3,262	58.9	5,541
Career/technical	12,913	42.5	17,509	57.6	30,422
Total	35,218		46,721		81,939

From Iowa community colleges fall 2004 credit student enrollment report, Iowa Department of Education, Division of Community Colleges and Workforce Preparation, 2004b.

Table 2. Fall 2004 credit Enrollees: ethnic distribution in college parallel, college parallel/career option, and career/technical programs

Program	Native American		Asian		Black		Hispanic		White		Not given/ unknown		Total	
	Num.	%	Num.	%	Num.	%	Num.	%	Num.	%	Num.	%	Num.	%
College parallel	289	.6	916	2.0	1,674	3.6	1,210	2.6	37,206	80.8	4,763	10.3	46,058	100
College parallel/ career option	45	.8	74	1.3	289	5.2	138	2.5	4,735	85.7	244	4.4	5,525	100
Career/technical	243	.8	382	1.3	1,015	3.3	703	2.3	26,162	86.1	1,874	6.2	30,379	100
Total	577	.7	1,372	1.7	2,978	3.6	2,051	2.5	68,103	83.1	6881	8.4	81,962	100

From Iowa community colleges fall 2004 credit student enrollment report, Iowa Department of Education, Division of Community Colleges and Workforce Preparation, 2004b.

Table 3. Noncredit enrollment by program type, Fiscal years 2000–2003

Fiscal year	Adult vocational technical supplementary	ABE/HS	Secondary & jointly administered	Continuing & general education	Continuing education avocational/ recreational	Other
2000	263,808	39,640	960	46,633	36,556	24,331
2001	266,690	37,624	320	50,508	35,477	21,463
2002	253,436	35,974	280	50,477	32,861	20,776
2003	250,460	37,069	73	43,469	42,930	21,453

From Condition of Iowa community colleges, Iowa Department of Education, Division of Community Colleges and Workforce Preparation, 2004a.

enrollment increased, non-credit vocational enrollment decreased over the period from 2000 to 2003. This change may be due to changes in the reporting process. Reflecting nationwide trends, non-credit enrollments far outweigh credit enrollments, reflecting the number of workers turning to community colleges for to gain specific job skills, retraining, or certification (Bailey et al., 2004).

Community Colleges Addressing the Changing Needs of CTE in Iowa

Community Colleges Responsiveness to State Needs

Nationwide, community colleges are taking an active role in improving the quality and responsiveness of CTE programs to the changing economy. The case of Iowa is no different. Several examples reflect the active role of Iowa community colleges in promoting quality and responsive CTE programs. One example of responsiveness to the community is CTE advisory boards. Each of the 15 community colleges in the state has an advisory board that consists of local business and industry representatives. These advisory boards meet regularly to review the programs that the college offers, and they provide expert input for program improvement.

In addition, the state of Iowa has identified three primary industry clusters; life sciences, information solutions, and advanced manufacturing. These are being targeted as areas for economic growth. Life sciences include such things as food, pharmaceuticals, medical technologies, and biotechnologies. Information solutions include financial services, insurance services, software development, and telecommunications. Advanced manufacturing includes developing and applying technology, and training a highly skilled workforce (Iowa Department of Education, 2004a).

Focusing largely on these three categories, the community colleges have conducted statewide surveys to determine the workforce needs of the state. A goal of these two surveys—Skills 2000, and more recently Skills

2006—is to determine what business and industry leaders see as the skills that their potential employees need to learn. Another goal is to see what occupations will require more trained workers in the future. A survey is also given to every graduate of Iowa community colleges 1 year after graduation to determine their employment status. The local CTE advisory boards review these surveys in order to measure the relevance of community college programs (Iowa Department of Education, 2004d).

Another example of the responsiveness of community colleges is One Source training. The 15 colleges have collaborated to provide this service to meet statewide training needs. The program provides training for business and industry across the state with one price and one contact. Hy-Vee Stores, a statewide grocery chain, for example, offers specialized Spanish training using a standard curriculum for its employees at centers across the state. The service is also used to provide statewide homeland security training (One Source, 2005). This service is a major step toward cooperation among the 15 independent community colleges.

One unique feature of the Iowa community college CTE system is the Iowa Industrial New Jobs Training Program (260E) and the Iowa Jobs Training Program (260F). These initiatives provide free or low cost training to new and existing businesses. The 260E program provides training to businesses that are expanding within Iowa, or relocating to, or starting up in Iowa. It provides free training and reimburses up to 50% of the payroll costs spent on training for 1 year. Any business that increases Iowa employment by at least 10% also receives a tax credit as part of this program. The 260F program provides training for current businesses. This program provides a maximum of $25,000 for each training project, with a limit of $50,000 per 3-year period (Iowa Department of Economic Development, 2005).

Creating Pathways through CTE Programs in Iowa Community Colleges

Vocational education in community colleges is often a key link in the career pathways of students. The traditional pathway from high school to postsecondary school to work is becoming less of a norm. Students often attend community colleges for a period of time then stop out and return again. Patterns of swirling enrollment, students moving between community colleges and the workforce and/or 4-year institutions in multiple pathways, are becoming increasingly common (McCormick, 2003). It is also becoming more common for individuals with bachelor's degrees or higher to return to community colleges for specialized retraining (Grubb, 1996).

Figure 3 illustrates possible pathways to and through higher education and into the workforce. Students may enter 2- or 4-year higher education

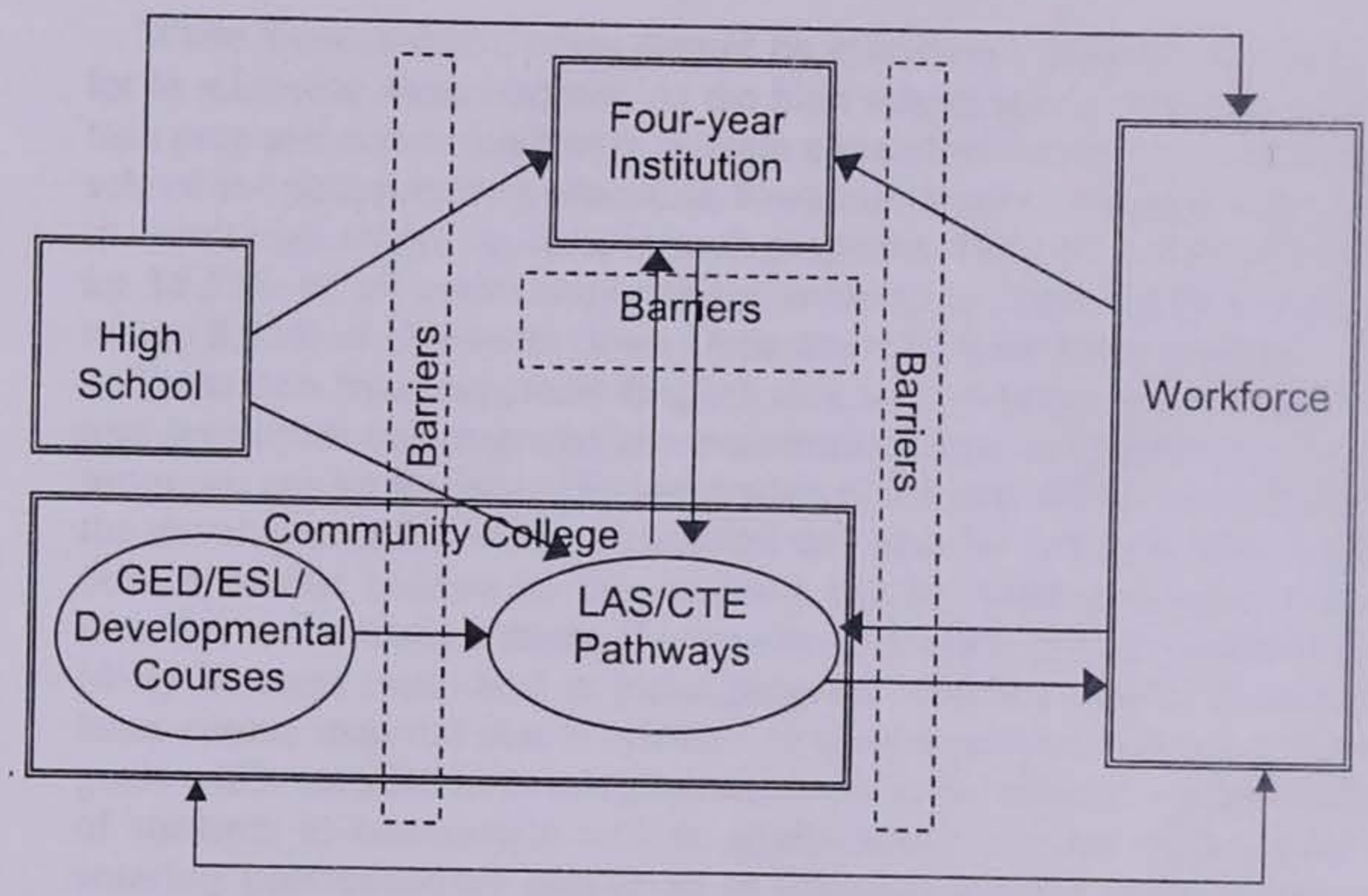

Figure 3. Multiple pathways through higher education.

either through high school completion or through GED completion. Those who enter community colleges may follow a liberal arts and sciences (LAS) pathway, a CTE pathway, or a combination of the two. Students in either of these programs may choose to transfer to a 4-year institution to complete a baccalaureate degree. At any point in the process, students may leave the educational pathway to enter the workforce and return from the workforce to continue their education.

Each transition in this model can be hindered by barriers. Barriers may be situational or institutional. Situational barriers come in the form of seven risk factors that increase the likelihood of not completing a degree. These "nontraditional characteristics" are delayed enrollment and older age, part-time enrollment, full-time employment, lack of parental financial support, being a single parent, having dependent children, and having an alternative high school credential (Fairchild, 2003; Liebowitz & Taylor, 2004).

Institutional barriers may come in many, often subtle, forms. Students who spend lengthy amounts of time in developmental courses before they are able to move into more relevant mainstream coursework are more likely to drop out. Difficulty transferring courses from one institution to another, or difficulty adjusting to a new academic environment, may also be barriers for students. Transfer of CTE courses and degrees to 4-year institutions can at times be particularly difficult (Townsend, 2001).

While these barriers often cannot be eliminated, institutions can do a lot to minimize these barriers. At the high school level, programs such as tech prep and career academies provide a seamless transition between high school and postsecondary education. Iowa community colleges actively seek to enroll high school students in such programs. High school student make up 18.55% of all community college students in Iowa (15,199 students) taking 8.95% of all credits (Iowa Department of Education, 2004b).

Transition from noncredit English as a second language (ESL), GED, and developmental programs into mainstream community college vocation programs can be facilitated by integration of relevant CTE curriculum into the developmental courses. Transition can also be aided by accelerating developmental courses so that students can be integrated more quickly into the mainstream courses (Liebowitz & Taylor, 2004). Students will likely be more motivated to make progress toward a degree if they can learn course material that is relevant to their academic and occupational goals while enrolled in developmental courses. For the state of Iowa, 46% of students in community college adult-literacy classes with a goal of entering postsecondary education or training actually entered postsecondary programs (Iowa Department of Education, 2004c). This number exceeds the targeted state benchmark of 20%, but perhaps more could still be done to make the pathway into postsecondary credit programs more smooth for these students. In addition, noncredit occupational training in Iowa community colleges, which trained 250,460 individuals in 2003 (Table 3), may also benefit from policies that help students transition to credit programs (Bailey et al., 2004).

Smooth transfer from community colleges to 4-year institutions is another important element in this model. Given the changes in vocational education, CTE students need to be able to transfer more smoothly to 4-year institutions. Highlighting the value and need for transfer of CTE students, Townsend (2001) points out that "much of what is classified as vocational education takes place in 4-year colleges as well as in 2-year colleges" (p. 69). She identifies four policy issues that need to be developed to improve transfer from CTE programs into 4-year institutions: (a) CTE programs should contain a general-education component; (b) faculty teaching general-education courses in 2-year colleges should be encouraged to have higher credentials; (c) articulation is needed for individual programs and courses; and (d) systemwide or statewide articulation agreements which include agreements for CTE programs are needed.

