

# Performance Indicators Task Force Proposal and Recommendations February 3, 2006

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## Introduction

Article 2, Part,2, Section 242 of Public Act 154 of 2005 established a Community College Task Force "to review, evaluate, discuss, and make recommendations regarding performance indicators to be utilized in future budget years to guide decisions regarding state funding to community colleges." (See Appendix A) It was charged with submitting a report to the House and Senate Appropriations Subcommittees on Community Colleges, the House and Senate Fiscal Agencies, and the State Budget Director on:

1. The *most appropriate and reliable performance indicators* to be utilized to guide decisions on state funding to community colleges
2. The *most efficient methodology for connecting state funding to those indicators.*

The Task Force was formed in October, 2005. Eight members were appointed to the group, two members of the Michigan House of Representatives, two members of the Michigan Senate, and four members representing Michigan's 28 community colleges; and one from each of four groups defined in the activities classification structure data book (Appendix B).It met six times over a five-month period to discuss issues related to its legislative charge.

The group's deliberations produced a model designed to fulfill the state's desire for a mechanism to measure community colleges' performance while sustaining the viability of Michigan's 28 community colleges.

## Mission of Community Colleges

Although the role of community colleges in the 21<sup>st</sup> century is evolving, the mission remains constant. Community colleges are a value added proposition because they are accessible and affordable, because they are an engine of local economic development, and because they are an essential part of the education pipeline. The following attempts to reduce the mission statements of 28 community colleges to three categorical functions. (Appendix C – Mission Crosswalk)

### ***Access and Affordability***

Community colleges provide more economical choice by receiving local property tax revenue which allows community colleges to offer a 61% savings per credit hours over universities, for those persons seeking post-secondary education. Local colleges with an inclusive admission policy, provide comprehensive educational services which enhance occupational or transfer opportunities.

### ***Transfer Function***

The role of community colleges in the "educational pipeline" to baccalaureate, graduate, and professional degrees is critical. The state (nor its citizens) would be able to achieve full educational potential without the more than 420,000 persons in Michigan's community colleges.

## ***Economic Development***

The preparation of a trained workforce, the retraining of displaced workers, the reintroduction of individuals to the world of work, the contribution to life-long learning, are all part of this mission element. Assisting in the development of economic opportunities within the local community and preparing individuals for “horizon jobs” continues this thrust.

Research reinforces the powerful contribution community colleges make in the attainment of postsecondary education. Consider the following data from a recent report issued by the U.S. Department of Education (Adelman, 2005).

- Completion of at least 10 credits at a two- or four-year college results in a 5-8% increase in earnings.
- More than 60% of traditional-age undergraduates attend more than one institution at a time.
- 40% of traditional age students begin their college careers at community colleges.
- 60% of students age 24 and older begin their college careers at community colleges.
- 25% of students who begin college at four-year institutions transfer back to community colleges.
- Over a 30-year period, enrollment in community colleges by the lowest socio-economic quartile increased from 44-55%.

## **Performance Indicator Research and Review**

Through research and discussion, the Task Force investigated trends in performance accountability funding. The number of states using performance funding is in decline because states do not have enough money to support the system. Performance accountability systems used by states to fund higher education do not provide consistent evidence of improvement (Burke & Minassians, 2003). With this knowledge, the team worked to avoid some of the risks and pitfalls inherent in performance-based funding.

The group considered, reviewed, and discussed the viability of a number of possible indicators and metrics that might be used in a performance-based funding model. Seventeen metrics were reviewed by the committee directly. (Appendix D)

Three categorical indicators were agreed upon with a number of metrics that could be applied in each category to verify performance. Therefore:

**The recommendation of this Task Force is to adopt a funding formula that consists of three indicator categories and a number of metrics to verify the indicators.**

The following table contains the **RECOMMENDED** formula model accompanied by the cost to the state to meet that obligation.