Community colleges and 4-year institutions need to work together to improve articulation agreements for CTE programs. The responsibility of community colleges must be to improve and standardize academic requirements for CTE programs. Community colleages must also and inform and persuade 4-year institutions in defense of the academic quality

of the 2-year programs. The responsibility of 4-year institutions is to be more flexible in their transfer requirements. Articulation agreements must include conversations with specific programs, especially in science and technology fields.

In Iowa, improvement of articulation between community colleges and 4-year institutions is an ongoing process. Much success has been made in this area, but more articulation agreements, particularly within specific majors, need to be worked out. A common course-numbering system is also being developed to standardize curriculum between public institutions in the state (Iowa Department of Education, 2004d).

Another way in which Iowa community colleges are making career pathways smoother is through offering online degrees. The Iowa Community College Online Consortium (ICCOC) was established in 2002. His a partnership between several community colleges to offer a complete 2-year degree online. Seven relatively small community colleges participate in the consortium: Eastern Iowa Community College, Iowa Lakes Community College, Iowa Western Community College, Northwest Iowa Community College, Southeastern Community College, South-western Community College, and Western Iowa Tech Community College. Articulation agreements have also been made with several 4-year colleges to offer a 4-year degree through the ICCOC. The consortium makes a 2-year degree (as well as a 4-year degree) accessible in an online format in rural areas through a collaboration of resources (Iowa Community College Online Consortium, 2005; Iowa Department of Education, 2004d).

Accountability for CTE in Iowa

Accountability, defined as the use of data to measure the performance of students and hold institutions responsible for the performance of its students, is one of the major issues facing higher education today (Laanan, 2001). Accountability can take many forms. Federal regulations such as the Carl D. Perkins Vocational and Technical Education Act of 1998 and the Workforce Investment Act (WIA) require states to gather and report data on a variety of performance indicators. States often have their own accountability standards. Many states, including Iowa, are developing accountability mandates that go beyond these federal mandates.

As part of the Perkins Act of 1998, all states are required to report accountability outcomes in the areas of student attainment; credential attainment; retention, completion, and employment; and participation in and completion of nontraditional programs. Each state must define ways to measure these core indicators and report them to the federal government.

Iowa defines a concentrator or completer as "A vocational student who graduates or leaves a program after completing the entire sequence of occupational courses in the program, with or without fulfilling all the necessary requirements leading to a degree, diploma, or certificate" (Iowa Department of Education, 1999).

The Perkins category Participation in and Completion of Nontraditional Programs represents programs for which one gender represents less than 25% of the population. These are considered nontraditional programs. Iowa has a long way to go in improving participation of underrepresented gender in these programs. Little progress has been made between 1999 and 2003 in the categories that fit the definition of nontraditional programs, regardless of whether the minority gender is male or female (Iowa Department of Education, 2004b).

In addition, Iowa has created a set of priorities for the community colleges of the state. The report entitled *Shaping the Future: A Five-Year Plan for Iowa's System of Community Colleges* outlines the goals and objectives of Iowa's community colleges. It is the responsibility of the leadership of each community college to interpret and apply these goals within their unique context (Iowa Department of Education, 2004d).

Future Projections of CTE in Iowa

The state of Iowa is in the process of going through a major shift in its population, culture, and economy. While community colleges in other states face booming populations of incoming students, many Iowa community colleges will face tough times as young people continue to leave the state. U.S. Census Bureau projections suggest that the number of 18–24 year olds in the state will shrink from 288,000 to 266,000 between 2005 and 2015 (U.S. Census Bureau, 2002). State leaders are focused on retaining and recruiting young people to the state.

The one promising factor for the long-term population growth and economic development of the state is the increasing immigration to the state. Over the past 2 decades, the state has seen a boom in immigration. The Latino/a population of the state in 2000 was 82,473 (2.8% of the total population), up from 32,647 (1.2% of the population) in 1990 (U.S. Census Bureau 2001). This is a 153% increase and 1/3 of the population growth over the 10-year period. This change in the population of the Iowa workforce has major implications for the future of CTE in Iowa. Community colleges in the state will continue to cater to the needs of this segment of the population.

Another major influence on the future of CTE in the state will be the aging of the community college faculty and administration. Ebbers, Wild, and Friedel (2003) estimate that 39% of CTE faculty and 38% of community college administrators will retire between 2002 and 2010. Iowa community colleges will have to actively recruit talented faculty and administrators to fill this void.

The workforce of the state is changing in other ways as well. Iowa is traditionally seen as an agricultural state. However, manufacturing jobs have traditionally employed a large percent of the population. Today low-skilled manufacturing jobs are declining. According to the Iowa Workforce Development (2004), 68% of the fastest growing jobs in the state require postsecondary education. Finance, education, health, construction, and business and professional services have shown recent employment gains. Projections indicate that promising occupations of the future will include computer-software engineers, computer-support specialists, and customer-service representatives (Iowa Workforce Development, 2004). Community colleges in Iowa and across the country are aware of these changes in demographics and the economy, and will continue to address these issues in the future.

Policy Implications

As the state and national economy are shifting, community colleges in Iowa and across the nation are playing a major role in educating and training the state's workforce. To keep up with changes, data and research must be used to inform policy and practice. Data on community college students, institutions, and systems must be used to inform necessary changes in CTE programs. Research on CTE programs should be used to inform policy and practice. The result should be to make programs that are as relevant and effective as possible to maximize the success of students.

CTE programs in Iowa and nationwide need to keep up with changing times through developing unique solutions to the many problems facing them. Jacobs (2001) speaks of "a neatly, and no longer valid, bimodal distribution of programs" in community colleges (p. 178). According to Schneider and Stevenson (cited in Jacobs, 2001), 70% of community college students expect to obtain a 4-year degree. Yet only a small percentage of these students actually achieve this goal. Community colleges must move beyond the traditional mentality of transfer and occupational training as being two distinct pathways. Instead, community college leaders and state policy makers must find ways to improve opportunities for all students.

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About Vocational Education Accountability*

The Carl D. Perkins Vocational and Technical Education Act of 1998 (Perkins III) requires a continued federal and state commitment to performance measurement and accountability. Perkins III builds on significant past efforts to evaluate and improve vocational and technical education. The 1990 Perkins Act required States to develop and implement performance measures for vocational and technical education programs. These provisions made it necessary for states to develop at least one measure of student outcomes (competencies or skill attainment, military service or employment). Because states could choose a minimum of two indicators, the scope of the measurement systems developed was limited in comparison to what Perkins III requires.

The new law gives States, school districts, and postsecondary institutions greater flexibility to design services and activities that meet the needs of their students and communities. In return for that flexibility, Perkins III establishes a rigorous State performance accountability system "to assess the effectiveness of the State in achieving statewide progress in vocational and technical education and to optimize the return on investment of Federal funds in vocational and technical education activities" (sec. 113(a)).

There are a number of significant changes in the performance measurement system in Perkins III. Whereas the 1990 Perkins Act focused on the development of the measures, Perkins III focuses on the reporting of the information and the accountability of State and local recipients of Perkins funds for results. It also identifies four core measures that every state must include in its system, rather than allowing states to choose a few outcomes to track. There is also a shift from measuring student gains to measuring student attainment. With the new system, Congress and other major stakeholders expect OVAE and states to achieve and demonstrate results.

Perkins III requires states to work with OVAE to establish rigorous performance measures and standards for four core performance indicators and establish performance management systems that are fully capable of sustaining and reporting continuous improvement. States must report annually to the Department of their progress in achieving agreed-upon levels of performance. The Secretary is required to make these reports available to the public and to Congress and to disseminate "State-by-State comparisons" of performance information.

The Core Indicators are the following:

Core Indicator 1. Student Attainment

Core Indicator 2. Credential Attainment

Core Indicator 3. Placement and Retention

Core Indicator 4. Participation in and Completion of Non-Traditional Programs

*Source: Core Indicator Framework. (January, 2000.) Washington, D.C.: Office of Vocational and Adult Education, U.S. Department of Education.

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Perkins Core Indicators

The Perkins Act of 1998 requires a state to establish a performance accountability system to assess the effectiveness of the state in achieving statewide progress in vocational and technical education. The actual requirement is as follows:

"Each eligible agency shall identify in the State plan core indicators of performance that include, at a minimum, measures of each of the following:

(i) Student attainment of challenging State established academic, and vocational and technical, skill proficiencies.

(ii) Student attainment of a secondary school diploma or its recognized equivalent, a proficiency credential in conjunction with a secondary school diploma, or a postsecondary degree or credential.

(iii) Placement in, retention in, and completion of, postsecondary education or advanced training, placement in military service, or placement or retention in employment.

(iv) Student participation in and completion of vocational and technical education programs that lead to nontraditional training and employment." Section 113 (b)(2)

Iowa Core Indicators

The Iowa core indicators and subindicators are the following:

Core Indicator 1: Student Attainment

POSTSECONDARY ACADEMIC PROFICIENCY

Indicator: Percentage of postsecondary program completers receiving a degree, diploma, or certificate.

Level of Performance: The percentage of postsecondary program completers receiving a degree, diploma, or certificate will be greater than the average statewide percentage from the previous two years.

Targeted Population: Postsecondary students completing a vocational program

POSTSECONDARY OCCUPATIONAL PROFICIENCY

Indicator: Percentage of postsecondary vocational program completers who attain 90 or higher percent of the occupational competencies determined to be critical for employment.

Level of Performance: The percentage of postsecondary vocational program completers attaining 90 or higher percent of the occupational competencies determined to be critical for employment will be greater than the average statewide percentage from the previous two years.

Targeted Population: Postsecondary program students completing a vocational program

Core Indicator 2: Credential Attainment

POSTSECONDARY DEGREE, DIPLOMA, OR CERTIFICATE

Indicator: Percentage of postsecondary program completers receiving a degree, diploma, or certificate.

Level of Performance: The percentage of postsecondary program completers receiving a degree, diploma, or certificate will be greater than the average statewide percentage from the previous two years.

Targeted Population: Postsecondary students completing a vocational program

Core Indicator 3: Retention, Completion and Employment

POSTSECONDARY PROGRAM RETENTION

Indicator: Percentage of postsecondary vocational program students with the intent of improving their job skill qualifications completing courses within a program.

Level of Performance: The percentage of postsecondary vocational program students completing courses within a program will be greater than the average statewide percentage of program students completing courses within a program in the previous two years.

Targeted Population: Postsecondary program students with the intent of improving their job skill qualifications

POSTSECONDARY PROGRAM COMPLETION

Indicator: Percentage of postsecondary vocational program students with the intent of completing a program complete the program.

Level of Performance: The percentage of postsecondary vocational program students completing a program will be greater than the average statewide percentage of students completing a program in the previous two years.

Targeted Population: Postsecondary program students with the intent of completing a program and enrolled in the only year of a one-year program or the second year of a two-year program

EMPLOYMENT AFTER POSTSECONDARY PROGRAM COMPLETION

Indicator: Percentage of postsecondary program completers placed in employment within one year of graduation/completion.

Level of Performance: The percentage of program completers placed in employment within one year of graduation/completion will not be less than the percentage of completers placed the previous year.

Targeted Population: Postsecondary students completing a vocational program

Core Indicator 4: Participation in and Completion of Nontraditional Programs

POSTSECONDARY PARTICIPATION IN NONTRADITIONAL PROGRAMS

Indicator: Percentage of under-represented gender postsecondary students participating in vocational programs leading to employment in occupations nontraditional for their gender.

Level of Performance: The percentage of under-represented gender postsecondary students participating in vocational programs leading to nontraditional occupations for their gender will be greater than the average statewide percentage of under-represented gender participants for the previous two years.

Targeted Population: Students under-represented by gender in vocational programs leading to nontraditional occupations; Data collected on all males and females enrolled to determine under-represented gender participation

POSTSECONDARY COMPLETION OF NONTRADITIONAL PROGRAMS

Indicator: Percentage of under-represented gender postsecondary students completing vocational programs leading to employment in occupations nontraditional for their gender.

Level of Performance: The percentage of under-represented gender postsecondary students completing vocational programs leading to nontraditional occupations for their gender will be greater than the average statewide percentage of under-represented gender completers for the previous two years.

Targeted Population: Under-represented by gender completers in vocational programs leading to nontraditional occupations; Data collected on all males and females enrolled to determine under-represented gender participation and completion

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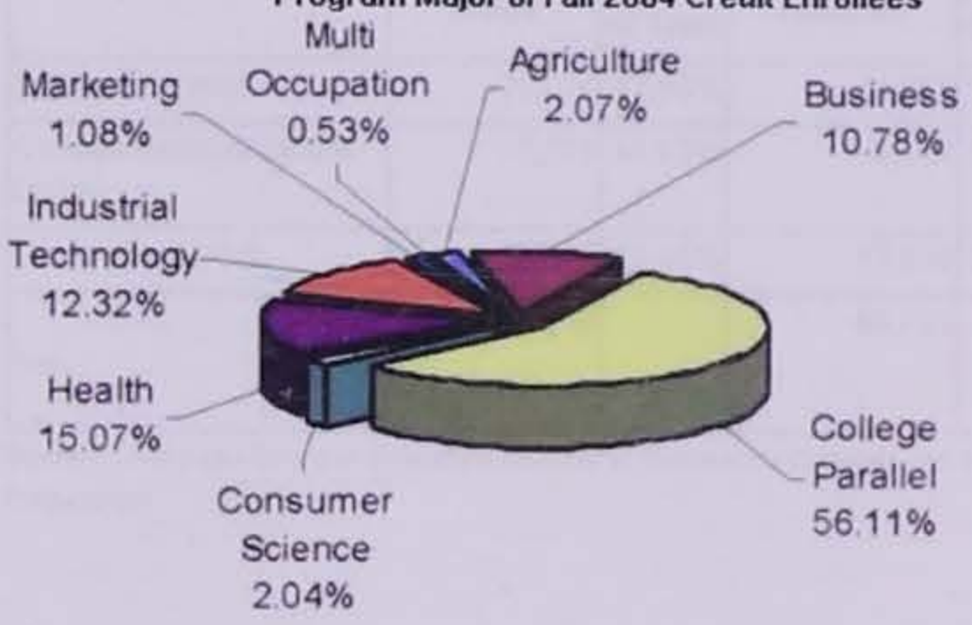
Student Program Majors : Approximately 56 percent of community college students are enrolled in College Parallel programs. The Health (15.07%) programs enroll the largest number of Career/Technical Preparatory students followed by Industrial Technology (12.32%) and Business (10.78%), as shown in figure 2.

Figure 2

Program Major of Fall 2004 Credit Enrollees



Source: Iowa Department of Education Division of Community Colleges and Workforce Preparation

Ethnic Distribution : White enrollees comprise the largest share of enrollees in all programs as shown in Table 1.

Table 1

Fall 2004 Credit Enrollees

Ethnic Distribution in College Parallel, College Parallel/Career Option, and Career/Technical Programs

Program	American Indian	Asian	Black	Hispanic	White	Not Given	Un-known	Total
College Parallel	289	916	1,674	1,210	37,206	4,718	45	46,058
College Parallel/Career Option	45	74	289	138	4,735	244	0	5,525
Career/Technical	243	382	1,015	703	26,162	1,861	13	30,379
Total	**577**	**1,372**	**2,978**	**2,051**	**68,103**	**6,823**	**58**	**81,962**

Source: Iowa Department of Education Division of Community Colleges and Workforce Preparation

Gender Distribution : Females comprise the larger share of enrollees in all programs as shown in Table 2.

Table 2

Fall 2004 Credit Enrollees

Gender Distribution in College Parallel, College Parallel/Career Option, and Career/Technical Programs

Program	Number of Males	Percent of Total	Number of Females	Percent of Total	Total
College Parallel	20,026	43.56%	25,950	56.44%	45,976
College Parallel/Career Option	2,279	41.13%	3,262	58.87%	5,541
Career/Technical	12,913	42.45%	17,509	57.55%	30,422
Total	**35,218**		**46,721**		**81,939**

Source: Iowa Department of Education Division of Community Colleges and Workforce Preparation

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Vocational Education Grant Objectives

Objective 1: To develop the methodology to match Iowa Community College students' educational data with the Iowa Department of Labor to assess students' postcollege earnings.

- Develop research design and methodology
- Develop a statewide Vocational Education Accountability Advisory Board
- Identify key contact at Iowa Department of Labor (DOL)

Objective 2: To develop and enhance a systematic approach to utilize research to address accountability-driven mandates.

- Conduct literature review of economic benefits of community college education
- Collect research and policy reports on vocational education accountability mandates
- Develop the ISU-Iowa Department of Education Partnership web site

Objective 3: To develop and implement statewide professional development technical assistance to Iowa Community Colleges in accessing, formatting, and analyzing Perkins Vocational Education Core Indicators data for program improvement and increasing student success.

- Organize and develop regional in-serve professional development workshops for vocational (CTE) administrators, CTE faculty, institutional researchers, and college personnel
- Conduct regional in-service professional development workshops
- Develop Vocational Education Accountability Perkins Workbooks and related resource materials (i.e., printed and e-Resources) for IA CCs and DOE

Objective 4: To create staff development workshops for secondary and postsecondary Career and Technical (CTE) faculty in the use of current CTE research and labor market data for system and program improvement.

- Identify target audience of High School and Community College personnel
- Collaborate with Iowa DOE
- Disseminate CTE and Labor Market Information to high school audience

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American Association of Community Colleges

Center for Occupational Research and Development (CORD)

Community College Policy Center

Community College Research Center

Jobs for the Future

League for Innovation in the Community College

The National Centers for Career and Technical Education

National Council for Workforce Education

Federal Links

The Perkins Act of 1998 (pdf)

The Workforce Investment Act of 1998 (pdf)

The National Center for Education Statistics

- **Data on Vocational Education (DOVE)**

U.S Census Bureau

- **Iowa Quick Facts**
- **Map of Iowa Population** (pdf)

U.S. Department of Labor

- **Bureau of Labor Statistics**
- **Wage Record Interchange System (WRIS)**

U.S. Office of Vocational and Adult Education

- **2001-2002 Carl D. Perkins Vocational and Technical Education Act: Report to Congress on State Performance** (pdf)

Iowa Links

Iowa Association for Career and Technical Education

Iowa Department of Economic Development

Iowa Department of Education

- **2004 Condition of Community Colleges** (pdf)
- **2004 Iowa Community College Enrollment Report** (pdf)
- **CCBenefits Report on Socioeconomic Benefits of Iowa CCs** (pdf)
- **Postsecondary Perkins Requirements** (pdf)
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- **Workforce Training Resutls 2004--Full Report** (pdf)

Tech Prep Links

American Youth Policy Forum

Center for Occupational Research and Development (CORD)

National Academy Foundation

National Association for Tech Prep Leadership

National Tech Prep Network

PRELIMINARY ANALYSIS OF DATA

The preliminary analysis of the data is in partial fulfillment of the first project objective: "to develop and enhance a systematic approach to utilize research to address accountability-driven mandates." The next section includes a report of the statistical analyses conducted to date. ***These results are <u>preliminary</u> and should be interpreted with caution.***

Running Head: PRELIMINARY ANALYSIS OF DATA

Preliminary Analysis of Unemployment Insurance Wage Data, MIS Data, and National Student Clearinghouse Data

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Iowa Department of Education

August 3, 2006

One of the project objectives is "to develop and enhance a systematic approach to utilize research to address accountability-driven mandates." The principal investigator, Dr. Frankie Santos Laanan, and the Iowa State University (ISU) Research Team conducted a preliminary analysis of the data to partially fulfill this objective. The preliminary analysis was postponed during the project period due to the delay in clearance of a memorandum of agreement between the Iowa Department of Education (IDE) and the Iowa Workforce Development. In the methodology report, the ISU Research Team requested the student information files and UI wage records that are matched with the FY2001 cohort. Due to the delay of the agreement clearance, it was decided that the FY2002 cohort was the most appropriate group based on the latest available (16 quarters) UI wage records at the time of the data matching. For instance, the latest available quarter was the 3rd quarter of 2005. To examine the wages of individuals in the "last year of college," "first year out," and "third year out," it was determined that FY2002 satisfies the interests of this project.

On April 26, 2006, Christopher Evans, Management Information System (MIS) Consultant at the IDE, hand-delivered three CDs containing: 1) MIS student records; 2) UI records – matched with social security numbers of the FY2002 cohort; and 3) National Student Clearinghouse enrollment file based on the FY2002 cohort. Mr. Evans provided detailed explanations for the ISU Research Team by opening each of the files from these CDs. Some cautionary advice from Mr. Evans included formatting, merging, and interpretation of the variables. The detailed contents of the CDs are:

- CD 1: MIS student data (FY2002), Award files (FY2002, 2003, 2004, 2005), Course files (FY2001, 2002, 2003), Pell recipient file, Reference file
- CD 2: UI wage records of 16 quarters matched with FY2002 cohort

- CD 3: National Student Clearinghouse enrollment data based on FY2002

The ISU Research Team had regular communication with the IDE representative, Mr. Evans for his consultation in the analytical approach and interpretation of the findings. Meetings were held either face-to-face or via teleconference on April 17, 26, May 10, 24, 30, and June 5, 15, and 26, 2006.

Purposes of the Preliminary Analyses

Prior to the data analyses, the ISU Research Team formatted the original data files using SAS statistical software (version 9.1). The data files were imported to SPSS statistical software (version 13) for further analyses. The purposes of the preliminary analyses were three-fold. First, the Administrator of the Division of Community College and Workforce Preparation, Dr. Janice Friedel, made a request to the ISU Research Team to examine the transfer behavior among community college graduates. Second, the ISU Research Team conducted analysis to investigate the employment retention among community college graduates. This analysis was also requested by Dr. Friedel. Finally, the ISU Research Team conducted a preliminary analysis to determine the median earnings among the 2002 Iowa community college student cohort.

The following research questions guided the preliminary analyses of the data:

1. How many students receiving an Associate in Arts (AA) degree in fiscal year 2002 transferred within one year, two years, and three years after graduating?;
2. Among Associate in Arts (AA), Associate in Applied Sciences(AAS), diploma, and all awards recipients who were employed in the third quarter of 2002, how many were retained in employment in each subsequent quarter?;

3. What are the annual median earnings of a cohort of community college students in 2002, 2003, and 2005?

Descriptive statistics were conducted using SPSS statistical analysis software (version 13) to address the above research questions. Frequencies, cross-tabulations, and descriptive statistics were used to measure: (1) transfer behaviors, (2) employment retention, and (3) median earnings among Iowa community college students.

Transfer Behaviors among Iowa Community College Students

To examine the first research question regarding the number of AA awardees transferred to a different institution within one year, two years, and three years, a new data file was created by merging the National Student Clearinghouse data file and the Department of Education MIS FY2002 awards file. The data file from the National Student Clearinghouse includes enrollment status of individuals who were found in the FY2002 Iowa community college student cohort. Enrollment status can be analyzed by state, name of the institution, type (2-year, 4-year), control (public, private), and term start/end dates. However, it is important to note that the enrollment data file from the National Student Clearinghouse does not include a complete representation of all postsecondary institutions since the membership and submission of the enrollment data to the Clearinghouse are voluntary. Thus, the findings and interpretations of the preliminary analysis are limited in their generalizability. Another cautionary note for this preliminary analysis is the issue of multiple enrollment status. The students with multiple enrollment status consisted of approximately 9% of the total number of transfer students in a given year. An effort was made to identify the multiple enrollment status of individuals as reported in Table 1. In addition, it

was determined that extracting the total enrollment counts, which include students who enrolled in more than one institution, would allow for examination of the student enrollment status by institutional type and control. Thus, total enrollment counts were disaggregated by institutional type and control, as reported in Tables 2 and 3. Further, the student enrollment was examined by characteristics and locations of the institutions (Tables 4 and 5).