## Recommended Proposal

The recommended model assumes the desirability of eventually restoring the \$40 million loss that community colleges experienced since 2001. For illustrative purposes this model involves restoring half that amount or \$20 million. **This is a first-year funding formula** with recommended distribution percentages based on a 50/50 split of the \$20 million dollars between sustaining the system by growing each institution's base and allocating funds by a performance-based model. **This exhibit shows the total dollar impact of implementing this formula.**

Performance Indicators for Community Colleges Suggested Model	First-Year System Amount (Detailed in Exhibit 2)
<p><b>1. Enrollment and Business Efficiency</b> Funding weight based on:</p> <p>17.5%      ✓ Total number of student contact hours as measured by a running two-year average</p> <p>                  ✓ Proportion of GOF allocated for administrative costs based on ACS definition</p>	\$3,500,000**
<p>17.5%      <b>2. Completion</b> Funding weight based on:</p> <p>                  ✓ The number of successful course completions (passing grade or credit given)</p> <p>                  ✓ Subtotals of course completions in high cost areas</p> <p>                  ✓ Total number of graduates, two-year average (IPEDS or better data)</p>	\$3,500,000**
<p>15%        <b>3. Local Strategic Value</b> This is an illustrative list; other items may be added. A college could meet this performance objective by addressing three metrics from the total list. (See Appendix E)</p> <p>                  ✓ Number of continuing education students</p> <p>                  ✓ Number of cooperative arrangements with baccalaureate institutions including, where applicable, university centers</p> <p>                  ✓ Number of strategic partnerships with businesses</p> <p>                  ✓ College sponsored Arts and Culture</p>	\$3,000,000**
<p><b>System Sustainability</b> After four years of budget reductions, it is imperative that the community college system in Michigan achieve and maintain stability. The 2005-06 college allocations should be considered minimum base funding and allocated in their entirety to each college. Further, this base should be increased by an inflationary factor each year.</p>	\$275,104,700*
<b>Total First Year System Amount</b>	<b>\$295,104,700</b>

\* Current total community college appropriation (excludes categoricals)

\*\* These amounts demonstrate how \$10 million, of the \$20 million requested, would apply to performance indicators.

### Calculation of System Distributions

Data Sources: ACS 2003-2004 Data Book and Companion Table 13 and IPEDS Awards Reports 2002-03 & 2003-04

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	2001-02	2005-06	Reduction in Annual Funding Since 2001-02	50% Distribution Proportionate to Column (2)	Proportion of 2 Year Average CHES	Proportion of 2 Year Average Degrees & Certificates	Local Strategic Value Proportionate to Column (2)	Total Projected Distribution	Remaining Reduction in Annual Funding Since 2001-02
Alpena	\$ 5,311,973	\$ 4,777,100	\$ 534,873	\$ 173,647	\$ 36,142	\$64,526	\$52,094	\$5,103,509	\$208,464
Bay de Noc	5,129,944	4,618,500	511,444	\$ 167,882	\$ 46,180	\$71,584	\$50,364	\$4,954,510	\$175,434
Delta	14,813,864	12,917,100	1,896,764	\$ 469,534	\$177,696	\$214,416	\$140,860	\$13,919,606	\$894,258
Glen Oaks	2,485,512	2,167,100	318,412	\$78,774	\$ 27,750	\$44,810	\$23,632	\$2,342,066	\$143,446
Gogebic	4,365,123	3,951,500	413,623	\$ 143,636	\$ 19,288	\$31,442	\$43,091	\$4,188,957	\$176,166
Grand Rapids	18,633,380	16,247,500	2,385,880	\$ 590,593	\$232,408	\$175,431	\$177,178	\$17,423,110	\$1,210,270
Henry Ford	22,708,494	19,800,700	2,907,794	\$ 719,751	\$205,052	\$212,512	\$215,925	\$21,153,940	\$1,554,554
Jackson	12,570,441	10,960,800	1,609,641	\$ 398,423	\$ 96,139	\$87,156	\$119,527	\$11,662,044	\$908,397
Kalamazoo	12,825,971	11,183,600	1,642,371	\$ 406,522	\$170,185	\$157,843	\$121,956	\$12,040,106	\$785,865
Kellogg	10,076,975	8,786,700	1,290,275	\$ 319,395	\$ 98,365	\$127,746	\$95,818	\$9,428,024	\$648,951
Kirtland	3,058,415	2,666,800	391,615	\$96,938	\$ 30,926	\$53,511	\$29,081	\$2,877,255	\$181,160
Lake Michigan	5,423,461	4,728,900	694,561	\$ 171,895	\$ 78,937	\$64,937	\$51,568	\$5,096,238	\$327,223
Lansing	32,223,042	28,097,100	4,125,942	\$ 1,021,324	\$302,582	\$398,809	\$306,397	\$30,126,212	\$2,096,830
Macomb	34,381,003	29,978,600	4,402,403	\$ 1,089,716	\$368,467	\$435,778	\$326,915	\$32,199,476	\$2,181,527
Mid Michigan	4,586,420	3,999,100	587,320	\$ 145,366	\$ 53,460	\$42,121	\$43,610	\$4,283,657	\$302,763
Monroe	4,462,223	3,890,800	571,423	\$ 141,430	\$ 63,312	\$56,983	\$42,429	\$4,194,954	\$267,269
Montcalm	3,227,530	2,814,300	413,230	\$ 102,299	\$ 26,266	\$34,242	\$30,690	\$3,007,797	\$219,733
Mott	16,291,459	14,205,400	2,086,059	\$ 516,363	\$184,025	\$121,585	\$154,909	\$15,182,282	\$1,109,177
Muskegon	9,271,134	8,083,900	1,187,234	\$ 293,848	\$ 88,721	\$62,398	\$88,154	\$8,617,021	\$654,113
North Central	3,140,212	2,738,100	402,112	\$99,529	\$ 31,946	\$23,600	\$29,859	\$2,923,034	\$217,178
Northwestern	9,460,166	8,248,900	1,211,266	\$ 299,846	\$ 83,481	\$55,564	\$89,954	\$8,777,745	\$682,421
Oakland	21,687,988	18,910,900	2,777,088	\$ 687,407	\$318,648	\$255,417	\$206,222	\$20,378,594	\$1,309,394
Saint Clair	7,264,610	6,334,300	930,310	\$ 230,251	\$ 77,036	\$135,998	\$69,075	\$6,846,661	\$417,949
Schoolcraft	12,728,740	11,098,900	1,629,840	\$ 403,443	\$178,693	\$49,889	\$121,033	\$11,851,957	\$876,783
Southwestern	6,832,843	5,958,000	874,843	\$ 216,572	\$ 50,191	\$85,176	\$64,972	\$6,374,911	\$457,932
Washtenaw	12,937,228	11,280,600	1,656,628	\$ 410,048	\$218,985	\$292,908	\$123,014	\$12,325,555	\$611,673
Wayne	17,223,721	14,582,200	2,641,521	\$ 530,060	\$210,546	\$117,365	\$159,018	\$15,599,189	\$1,624,532
West Shore	2,382,344	2,077,300	305,044	\$75,509	\$ 24,759	\$26,251	\$22,653	\$2,226,473	\$155,871
<b>TOTAL</b>	<b>\$315,504,216</b>	<b>\$275,104,700</b>	<b>\$40,399,516</b>	<b>\$10,000,000</b>	<b>\$3,500,185</b>	<b>\$3,500,000</b>	<b>\$3,000,000</b>	<b>\$295,104,885</b>	<b>\$20,399,331</b>

## Explanation

Columns appearing on the previous page are calculated as follows:

Column	Explanation								
1)	2001-02 community college base appropriation from that fiscal year.								
2)	2005-06 community college base appropriation from that fiscal year.								
3)	Reduction in state appropriations to community colleges over the period from 2001-02 to 2005-06.								
4)	Prorate 50% of the \$20 million increase according to the percentage of system funding each college has in column 2.								
5)	Allocate 17.5% of the \$20 million increase based on each college's share of the two-year CHES average.								
6)	<p>Allocate 17.5% of the \$20 million increase based on each college's share of the weighted Degree and Certification production. Weighting is accomplished by the following:</p> <table style="margin-left: 40px;"> <tr> <td>General and Business</td> <td>1</td> </tr> <tr> <td>Natural Sciences</td> <td>2</td> </tr> <tr> <td>Engineering/Technology</td> <td>4</td> </tr> <tr> <td>Health</td> <td>4</td> </tr> </table> <p>The Senate and House Appropriations Subcommittees on Community Colleges should consider using a two-year average to smooth year-to-year variability.</p> <p>These categories are derived from Federal CIP (Classification of Instructional Programs) Codes. (See Appendix F)</p>	General and Business	1	Natural Sciences	2	Engineering/Technology	4	Health	4
General and Business	1								
Natural Sciences	2								
Engineering/Technology	4								
Health	4								
7)	Allocate 15% of the \$20 million increase to Local Strategic Value. In this example it is distributed proportionate to the base funding amounts.								
8)	Total of all distributions in the first year.								
9)	Lists the amount of the reduction in column (3) that is still unfunded.								