Preliminary Findings

The first analysis was conducted to identify multiple enrollment status of individuals among Iowa community college FY2002 AA awardees. Table 1 illustrates a summary of enrollment status by year and institutional type. According to the Department of Education MIS FY2002 awards file, a total of 3,713 students received AA degrees in fiscal year 2002 (award received from August 3, 2001 to August 29, 2002). The ISU Research Team extracted matched cases each year (FY2003, 2004, and 2005) by social security number found in the FY2002 AA awards file and the National Student Clearinghouse data file. The matched cases were categorized into five groups that enrolled in: 1) only two-year; 2) only four-year; 3) two different two-year; 4) two-year and four-year; 5) two different four-year institutions. It is critical to mention that the numbers represented in each of the five groups are mutually exclusive. For instance, of matched cases of FY2003, which represents 2,368 (63.78%) students, 258 (10.90%) students enrolled in a two-year institution, and 1,920 (81.08%) students enrolled in a four-year institution. A total of 190 (8.02%) students concurrently enrolled in more than one institution in FY2003. It is noteworthy that the numbers of FY2004 enrollment counts by institutional type, including the multiple enrollment status were almost identical to the enrollment counts of FY2003. Changes can be found in FY2005. The total number of enrollments in postsecondary

education among Iowa community college FY2002 AA awardees declined by 711 (30%) from FY2003. A plausible explanation of this decline is that by the third year after students receive their AA degree, a majority of them (2,056 or 55.37%) obtained a bachelor's degree from a four-year institution, completed another degree or certificate at a two-year institution, or entered the workforce.

Further, the ISU Research Team examined enrollment counts by their institutional type and control for the Iowa community college FY2002 AA awardees (see Table 2). First, the number of total enrollments was categorized by institutional type (two-year or four-year). Within institutional type, the enrollment counts were further disaggregated by residency status (in-state and out-of-state) and control of the institution (public or private). It is important to note that for this preliminary analysis, there is an assumption that students can be enrolled in more than one category of institution. For instance, among the total enrollment of 2,564, 426 (16.61%) students enrolled in a 2-year institution, and 2,138 (83.39%) enrolled in a 4-year institution. Approximately 60% of students who enrolled in a 4-year institution were found in one of Iowa's Regent Universities. The Regent Universities in Iowa include Iowa State University (ISU), University of Iowa (UI), and University of Northern Iowa (UNI). There were 412 (21.38%) students who enrolled in a 4-year institution outside of the State of Iowa in FY2003.

It is interesting to note that 12.87% of FY2002 AA awardees were still enrolled in the same Iowa community college in FY2003, while 12.24% and 11.54% of students did so in FY2004 and FY2005, respectively. It may be that FY2002 AA awardees concurrently enrolled in a community college and four-year university to make their academic transition. Or, it may be that FY2002 AA awardees were seeking other academic experiences at two-year institutions.

Another interesting finding from Table 2 is that the proportion of students who transferred outside of the state of Iowa increased from 17.47% in FY2003 to 19.74% in FY2005. Perhaps after three years from their AA degree completion at Iowa community colleges, some students were looking for a new educational opportunity elsewhere.

Table 3 indicates the enrollment status of FY2002 AA awardees during three distinctive timeframes. The first row in Table 3, "FY2003" indicates the enrollment status of the FY2002 AA transfers in the year 2003 alone. The subsequent rows "FY2003-2004" and "FY2003-2005" indicate the enrollment status of the FY2002 AA transfers: 1) from 2003 to 2004 and 2) from 2003 to 2005, respectively. Stated differently, Table 3 and Figure 1 illustrate cumulative enrollment status of students who received AA degrees in FY2002. It is critical to note the assumptions for this preliminary analysis that students can be enrolled in more than one category of institutions. Additionally, since this analysis examines the cumulative enrollment status, students can be enrolled in more than one timeframe.

Table 4 illustrates enrollment status among the FY2002 AA awardees enrolled in Iowa Regent Universities in 2003, 2004, and 2005. Iowa Regent Universities include University of Northern Iowa (UNI), University of Iowa (UI), and Iowa State University (ISU). A total of 1,269 students enrolled in Iowa Regent Universities in 2003. More than 570 (45.15%) students enrolled in UNI, which lists UNI with the most enrollees from the cohort of FY2002 AA awardees. During the same year, enrollments of UI and ISU were 411 (32.39%) and 285 (22.46%), respectively. While the numbers of enrollees in Iowa Regent Universities decreased over time, the enrollments at private four-year universities increased from 453 in 2003 to 689 in 2004. In 2005, private four-year universities enrolled more AA awardees than any other four-year institutions. Furthermore, it is noteworthy that in the same year, 317 (21.3%) of students

enrolled in four-year institutions outside of Iowa. It also means that a combined number of students (743) who enrolled in private and out-of-state four-year institutions was almost equal to the number of students (745) enrolled in Iowa Regent Universities in 2005 (see Figure 2). A cautionary reminder for Table 4 is that these enrollment numbers do not reflect all enrollees since the analysis was limited to the cohort of FY2002 AA awardees. In other words, students who received other award types or non-degree awardees were excluded from this analysis.

Table 5 and Figure 3 portray the enrollment status of the FY2002 AA awardees by states, specifically neighboring states of Iowa. These neighboring states include: Illinois, Missouri, Nebraska, Minnesota, South Dakota, and Wisconsin. Illinois received the most transfer students among the neighboring states of Iowa, 124, 119, and 87 in 2003, 2004, and 2005, respectively. Missouri, Nebraska, and Minnesota were also popular destinations among the FY2002 AA awardees. Table 5 indicates that more than 130 students were enrolled of outside Iowa and its neighboring states in 2003, 2004, and 2005. These figures may be partly explained by enrollments in institutions that exclusively offer distance education, such as the University of Phoenix. In other words, students enrolled in out-of-state universities could take courses from their home in Iowa.

Employment Retention among Iowa Community College Students

The second research question for the preliminary analysis was: Among Associate in Arts (AA), Associate in Applied Sciences (AAS), diploma, and all awards recipients who were employed in the third quarter of 2002, how many were retained in employment in each subsequent quarter? To address this research questions, the ISU Research Team created a data file by merging the UI wage records of 16 quarters and the Department of Education MIS

FY2002 awards file. The variables in the UI wage record file include: social security number, wage of each quarter (from 4th quarter of 2001 to 3rd quarter of 2005), employer name, employer address, Federal Employment Identification Number (FEIN), and North American Industry Classification System (NAICS) code. The ISU Research Team merged the MIS FY2002 awards file with the UI wage record file by the unique identifier of each case, which is the social security number. The limitations of the preliminary analysis of employment status among Iowa community college students are closely related to the availability of the variables included in the UI wage record file. For instance, the UI wage record file is limited to reflect employment within the state of Iowa. Further, the UI wage record file excludes individuals working in the military, self-employed, and federal employees, such as postal workers.

It is also important to note that this analysis is delimited to examine the employment status of the Iowa community college students, more specifically among the awardees of Associate in Arts (AA), Associate in Applied Sciences (AAS), diploma, and all awards recipients who were employed in the third quarter of 2002. Factors such as type of employment, amount of earnings, or length of employment were not considered in this preliminary analysis. The employment status of the cohort of FY2002 awardees (AA, AAS, diploma, and all awards) were measured by the frequency count of the matched cases between the FY2002 awardees and the UI wage record file by each quarter. This is a cross-sectional approach to examine the employment status of the cohort of FY 2002 awardees by quarter. For this cross-sectional approach, the numbers of the cohort for each group (n=3,713 for Associate in Arts (AA); n=3,631 for Associate in Applied Sciences (AAS); n=2,591 for Diploma; and n=11,889 for All awards) were used as denominators of each calculation. Table 6 describes the preliminary results from the analysis. For instance, among AA awardees, 2,738 were employed in the third quarter of 2002.

The number of AA awardees who were employed (n=2,738) was used as the numerator and the number of AA awardees cohort (n=3,631) was used as the denominator. Thus, the employment rate was 73.74% for the cohort of AA awardees in this quarter. Subsequently, 2,311 AA awardees were employed in the fourth quarter of 2002, which makes the employment rate of 62.24%. To avoid the inflation of the frequency count of employment status in each quarter, the ISU Research Team eliminated multiple employment status of each awardee.

Preliminary Findings

Table 6 illustrates the employment status among the cohort of FY2002 awardees. Awards of the FY2002 awardees were categorized into four groups: 1) Associate in Arts (AA); 2) Associate in Applied Sciences (AAS); 3) Diploma; and 4) All awards. The last group, all awards include the aggregate of the first three awards as well as Associate in Science (AS), Associate in General Studies (AGS), Associate in Applied Arts (AAA), Certificate, and Other awards. Among the cohort of FY2002 awardees (n=11,889), the number of AA awardees was 3,713, AAS and Diploma awardees were 3,631 and 2,591, respectively. In the third quarter of 2002, 2,738 (73.74%) of AA awardees were employed. Similarly, 2,636 (72.60%) of AAS awardees and 1,820 (70.24%) Diploma awardees were employed in the same quarter. It is noteworthy that the following quarter (4th quarter of 2002), AA awardees were the least employed among the other groups. It may be that AA awardees transferred to four-year institutions and exited from the workforce. This trend continued until the second quarter of 2005. Conversely, from the first quarter of 2003, Diploma awardees indicated as the highest employed group among the other counter groups until the second quarter of 2005. However, it is interesting to note that from the peak employment status (1,902, 73.41%) among the group of

Diploma awardees in the second quarter of 2004, their employment status gradually declined over time. It is assumed that the group of Diploma awardees lost jobs or left the workforce and enrolled in postsecondary education for skill development or for a degree.

Based on these preliminary findings, the ISU Research Team was asked to apply a longitudinal approach to measure retention in employment by quarter among the same FY2002 awardees (see Table 7). For this longitudinal approach, the numbers of cohort for each group (n=3,713 for Associate in Arts (AA); n=3,631 for Associate in Applied Sciences (AAS); n=2,591 for Diploma; and n=11,889 for All awards) were used as denominators of the first calculation. As the cross-sectional approach, among AA awardees, 2,738 were employed in the third quarter of 2002. The number of AA awardees who were employed (n=2,738) was used as the numerator and the number of AA awardees cohort (n=3,631) was used as the denominator. Thus, the employment rate was 73.74% for the cohort of AA awardees in this quarter. However, for the subsequent quarter, the number of AA awardees employed in the fourth quarter of 2002 (n=2,209) was used as numerator and the number of AA awardees employed in the previous quarter (n=2,738) was used as the denominator to calculate a retention rate of 80.68%. Unlike the cross-sectional approach, as the quarter progresses, the denominator changes to measure retention rates of AA awardees. Table 7 indicates similar retention rates for all four groups over time. It is interesting to see that once AA awardees begin employment, they are likely to stay in the labor force for consecutive quarters.

Median Earnings among Iowa Community College Students

The final preliminary analysis for the term of this contract was conducted to determine the median earnings of the 2002 cohort of Iowa community college students. The ISU Research

Team applied two analytical approaches to examine the median earnings of the cohort of students. For this preliminary analysis, the ISU Research Team examined the same data file (a merged data file of the UI wage records of 16 quarters: from the fourth quarter of 2001 to the third quarter of 2005, and the Department of Education MIS FY2002 awards file) used in the previous analysis: Employment Retention among Iowa Community College Students. First, a cross-sectional approach was used to measure students' median annual earnings in FY2002, 2003, and 2005. This timeframe allowed the ISU Research Team to examine the changes of median annual earnings of students when students' were in the last year in college (FY2002), first year out (FY2003), and third year out (FY2005). The ISU Research Team defined the last year in college (FY2002) as a period from the fourth quarter of 2001 to the third quarter of 2002. Similarly, the first year out (FY2003) and third year out (FY2005) were defined as four quarters: 1) from the fourth quarter of 2002 to the third quarter of 2003; and 2) from the fourth quarter of 2004 to the third quarter of 2005, respectively.

This preliminary analysis was constrained by the limitations of UI wage records as indicated earlier in this report (e.g., availability of employment records limited to within the state of Iowa, exclusion of records among individuals working in the military, self-employed, and federal employees, such as postal workers). Further, this preliminary analysis is delimited to examine the median annual earnings among three student groups: 1) all students; 2) awardees; and 3) non-awardees. The criteria used to determine the first group (all students) was a consecutive employment over all four quarters in a given year. The second group (awardees) was defined as a group of students within the first group (all students) who received an Associate in Arts (AA), Associate in Applies Sciences (AAS), Associate in Science (AS), Associate in General Studies (AGS), Associate in Applied Arts (AAA), Certificate, or Other awards. The

third group (non-awardees) was the number of students calculated by subtracting the number of awardees from the number of all students. Additional delimitation of this preliminary analysis is the use of the median annual earnings instead of the average annual earnings. The median annual earnings were determined as the sum of earnings from each quarter of a given year. The median annual earnings represent the middle value in the distribution of the annual income, which is more robust and less likely to be influenced by extreme outliners.