The proposed model provides the following advantages and disadvantages:

### **Advantages**

1. Considers and supports the mission of community colleges.
2. Does not redistribute base funding from one community college to another.
3. Recognizes that variable revenue sources are insufficient in and of themselves to support all of the individual colleges.
4. Links performance in Enrollment and Degree/Certificate Generation with funding.
5. Links funding to local strategic initiatives which are critical to regional economic development.
6. Supports the attainment of Michigan's education and economic goals.

### **Disadvantages**

1. It does not provide clear planning parameters for colleges in the way that a fixed payment for a defined "unit result" does.
2. It does not provide guidance for future aggregate state funding responsibilities.
3. It does not take into consideration the loss of property tax revenue that some community colleges experience as a result of government-owned land within their community college districts.

### **Conclusion**

The Task Force recommends the adoption of the proposed funding formula by the full House and Senate Appropriations Committees. The Task Force believes the proposed formula moves the state in a new direction and positions Michigan to be in the forefront of states facing difficult funding challenges.

There are certain details that the committee realizes have not yet been addressed. These issues include:

1. Developing standardized definitions of metrics and identifying a checklist of acceptable "local strategic value activities."
2. Developing and defining a data collection and reporting process.
3. Revisiting the formula on an annual basis to determine overall effectiveness, weaknesses, and opportunities for improvement.
4. Whether the state should gradually transition to full performance-based funding.

All members of the Community College Task Force recognized the importance of this work and the weighty responsibility accompanying it. This report is submitted with the full belief that a funding architecture built on equity, sustainability, and accountability will ensure that Michigan's community colleges can fulfill their role as vital and dynamic contributors to Michigan's 21<sup>st</sup> century higher education enterprise.

## **Appendix A: Public Act No. 154, Enrolled House Bill No. 4831, Article 2 Community Colleges, Part 2 Provisions Concerning Appropriations, Section 242**

Sec. 242. (1) A task force shall be formed by October 15, 2005 to review, evaluate, discuss, and make recommendations regarding performance indicators to be utilized in future budget years to guide decisions regarding state funding to community colleges. The task force shall consist of the following members:

(a) Two members of the Michigan house of representatives. One member shall be designated by the speaker of the house, and 1 member shall be designated by the house minority leader.

(b) Two members of the Michigan senate. One member shall be designated by the senate majority leader, and 1 member shall be designated by the senate minority leader.

(c) Four representatives of Michigan public community colleges. The Michigan community colleges association shall designate 1 representative from each of the 4 groups described in the activities classification structure data book published by the department of labor and economic growth under section 501.

(2) The task force described in subsection (1) shall consider at least all of the following performance indicators for community colleges in performing its duties under subsection (1):

(a) Total number of degrees and certificates awarded and subtotals of degrees and certificates awarded in high-cost areas.

(b) Total number of student contact hours provided and subtotals of student contact hours provided in high-cost areas.

(c) Expenditures for administration as a percentage of total operating fund expenditures.

(d) Licensure, certification, and registry exam pass rates and the number of individuals obtaining licensure or certification or passing a registry exam.

(e) Degree and certificate completion rates.

(f) Student transfer rates.

(g) Performance at transfer institutions.

(h) Student goal attainment.

(i) Placement and wage rates.

(j) Number of dual enrollment participants.

(k) Number of individuals participating in employer-sponsored training.

(3) The task force described in subsection (1) shall submit a report containing its findings and recommendations on the following topics to the house and senate appropriations subcommittees on community colleges, the house and senate fiscal agencies, and the state budget director by February 1, 2006:

(a) The most appropriate and reliable performance indicators to be utilized to guide decisions on state funding to community colleges.

(b) The most efficient methodology for connecting state funding to those indicators.

(4) The department of labor and economic growth shall work with the task force to establish mechanisms to collect and verify data for any indicators that the task force recommends but for which reliable data are not currently available.

(5) It is the intent of the legislature that state funding to community colleges will be based partially or wholly on performance indicators in future budget years.