A cautionary note for this preliminary analysis is that the ISU Research Team established two benchmark median annual earnings to examine the changes in the median annual earnings within three distinctive groups. In addition to showing median earnings for all individuals, the ISU Research Team included median annual earnings for those who earned $15,885 or more and those who earned $21,152 or more. The intent of providing these benchmark earnings was to demonstrate various ways to determine a proxy for full-timeness of each student in the workforce. The first benchmark, $15,885 was defined as half of the average earnings of individuals employed in private business in 2004. The second benchmark, $21,152 was defined as half of the average earnings of individuals employed in manufacturing in 2004. Average wages for private business and manufacturing are provided by the Iowa Workforce Development (http://www.iowaworkforce.org/lmi/empstat/coveredemp.html). Further, it is important to note that the earnings data used in this preliminary analysis are not adjusted for inflation over time.

Preliminary Findings

Table 8 displays the median annual earnings of a cohort of FY2002 Iowa community college students, specifically those who worked all four quarters in FY2002, 2003, or 2004. During the last year in college (FY2002), the median annual earnings for awardees ($12,150.27)

were higher than that of non-awardees ($10,959.99). However, considering the students who earned at or above the two bench marks ($15,885 and $21,152), the median annual earnings of non-awardees were higher than awardees in the last year in college. In the first year out from college (FY2003), a gap of the median annual earnings between awardees and non-awardees increased from the previous year. The differences in median annual earnings were $5,536.85 in FY2003 and $1,190.28 in FY2002. Considering the median annual earnings among students who earned $21,152 or more, non-awardees ($30,524.36) were earning slightly more than awardees ($29,482.42). For this particular sub-group, a similar finding was found in FY2002. It is noteworthy that by FY2005, the median annual earnings among awardees were higher at all sub-groups than that of non-awardees. Specifically, for those with the median annual earnings of $21,152 or above, awardees' median annual earnings ($32,967.59) were higher at the first time than their counterparts, the non-awardees ($31,573.74). Furthermore, representation of awardees with the median annual earnings of $21,152 or above increased from 19.59% in FY2002 to 65.54% in FY2005.

Table 9 illustrates the preliminary findings from a longitudinal approach to examine the median earnings of FY2002 Iowa community college students. The cohort of students was delimited to the individuals who worked all four quarters of three consecutive years from FY2002 to FY2005. In other words, the median annual earnings of the same cohort of students (n=30,117) were examined over the three year period. Of 30,117 students who worked all four quarters of three consecutive years, 4,329 received awards and 30,117 did not received awards. The median annual earnings of the students who received awards were higher than non-awardees during the last year in college, first year and third year out of college. It is noteworthy that the earnings gap between these groups widened over three years. For instance, the annual median

earnings gap between awardees and non-awardees in the last year in college ($13,729.64 - $13,651.98) was $77.66. By the third year out ($27,998.28 - $23,317.29), the gap was $4,680.99.

Among students with the median annual earnings of $21,152 or more, the median annual earnings of awardees ($28,112.73) were lower than non-awardees ($31,404.02) in the last year in college (FY2002). However, by the third year out the median annual earnings of awardees ($33,769.33) exceeded the earning of non-awardees ($32,696.11). Additionally, among 4,329 awardees, 69.88% of them had annual median earnings of $21,152 or more, whereas 56.04% of non-awardees had annual median earnings of $21,152 or more.

These tables are preliminary results and should be interpreted with caution. Further analyses of these data are currently in progress. The next section, "Proposed Future Initiatives and Recommendations," contains a specific plan for how these analyses will be expanded in the future. The methodology report in Section Four of this report also contains information about how these analyses will be conducted.

Table 1

Enrollment status of 2002 AA Awardees in 2003, 2004, and 2005

	Enrolled only in two-year	Enrolled only in four-year	Multiple Enrollments			Total Number Enrolled	AA awardees not found to be enrolled	Total AA Awardees
			Enrolled in two 2-years	Enrolled in 2-year and 4-year	Enrolled in two 4-years			
FY2003	258	1,920	13	142	35	**2,368**	1,345	**3,713**
FY2004	227	1,911	12	196	33	**2,379**	1,334	**3,713**
FY2005	195	1,331	5	100	26	**1,657**	2,056	**3,713**

Note: Enrollments are based on matched cases each year (FY2003, 2004, and 2005) by social security number found in the FY2002 awardees and National Student Clearinghouse data file. The number that represents each cell is mutually exclusive.

Data Sources: Iowa Department of Education MIS 2002 Award file; National Student Clearinghouse enrollment data

Table 2

Enrollment status of 2002 AA Awardees by institutional type and control in 2003, 2004, and 2005

	Two-year					Four-year					
	Iowa					Iowa					
	Public, same CC	Public, Different CC	Private	Out of State	Total 2-year	Regent	Private, not-for-profit*	Private, for-profit	Out of State	Total 4-year	Total Transfers
FY2003	330	58	2	36	**426**	1,269	457	0	412	**2,138**	**2,564**
FY2004	322	83	1	41	**447**	1,098	689	0	397	**2,184**	**2,631**
FY2005	207	60	1	37	**305**	745	426	0	317	**1,488**	**1,793**

Note: This table represents enrollment (not retention) of 2002 AA recipients in FY 2003, 2004, and 2005. Students can be enrolled in more than one category of institution.

*Private, not for profit includes Waldorf College which offers both Bachelor's degrees and Associates degrees.

Data Sources: Iowa Department of Education MIS 2002 Award file; National Student Clearinghouse enrollment data

Table 3

Longitudinal enrollment status of 2002 AA Award recipients in from 2003 to 2005

	Two-year				Four-year					
	Iowa				Iowa					
	Public CC	Private	Out of State	Total 2-year	Regent	Private, not-for-profit*	Private, for-profit	Out of State	Total 4-year	Total Transfers
FY2003	388	2	36	**426**	1,269	457	0	412	**2,138**	**2,564**
FY2003-2004	660	2	61	**723**	1,355	769	0	505	**2,629**	**3,352**
FY2003-2005	783	3	84	**870**	1,411	856	0	669	**2,936**	**3,806**

Note: This table represents enrollment (not retention) of 2002 AA recipients in FY 2003, 2003-2004, and 2003-2005. Students can be enrolled in more than one category of institution.

*Private, not for profit includes Waldorf College which offers both Bachelor's degrees and Associates degrees.

Data Sources: Iowa Department of Education MIS 2002 Award file; National Student Clearinghouse enrollment data

Table 4

Enrollment status of 2002 AA awardees in four-year institutions in 2003, 2004, and 2005

	Iowa Regent Universities									
	UNI		Uof I		ISU		Regent Universities Total	Private four year	Out of State four year	Total four year transfers
	Enrollment	%	Enrollment	%	Enrollment	%				
FY2003	573	45.15%	411	32.39%	285	22.46%	**1,269**	453	412	**2,134**
FY2004	491	44.72%	354	32.24%	253	23.04%	**1,098**	689	397	**2,184**
FY2005	331	44.43%	231	31.01%	183	24.56%	**745**	426	317	**1,488**

Note: This table represents enrollment of 2002 AA recipients in FY 2003, 2004, and 2005. Students can be enrolled in more than one category of institution.

Data Sources: Iowa Department of Education MIS 2002 Award file; National Student Clearinghouse enrollment data

Table 5

Enrollment status among 2002 AA awardees by state in 2003, 2004, and 2005

	Iowa	Illinois	Missouri	Nebraska	Minnesota	South Dakota	Wisconsin	Other	Total
FY2003	2,116	124	87	58	47	19	9	132	**2,564**
FY2004	2,193	119	69	61	47	19	13	142	**2,631**
FY2005	1,439	87	48	42	36	11	12	141	**1,793**

Note: This table represents enrollment of 2002 AA recipients in FY 2003, 2004, and 2005. Students can be enrolled in more than one category of institution.

Data Sources: Iowa Department of Education MIS 2002 Award file; National Student Clearinghouse enrollment data

Table 6

Number of individuals employed by quarter for 2002 awardees

	Award FY2002	Total Employed in 32002		Total Employed in 42002		Total Employed in 12003		Total Employed in 22003		Total Employed in 32003		Total Employed in 42003	
	N	N	%	N	%	N	%	N	%	N	%	N	%
AA	3,713	2,738	73.74%	2,311	62.24%	2,292	61.73%	2,464	66.36%	2,496	67.22%	2,294	61.78%
AAS	3,631	2,636	72.60%	2,554	70.34%	2,521	69.43%	2,536	69.84%	2,545	70.09%	2,530	69.68%
Diploma	2,591	1,820	70.24%	1,819	70.20%	1,840	71.02%	1,877	72.44%	1,907	73.60%	1,890	72.94%
All awards	11,889	8,581	72.18%	7,964	66.99%	7,940	66.78%	8,177	68.78%	8,262	69.49%	7,982	67.14%

	Award FY2002	Total Employed in 12004		Total Employed in 22004		Total Employed in 32004		Total Employed in 42004		Total Employed in 12005		Total Employed in 22005	
	N	N	%	N	%	N	%	N	%	N	%	N	%
AA	3,713	2,331	62.78%	2,435	65.58%	2,508	67.55%	2,347	63.21%	2,371	63.86%	2,459	66.23%
AAS	3,631	2,494	68.69%	2,508	69.07%	2,509	69.10%	2,465	67.89%	2,431	66.95%	2,456	67.64%
Diploma	2,591	1,871	72.21%	1,902	73.41%	1,880	72.56%	1,838	70.94%	1,812	69.93%	1,812	69.93%
All awards	11,889	7,956	66.92%	8,138	68.45%	8,190	68.89%	7,919	66.61%	7,864	66.15%	7,992	67.22%

Data Sources: Iowa Department of Education MIS 2002 Award file; Iowa Workforce Development Unemployment Insurance Wage file

Table 7

Retention in employment by quarter for 2002 awardees who are employed in 3rd quarter of 2002

	Award FY2002	Employed in 32002		Still Employed in 42002		Still Employed in 12003		Still Employed in 22003		Still Employed in 32003		Still Employed in 42003	
	N			N	%	N	%	N	%	N	%	N	%
AA	3,713	2,738	73.74%	2,209	80.68%	2,061	93.30%	1,960	95.10%	1,872	95.51%	1,764	94.23%
AAS	3,631	2,636	72.60%	2,418	91.73%	2,299	95.08%	2,204	95.87%	2,140	97.10%	2,079	97.15%
Diploma	2,591	1,820	70.24%	1,680	92.31%	1,602	95.36%	1,545	96.44%	1,471	95.21%	1,407	95.65%
All awards	11,889	8,581	72.18%	7,551	63.51%	7,141	94.57%	6,820	95.50%	6,542	95.92%	6,261	95.70%

	Award FY2002	Still Employed in 12004		Still Employed in 22004		Still Employed in 32004		Still Employed in 42004		Still Employed in 12005		Still Employed in 22005	
	N	N	%	N	%	N	%	N	%	N	%	N	%
AA		1,718	97.39%	1,645	95.75%	1,574	95.68%	1,480	94.03%	1,419	95.88%	1,387	97.74%
AAS		2,023	97.31%	1,973	97.53%	1,920	97.31%	1,857	96.72%	1,812	97.58%	1,781	98.29%
Diploma		1,356	96.38%	1,335	98.45%	1,295	97.00%	1,233	95.21%	1,205	97.73%	1,174	97.43%
All awards	11,889	6,077	97.06%	5,905	97.17%	5,713	96.75%	5,470	95.75%	5,307	97.02%	5,192	97.83%

Data Sources: Iowa Department of Education MIS 2002 Award file; Iowa Workforce Development Unemployment Insurance Wage file

Table 8.

Preliminary Analysis of UI Data Using Cross-Sectional Approach (individuals who worked four quarters of any of the three years).