## **Appendix B:** Community College Task Force Members

Representative Darwin Booher – Chair  
*102<sup>nd</sup> House District*

Dr. Conway Jeffress  
*President, Schoolcraft College*

Senator Ron Jelinek  
*21<sup>st</sup> Senate District*

Dr. Albert Lorenzo  
*President, Macomb Community College*

Mr. Timothy Nelson  
*President, Northwestern Michigan College*

Representative Michael Sak  
*76<sup>th</sup> House District*

Senator Michael Switalski  
*10<sup>th</sup> Senate District*

Dr. Gary Wheeler  
*President, Gogebic Community College*

**Appendix C: Study of Michigan Community Colleges' Missions, Visions, Values and Goals**

<b>Community College</b>	<b>City</b>	<b>Size</b>	<b>Access</b>	<b>Affordability</b>	<b>Economic Development</b>	<b>Transfer Function</b>
Alpena Community College	Alpena	1,853			X	X
Bay de Noc Community College	Escanaba	2,355			X	X
Delta College	University Center	10,459	X		X	X
Glen Oaks Community College	Centreville	1,493	X		X	X
Gogebic Community College	Ironwood	959	X	X	X	X
Grand Rapids Community College	Grand Rapids	14,144			X	X
Henry Ford Community College	Dearborn	12,712			X	
Jackson Community College	Jackson	5,837	X		X	X
Kalamazoo Valley Community College	Kalamazoo	10,634	X		X	
Kellogg Community College	Battle Creek	5,647	X		X	
Kirtland Community College	Roscommon	1,873	X		X	X
Lake Michigan College	Benton Harbor	4,155	X		X	
Lansing Community College	Lansing	19,471	X	X	X	
Macomb Community College	Warren	20,471	X	X	X	X
Mid Michigan Community College	Harrison	3,232	X	X	X	X
Monroe County Community College	Monroe	4,177			X	X
Montcalm Community College	Sidney	2,080			X	X
Mott Community College	Flint	10,328	X	X		X
Muskegon Community College	Muskegon	4,797	X		X	X
North Central Michigan College	Petoskey	2,699	X		X	
Northwestern Michigan College	Traverse City	4,609			X	X
Oakland Community College	Bloomfield Hills	24,296	X	X	X	X
Schoolcraft College	Livonia	10,213	X		X	
Southwestern Michigan College	Dowagiac	2,777	X	X		
St. Clair County Community College	Port Huron	4,193	X	X	X	
Washtenaw Community College	Ann Arbor	12,022	X	X	X	X
Wayne County Community College	Detroit	11,858			X	X
West Shore Community College	Scottville	1,320	X	X	X	

71%

36%

93%

69%

## Appendix D: Performance Indicators Examined

Performance Indicator		Accepted	Rejected	Reason
1.	Degree/Certificates Awarded	X (w/ weights)		Is part of current data collection
2.	Student Contact Hours	X		Is a true measure of enrollment
3.	Expenditures for administration as % of total operating fund expenditures	X		Is a relevant expectation
4.	Licensure, certification, registry exam pass rates		X	
5.	Degree/Certificate Completion Rates		X	Ignores nature of community college market Covered in # 1
6.	Student transfer rate		X	Ignores student goals Difficult to measure with accuracy
7.	Performance at transfer institution		X	Not within the control of the community college
8.	Student goal attainment		X	A constant moving target Multiple goals per student changing over time Cannot measure
9.	Placement and wage rates		X	More a reflection of job markets and availability
10.	Number of dual enrollments		X	Metric would increase need for capacity funding Not a quality measurement
11.	Number of individuals participating in employer-sponsored training		X	Responsibility of employer
12.	Class size		X	No correlation to improved learning Would increase cost of operations
13.	Percentage of population served within the district		X	Cannot be standardized because of diversity of districts Would produce cannibalization of markets with no discernable quality improvement
14.	Course availability		X	Not a measurable metric Is a business decision based on a number of variables
15.	Degrees in critical fields		X	Covered in #1 Strategic investment
16.	Enrollment in non-credit/non-traditional class	X		Part of local strategic value
17.	Research funds		X	Is outside the current mission Should be part of a strategic investment fund

## Appendix E: Possible Metrics

### **Additional Possible Metrics for Local Strategic Value Community College Funding Taskforce**

1. Demonstrate economic value through an economic impact study completed during the past four years
2. Operates a public community radio or television station
3. Partner (either in-kind or direct) in technology transfer or incubation activities
4. Has shared facilities use agreements with regional K-12 organizations
5. Operates an MTEC or advanced technology center
6. Active with local workforce development agencies
7. Operates a University Center
8. Operates a museum or cultural center
9. Operates a community or conference center
10. Has active partnership with local hospital(s)
11. Has active partnership with local businesses
12. Operates a business training/consulting organization
13. Has active partnerships with regional high schools, ISDs , or career tech centers
14. Has active dual enrollment programs
15. Provides college reentry programs (e.g. *Return to Learn*)
16. Operates a regional Procurement Technical Assistance Center

## **Appendix F: Federal CIP (Classification for Instructional Programs) Code Prefixes**

The following table shows the Federal CIP (Classification for Instructional Programs) code prefix and major areas assigned to the weighted degree and certificate calculations used in the proposed model for community college based funding.

### **General Category**

01-Agriculture, agriculture operations, and related sciences.  
04-Architecture and related services.  
05-Area, ethnic, cultural, and gender studies.  
09-Communication, journalism, and related programs.  
13-Education.  
16-Foreign languages, literatures, and linguistics.  
19-Family and consumer sciences/human sciences.  
23-English language and literature/letters.  
24-Liberal arts and sciences, general studies and humanities.  
25-Library science.  
27-Mathematics and statistics.  
30-Multi/interdisciplinary studies.  
31-Parks, recreation, leisure, and fitness studies.  
38-Philosophy and religious studies.  
39-Theology and religious vocations.  
42-Psychology.  
43-Security and protective services.  
44-Public administration and social service professions.  
45-Social sciences.  
50-Visual and performing arts.  
50.04 Design and Applied Art  
54-History

### **Business Category**

11-Computer and information sciences and support services.  
12-Personal and culinary services.  
22-Legal professions and studies.  
52-Business, management, marketing, and related support services.

### **Natural Science Category**

03-Natural resources and conservation.  
26-Biological and biomedical sciences.  
40-Physical sciences.

### **Engineering and Technology Category**

10-Communications technologies/technicians and support services.  
14-Engineering.  
15-Engineering technologies/technicians.  
29-Military technologies.  
41-Science technologies/technicians.  
46-Construction trades.  
47-Mechanic and repair technologies/technicians.  
48-Precision production.  
49-Transportation and materials moving.

### **Health Category**

51-Health professions and related clinical sciences.

## References

- Adelman, C. (2005). *Moving into Town - And Moving On: The Community College in the Lives of the Traditional-Age Student*. Washington, DC: US Department of Education.
- Alfred, R. L. (2001). *Assessment as a strategic weapon*. Ann Arbor, Michigan: Center for Community College Development.
- Association of American Colleges and Universities. (2002). *Greater expectations: A new vision for learning as a nation goes to college*. Washington, DC: Association of American Colleges and Universities.
- Astin, A. W. (1998, July). Remedial education and civic responsibility. *National Crosstalk*, 6, 8.
- Bailey, T., Alfonso, M., Calcagno, J. C., Jenkins, D., Kienzl, G., & Leinbach, T. (2004). *Improving student attainment in community colleges: Institutional characteristics and policies*. New York: Community College Research Center, Teachers College, Columbia University.
- Bailey, T. R., & Averianova, I. E. (1998). *Multiple missions of community colleges: Conflicting or complementary?* (Foundation). New York, NY: Alfred P. Sloan Foundation.
- Bailey, T., Calcagno, J. C., Jenkins, D., Kienzl, G., & Leinbach, T. (2005). *The effects of institutional factors on the success of community college students*. New York: Community College Research Center.
- Bailey, T. R., & Smith Morest, V. (2003). *The Organizational Efficiency of Multiple Missions for Community Colleges*. New York: Community College Research Center.
- Banta, T. W. (Ed.). (2002). *Building a scholarship of assessment*. San Francisco: Jossey-Bass.
- Bartlett, W., Roberts, J. A., & Le Grand, J. (Eds.). (1998). *A revolution in social policy: Lessons from the development of quasi-markets in the 1990s*. Bristol, UK: The Policy Press.
- Becker, G. S. (1964). *Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education* (Vol. 80). New York: National Bureau of Economic Research.
- Behn, R. D. (2001). *Rethinking democratic accountability*. Washington, DC: The Brookings Institution.
- Birnbaum, R. (1991). *How colleges work: The cybernetics of academic organization and leadership*. San Francisco: Jossey-Bass.
- Bowles, S., & Gintis, H. (1976). *Schooling in Capitalist America*. New York: Basic Books, Inc.
- Boylan, H. R., & Saxon, D. P. (1999). *Outcomes of remediation: Prepared for the league for innovation in the community college*: National Center for Developmental Education.
- Brewer, D. J. (1999). *How do community college faculty view institutional mission?* New York: RAND and the Alfred P. Sloan foundation.
- Brint, S. G., & Karabel, J. (1989). *The diverted dream: Community colleges and the promise of educational opportunity in America, 1900-1985*. New York: Oxford University Press.
- Brown, P., & Lauder, H. (1996). Education, globalization, and economic development. *Journal of Education Policy*, 11, 1-24.
- Bureau of Labor Statistics. (2004). Education Pays. Retrieved August 12, 2004, from <http://stats.bls.gov/emp/edupays.pdf>
- Burke, J. C. (1998). Performance funding indicators: Concerns, values, and models for state and college universities. *New Directions for Institutional Research* (97), 49-60.
- Burke, J. C. (2002a). Indicator preferences: Acceptability trumps accountability. *New Directions for Institutional Research* (116), 79-95.
- Burke, J. C. (2002b). Measuring down and up: The missing link. *New Directions for Institutional Research* (116), 97-113.
- Burke, J. C., & Associates. (2002). *Funding public colleges and universities for performance: Popularity, problems, and prospects*. Albany, NY: The Rockefeller Institute.
- Burke, J. C., & Minassians, H. P. (2003). *Performance reporting: "Real" accountability or accountability "lite": Seventh annual survey 2003*. Albany: State University of New York, Rockefeller Institute of Government.