Last Year In College (FY 2002)										
	Total Students	*# Worked all 4 Qrts 2002*	*% Worked all 4 Qrts 2002*	*Median Annual earnings*	*# Earning $15,885 or more*	*% Earning $15,885 or more*	*Median Annual earnings $15,885+*	*# Earning $21,152 or more*	*% Earning $21,152 or more*	*Median Annual earnings $21,152+*
All Students	95,349	57,308	60.10%	$ 11,137.55	19,666	34.32%	$ 25,211.98	13,228	23.08%	$30,399.06
Awardees	10,386	6,556	63.12%	$ 12,150.27	2,231	34.03%	$ 22,375.70	1,284	19.59%	$27,912.26
Non-Awardees	84,963	50,752	59.73%	$ 10,959.99	17,435	34.35%	$ 25,671.94	11,944	23.53%	$30,727.01

First Year Out (FY 2003)										
	Total Students	*# Worked all 4 Qrts 2003*	*% Worked all 4 Qrts 2003*	*Median Annual earnings*	*# Earning $15,885 or more*	*% Earning $15,885 or more*	*Median Annual earnings $15,885+*	*# Earning $21,152 or more*	*% Earning $21,152 or more*	*Median Annual earnings $21,152+*
All Students	95,349	55,549	58.26%	$ 14,428.62	25,135	45.25%	$ 25,449.05	17,191	30.95%	$30,349.04
Awardees	10,386	6,816	65.63%	$ 19,285.14	4,218	61.88%	$ 25,635.75	2,985	43.79%	$29,482.42
Non-Awardees	84,963	48,733	57.36%	$ 13,748.29	20,917	42.92%	$ 25,404.68	14,206	29.15%	$30,524.36

Third Year Out (FY 2005)										
	Total Students	*# Worked all 4 Qrts 2005*	*% Worked all 4 Qrts 2005*	*Median Annual earnings*	*# Earning $15,885 or more*	*% Earning $15,885 or more*	*Median Annual earnings $15,885+*	*# Earning $21,152 or more*	*% Earning $21,152 or more*	*Median Annual earnings $21,152+*
All Students	95,349	56,209	58.95%	$ 21,428.77	37,164	66.12%	$ 28,076.24	28,583	50.85%	$31,785.14
Awardees	10,386	7,020	67.59%	$ 26,469.93	5,597	79.73%	$ 30,167.58	4,601	65.54%	$32,967.59
Non-Awardees	84,963	49,189	57.89%	$ 20,717.58	31,567	64.17%	$ 27,706.38	23,982	48.75%	$31,573.74

$15,885=half of the average earnings of employees of all private businesses in Iowa in 2004 (possible proxy for full-timeness)

$21,152=half of the average earnings of manufacturing workers in Iowa in 2004 (possible proxy for full-timeness)

DRAFT: Should not be disseminated to public.

Table 9.

Preliminary Analysis of UI Data Using Longitudinal Approach (individuals who worked four quarters of three years).

Last Year In College (FY 2002)										
	Total Students	*# Worked all 4 qrts/ all 3 yrs*	*% Worked 4 Qrtrs/ all 3 yrs*	*Median Annual earnings*	*# Earning $15,885 or more*	*% Earning $15,885 or more*	*Median Annual earnings $15,885+*	*# Earning $21,152 or more*	*% Earning $21,152 or more*	*Median Annual earnings $21,152+*
All Students	95,349	34,446	36.13%	$ 13,662.85	14,749	42.82%	$ 26,143.30	10,347	30.04%	$31,037.51
Awardees	10,386	4,329	41.68%	$ 13,729.64	1,756	40.56%	$ 22,613.07	1,032	23.84%	$28,112.73
Non-Awardees	84,963	30,117	35.45%	$ 13,651.98	12,993	43.14%	$ 26,656.96	9,315	30.93%	$31,404.02

First Year Out (FY 2003)										
	Total Students	*# Worked all 4 qrts/ all 3 yrs*	*% Worked 4 Qrtrs/ all 3 yrs*	*Median Annual earnings*	*# Earning $15,885 or more*	*% Earning $15,885 or more*	*Median Annual earnings $15,885+*	*# Earning $21,152 or more*	*% Earning $21,152 or more*	*Median Annual earnings $21,152+*
All Students	95,349	34,446	36.13%	$ 17,037.49	18,464	53.60%	$ 26,462.87	13,209	38.35%	$31,117.39
Awardees	10,386	4,329	41.68%	$ 20,549.52	2,852	65.88%	$ 26,173.87	2,079	48.02%	$30,043.60
Non-Awardees	84,963	30,117	35.45%	$ 16,451.38	15,612	51.84%	$ 26,522.48	11,130	36.96%	$31,370.63

Third Year Out (FY 2005)										
	Total Students	*# Worked all 4 qrts/ all 3 yrs*	*% Worked 4 Qrtrs/ all 3 yrs*	*Median Annual earnings*	*# Earning $15,885 or more*	*% Earning $15,885 or more*	*Median Annual earnings $15,885+*	*# Earning $21,152 or more*	*% Earning $21,152 or more*	*Median Annual earnings $21,152+*
All Students	95,349	34,446	36.13%	$ 23,930.29	25,072	72.79%	$ 29,300.08	19,904	57.78%	$32,873.31
Awardees	10,386	4,329	41.68%	$ 27,998.28	3,618	83.58%	$ 31,099.76	3,025	69.88%	$33,769.33
Non-Awardees	84,963	30,117	35.45%	$ 23,317.29	21,454	71.24%	$ 29,002.56	16,879	56.04%	$32,696.11

$15,885=half of the average earnings of employees of all private businesses in Iowa in 2004 (possible proxy for full-timeness)

$21,152=half of the average earnings of manufacturing workers in Iowa in 2004 (possible proxy for full-timeness)

DRAFT: Should not be disseminated to public.

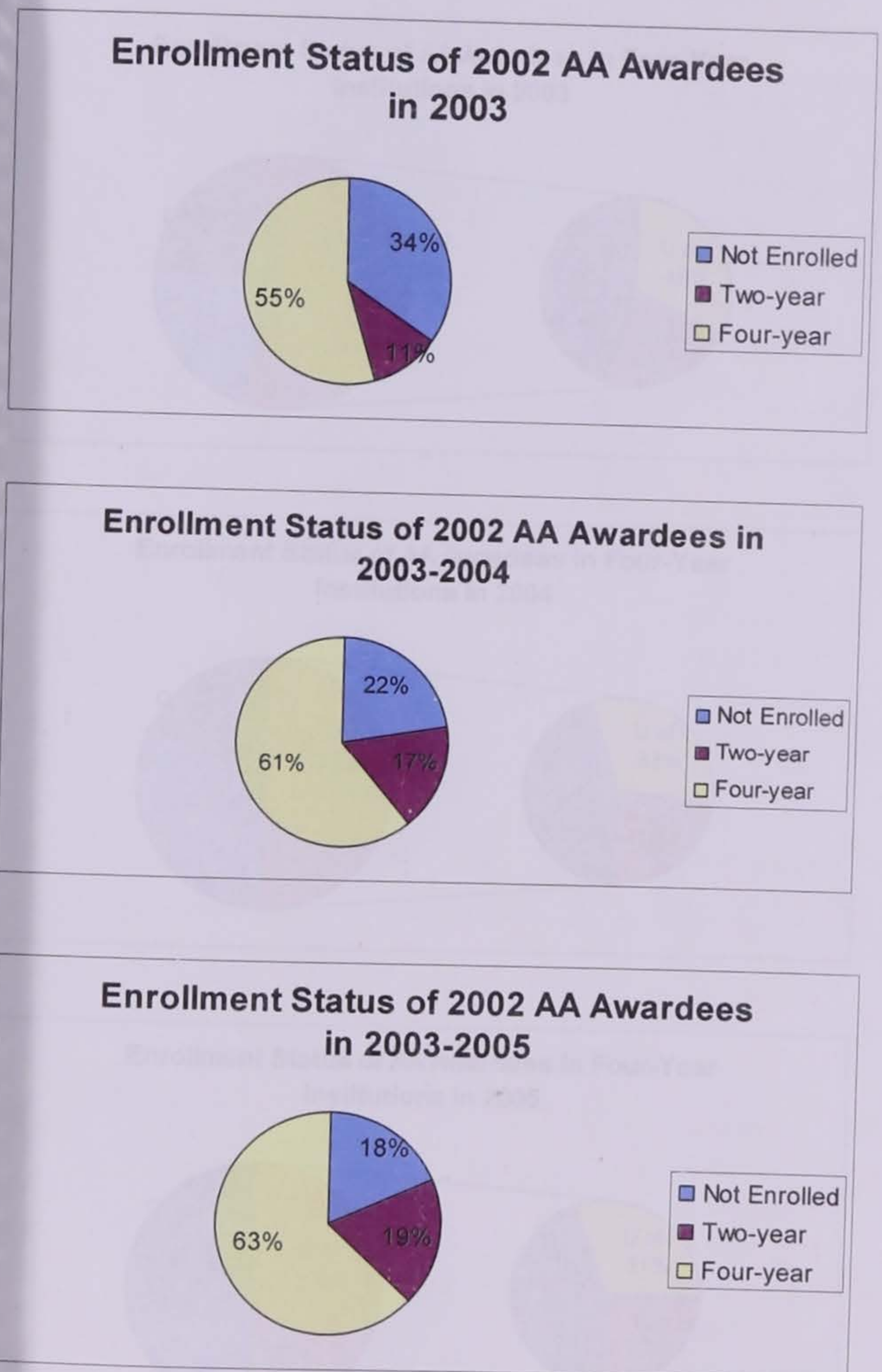
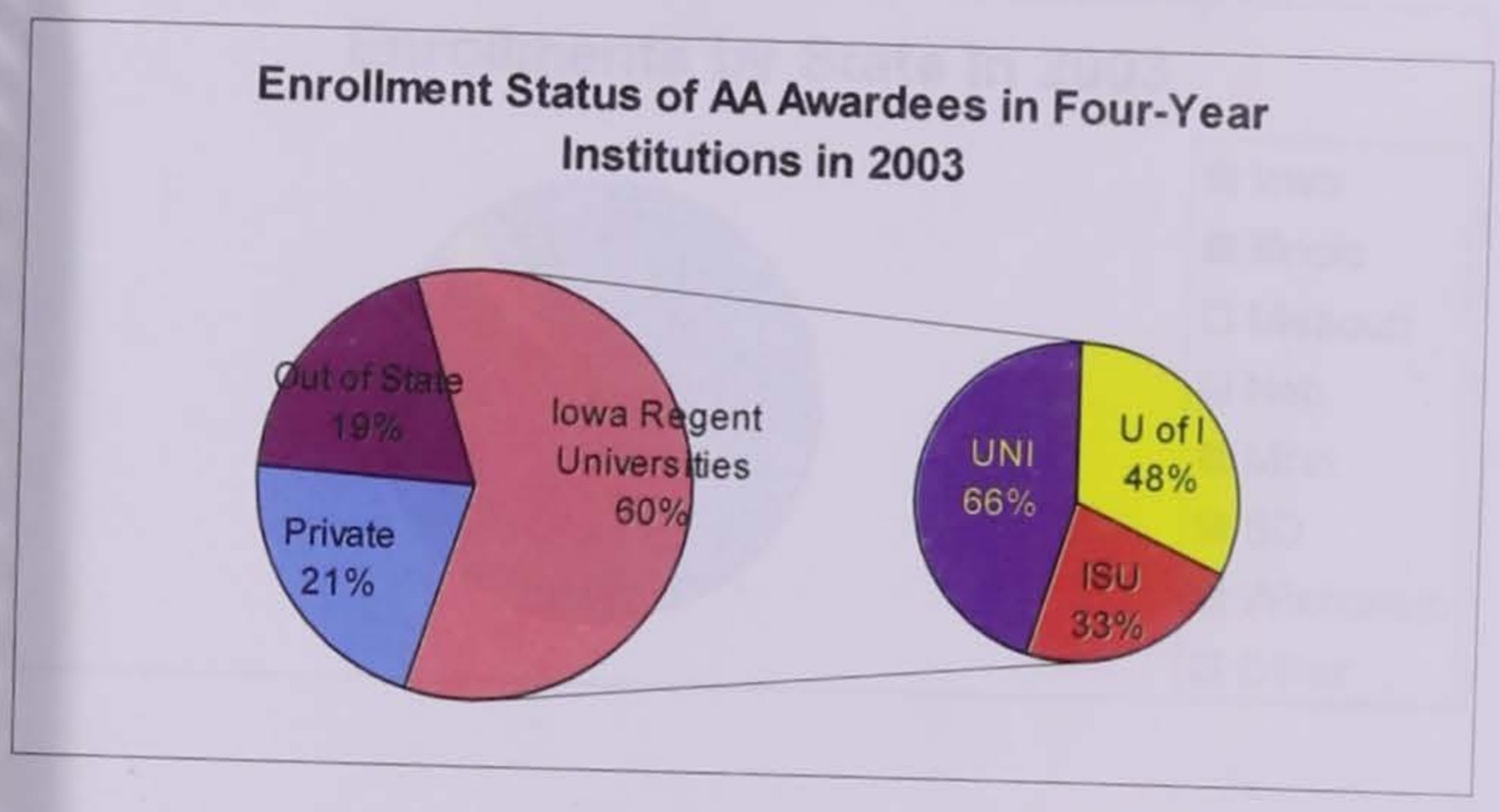
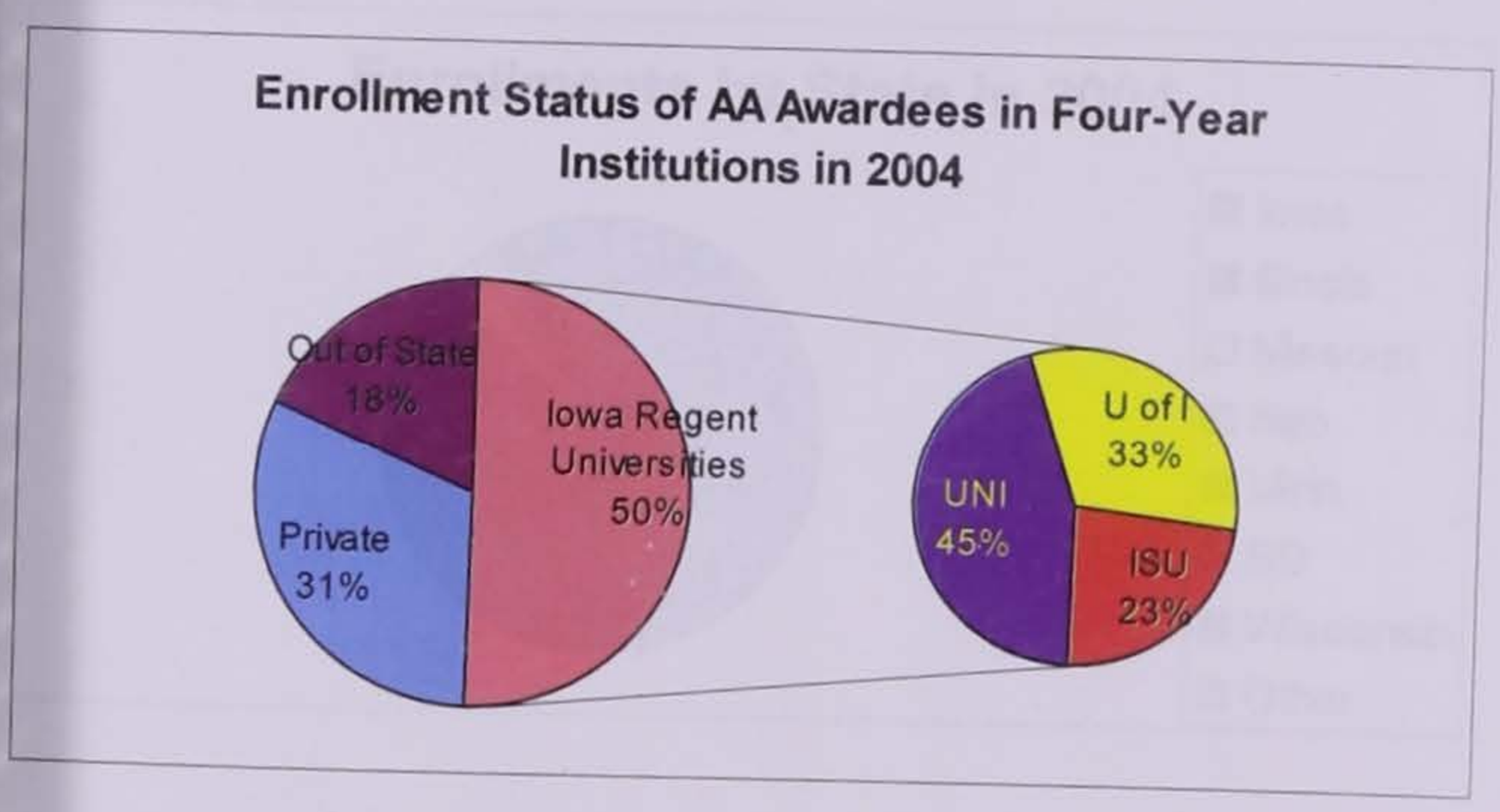