- Burke, J. C., & Minassians, H. P. (2004). Implications of state performance indicators for community college assessment. *New Directions For Community Colleges* (126), 53-64.
- Carnevale, A. P., & Desrochers, D. M. (2004). Why Learning? The Value of Higher Education to Society and the Individual. In K. Boswell & C. D. Wilson (Eds.), *Keeping America's Promise* (pp. 1-54). Denver, CO: Education Commission of the States.
- Cherry Commission. (2004). *Final report of the Lt. governor's commission on higher education & economic growth*. Lansing, MI: Michigan Department of Education.
- Clark, B. R. (1992). The "cooling out" function revisited. In J. L. Ratcliff & Association for the Study of Higher Education. (Eds.), *ASHE reader on community colleges* (Rev. ed., pp. 333). Needham Heights, MA: Ginn Press.
- Cohen, A. M., & Brawer, F. B. (2002). *The American community college* (4th ed.). San Francisco: Jossey-Bass Publishers.
- Commission of the European Communities. (2002). *Communication from the Commission. European Benchmarks in Education and Training: Follow-up to the Lisbon European Council*. Brussels, Belgium.
- Conley, P. (1995). The allocation of college admissions. In J. Elster (Ed.), *Local Justice in America* (pp. 25-79). New York: Russell Sage Foundation.
- Council on Competitiveness. (2004). *Innovate America*. Washington, D.C.: Council on Competitiveness.
- Dee, T. S. (2003). *Are There Civic Returns to Education?* Washington, DC: National Bureau of Economic Research.
- DesJardins, S. L., Bell, A., & Puyosa, I. (in press). Michigan public higher education: Recent trends and policy considerations for the coming decade. In R. Ehrenberg (Ed.), *Assessing Public Higher Education at the Start of the 21st Century*.
- Dougherty, K. J., & Hong, E. (2005). *State systems of performance accountability for community colleges: impacts and lessons for policymakers*. Boston, MA: Jobs for the Future.
- Education Commission of the States. (2003). *Closing the College Participation Gap - Michigan*. Denver, CO.
- Education Commission of the States. (2000). *State funding for community colleges: A 50-state survey*. Denver, CO: Center for Community College Policy, Education Commission of the States.
- Employment Policy Foundation. (1997). E-Mail Trends: High Payoff to College Education? Yes, but Field of Study and Cognitive Skill Play a Key Role in Labor Market Outcomes for College Graduates. Retrieved August 12, 2005, from <http://www.epf.org/pubs/newsletters/1997/et971203.asp>
- Friedman, T. L. (2005). *The world is flat: A brief history of the twenty-first century*. New York: Farrar, Straus and Giroux.
- Geiger, R. L. (1993). *Research and relevant knowledge: American research universities since World War II*. New York: Oxford University Press.
- Gieger, R. (1998). The land-grant act and American higher education: Context and consequences. *History of Higher Education Annual*, 18, 5-9.
- Gill, A. M., & Leigh, D. E. (2003). Do the returns to community colleges differ between academic and vocational programs? *Journal of Human Resources*, 38(1), 134-155.
- Grubb, W. N., & Lazerson, M. (2004). *The educational gospel: the economic power of schooling*. Boston, MA: Harvard University Press.
- Grunwald, H., & Peterson, M. (2003). Factors that promote faculty involvement in and satisfaction with institutional and classroom student assessment. *Research in Higher Education*, 44(2).
- Hadden, C., & Davies, T. G. (2002). From innovation to institutionalization: the role of administrative leadership in the assessment process. *Community College Journal of Research and Practice*, 26, 243-260.
- Hall, P. A., & Soskice, D. W. (2001). *Varieties of capitalism: the institutional foundations of comparative advantage*. Oxford [England]; New York: Oxford University Press.
- Harbour, C. P. (2002). The legislative evolution of performance funding in the North Carolina Community College System. *Community College Review*, 29(4), 28-49.