Figure 1. Enrollment status of 2002 AA awardees in 2003, 2003-2004, and 2003-2005.





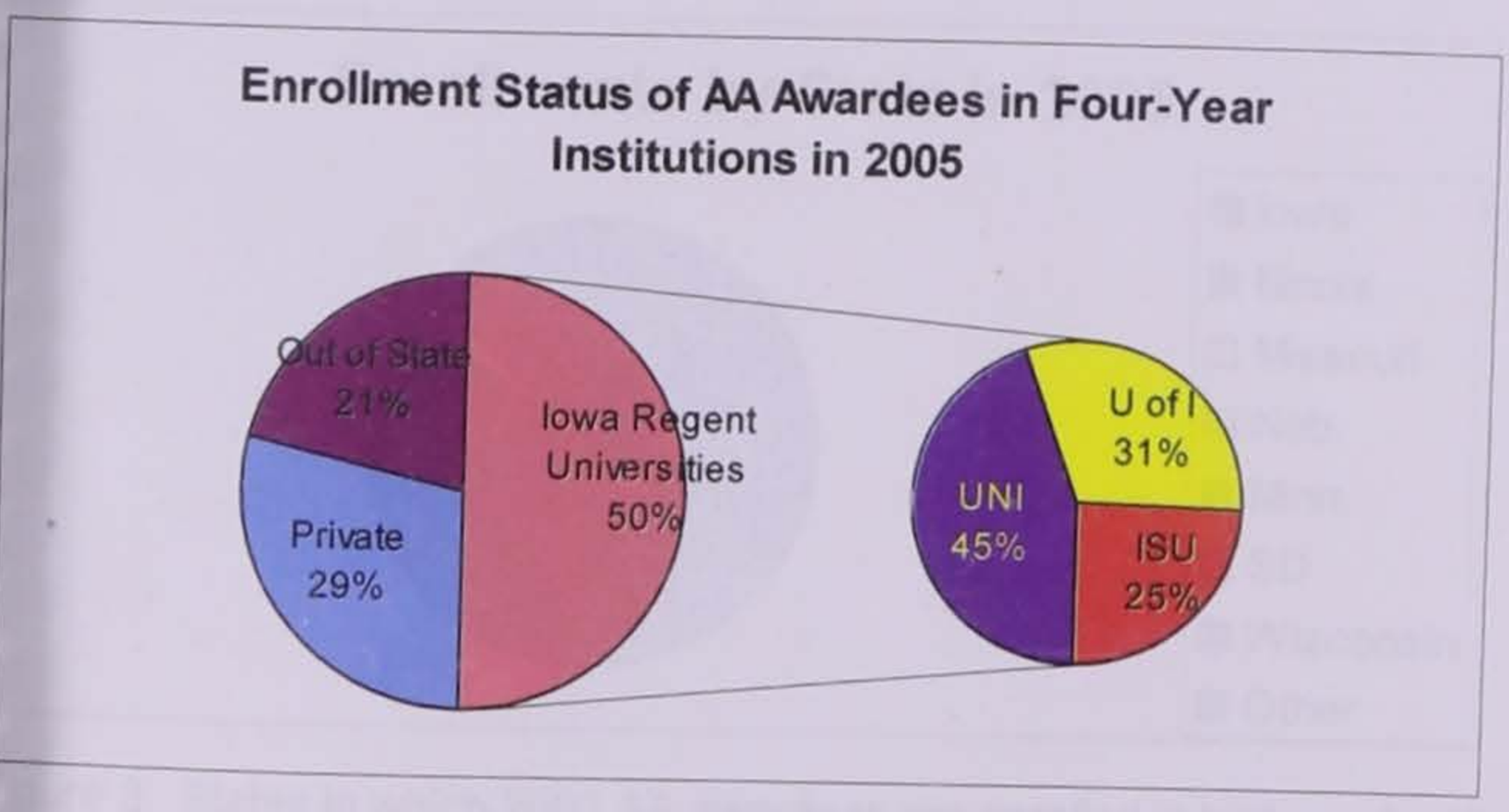
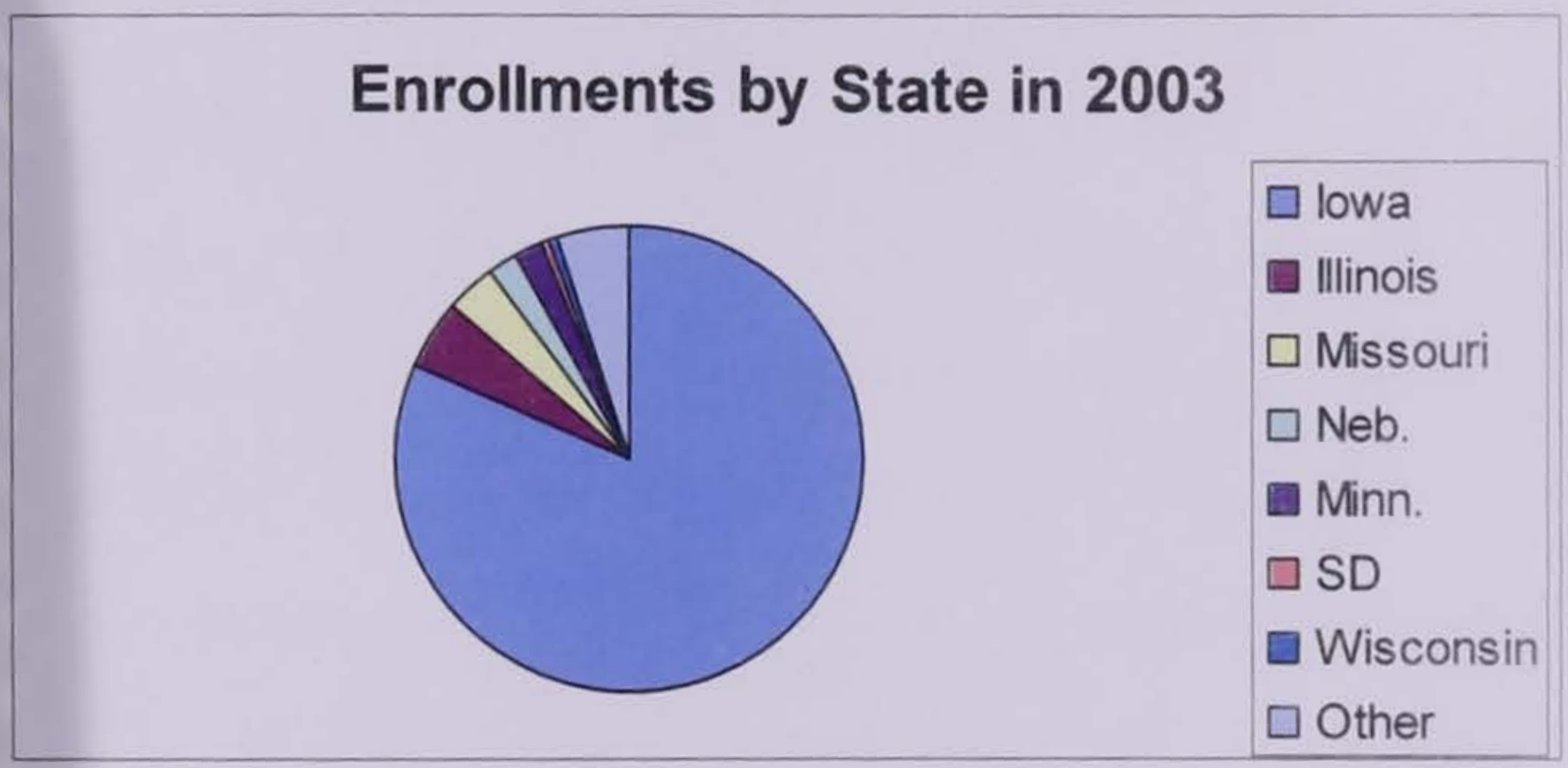
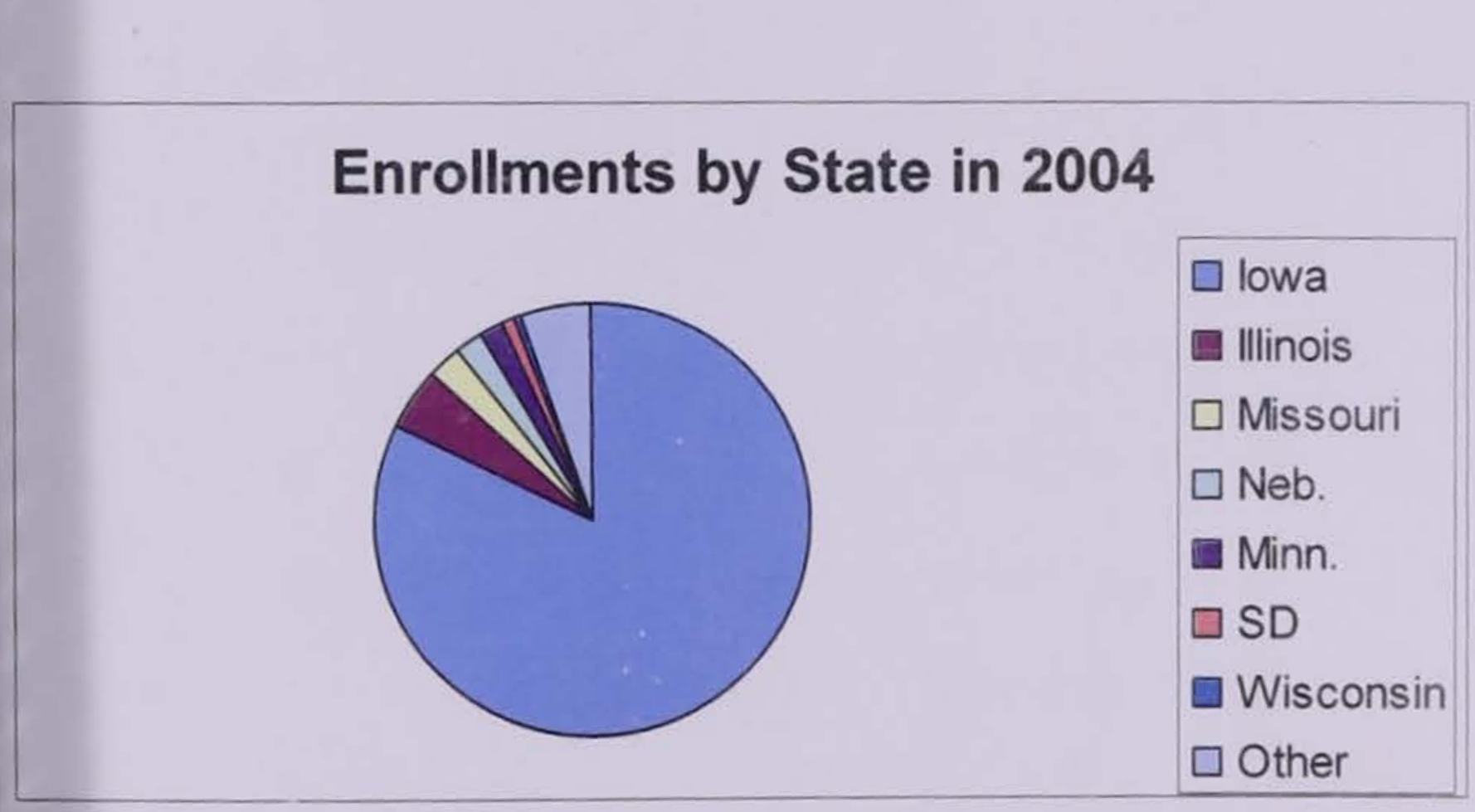


Figure 2. Percent of AA awardees enrolled in four-year institutions in 2003, 2004, and 2005.





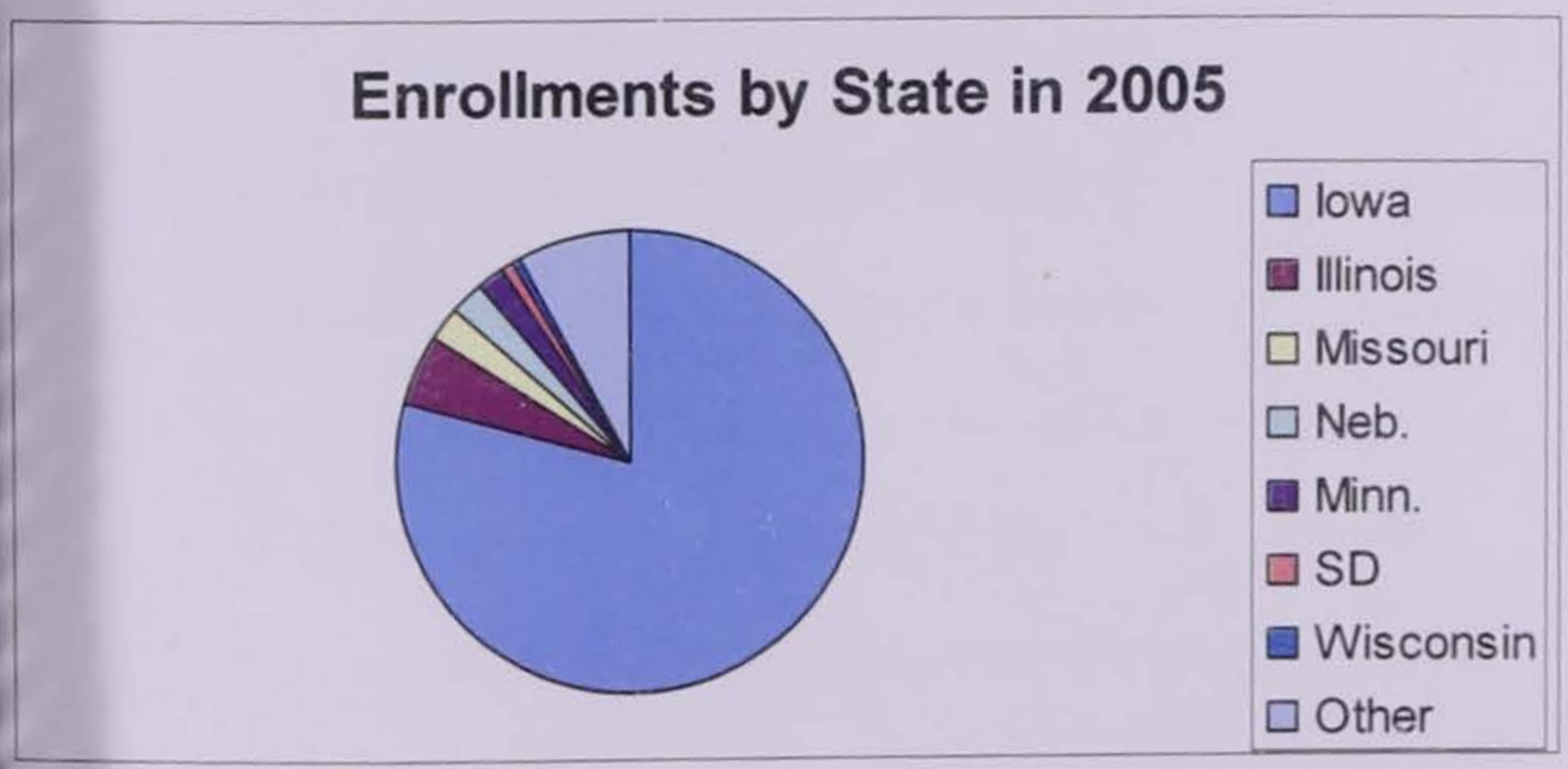


Figure 3. States in which 2002 AA awardees are enrolled in higher education in 2003, 2004, and 2005.

PROPOSED FUTURE INITIATIVES AND RECOMMENDATIONS

We recommend pursuing the following objectives for Fiscal Year 2007 (July 1, 2006-June 30, 2007):

- Thorough analyses and interpretation of the data;
- Establishment of advisory committee early in the project period; and
- Workshops with community college and high school CTE practitioners on the use of the UI data and Labor Market Information (LMI) data

Analysis of Data

Our primary objective for fiscal year 2007 will be to create a comprehensive and reliable analysis and interpretation of the post-college earnings of Iowa community college leavers and completers. The analyses will be conducted using the methodology report as a guide (see Tab 4 for complete methodology report). The analysis of data will be intended as a continuation of the first objective of the workplan: "to develop the methodology to match Iowa Community College students' educational data with the Iowa Department of Labor to assess students' postcollege earnings."

Analyses will be conducted using three approaches:

1. A ***longitudinal approach*** will identify retention in employment for one cohort of individuals who have worked all four quarters of the three years of analysis. The longitudinal analysis will disaggregate CTE students by federal and state career clusters.
2. A ***quasi-longitudinal approach*** will identify retention in employment for those who were employed all four quarters of a selected pair of years

(e.g., those who worked all four quarters of FY2002 and FY 2005). The quasi-longitudinal approach will disaggregate students by federal and state clusters and student demographic characteristics such as gender, race/ethnicity, and age.

3. A ***cross-sectional approach***, which will include the largest number of individuals, will identify employment for those who worked all four quarters of any of the three years. For the cross-sectional approach we will analyze employment by federal and state CTE clusters, student demographic characteristics, and individual CTE programs.

Initial data analysis will be conducted on the statewide sample. Follow-up analyses will be conducted for each community college district. The individual community college analyses will only be provided to the community colleges for their own use. Any disaggregated analyses with fewer than 5 cases will be suppressed for all reporting purposes to maintain confidentiality.

Establishment of Advisory Committee

In order to analyze the data in a way that is meaningful to community college practitioners in the state of Iowa, it is essential that an advisory committee be established within the early part of fiscal year 2007. This will provide important input from the community college field and will foster a collaborative atmosphere between the Department of Education, the Iowa State University research team, and the Iowa community colleges. Establishment of an advisory committee was one of the sub-objectives of the first objective of the workplan.

Dissemination

Another objective for the 2007 fiscal year will be dissemination of research in the form of policy reports, research papers, presentations and other materials. Dissemination efforts will be developed for diverse audiences. Statewide reports will be created for all constituents in Iowa, including community colleges, policymakers, administrators, and others. Institutional reports will be prepared for each of the individual colleges and provided only to those colleges. These analyses will be disaggregated by program level.

In addition, we will provide workbooks and resource materials for professional development workshops. We will continue to maintain and promote the website for community college practitioners, administrators, and policymakers. Finally, we will administer a CTE listserve to facilitate discussion among practitioners, policymakers, and administrators.

Conducting Workshops with Practitioners

The goal of providing workshops with the community college and high school CTE faculty and administrators is two-fold. First, we recommend that workshops be conducted to aid these practitioners in the use of labor market information for program improvement. Second, we recommend that workshops be conducted to help practitioners interpret results of the study for their specific programs. It is important that community college and high school faculty and administrators are able to take the data and results that have been gathered for each district and interpret those data within their

local context. The workshops will be in partial fulfillment of the third and fourth objectives of the initial workplan:

- To develop and implement statewide professional development technical assistance to Iowa Community Colleges in accessing, formatting, and analyzing Perkins Vocational Education Core Indicators data for program improvement and increasing student success.
- To create staff development workshops for secondary and postsecondary Career and Technical (CTE) faculty in the use of current CTE research and labor market data for system and program improvement.

In addition to the workshops, workbooks will be created which will be disseminated to workshop participants and other interested individuals. The workbooks will contain information and instructions to help practitioners to apply labor market information (LMI) and UI wage data to their local context for the purpose of program improvement.

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