- Harbour, C. P., & Nagy, P. (2005). Assessing a state-mandated institutional accountability program: The perceptions of selected community college leaders. *Community College Journal of Research and Practice*, 29, 445-461.
- Hartley, D. (2003). New economy, new pedagogy? *Oxford Review of Education*, 29(1), 81-94.
- Heidemann, W. (2001). *Knowledge and skills for the new economy: The role of educational policy*. Toronto, Ontario: Labour Education and Training Research Network.
- Heller, D. E. (2001). *The states and public higher education policy: Affordability, access, and accountability*. Baltimore, Md.: Johns Hopkins University Press.
- Henderson, J., & Abraham, B. (2005). *Rural America's Emerging Knowledge Economy*. Kansas City, MO: Center for the Study of Rural America.
- Henry, M. (2001). *The OECD, globalisation, and education policy* (1st ed.). Amsterdam; New York: Published for IAU Press, Pergamon.
- Illinois Community College Board. (2005). *Performance report for fiscal year 2005*. Springfield, Illinois: Illinois Community College Board.
- Insight. (1998). Should colleges have remedial-education programs for students? *Insight / 14, no, 24, 24*.
- Jacobson, D. L. (2005). The new core competence of the community college. *Change*, 37(4), 52-61.
- Jacobson, L., LaLonde, R., & Sullivan, D. G. (2002). *Estimating the Returns to Community College Schooling for Displaced Workers*. Chicago, IL: Federal Reserve Bank.
- Jaquette, O. (2005). *Funding, control, and student success: a comparative study of English further education colleges and California community colleges*. Oxford University, Oxford, UK.
- Johnson, N. (1999). *Mixed economies of welfare: A comparative perspective*. Herfordshire, UK: Prentice Hall Europe.
- Kane, T. J., & Rouse, C. E. (1993). *Labor market returns to two- and four-year college: Is a credit a credit and do degrees matter?* Cambridge, MA: National Bureau for Economic Research.
- Kerr, C., & Gade, M. (1989). *The guardians: Boards of trustees of American colleges and universities, what they do and how well they do it*. Washington, D.C.: Association of Governing Boards.
- Langelett, G. (2002). Human capital: A summary of the 20th century research. *Journal of Education Finance*, 28(Summer), 1-24.
- Legislative Service Bureau. (2005). *Michigan House of Representatives Bill No. 4831*. Lansing, MI: Legislative Service Bureau.
- Leigh, D. E., & Gill, A. M. (1997). Labor market returns to community colleges: Evidence for returning adults. *Journal of Human Resources*, 32(334-353), 1-14.
- Marcotte, D. E., Bailey, T., Borkoski, C., & Kienzl, G. S. (2005). The returns of a community college education: Evidence from the National Education Longitudinal Study. *Educational Evaluation and Policy Analysis*, 27(2), 157-175.
- Mares, I. (2001). Social protection and the formation of skills. In P. A. Hall & D. W. Soskice (Eds.), *Varieties of capitalism: the institutional foundations of comparative advantage* (pp. xvi, 540). Oxford [England]; New York: Oxford University Press.
- Martin, R. R., Manning, K., & Ramaley, J. A. (2001). The self-study as a chariot for strategic change. *New Directions For Higher Education* (113).
- MCCA Presidents Performance Indicator Task Force. (2005). *Funding architecture: Fueling community college performance in the 21st century*. Lansing, MI: Michigan Community College Association.
- McLendon, M. K., & Ness, E. C. (2003). The politics of state higher education governance reform. *Peabody Journal of Education*, 78(4), 66-88.
- Michigan Nonprofit Association, & Council of Michigan Foundations. (2002). *Michigan in brief: Higher education funding*. Retrieved January 3, 2006, from <http://www.michiganinbrief.org/edition07/Chapter5/HigherEd.htm#Exhibits>
- Mintrop, H., Milton, T. H., Schmidlein, F. A., & MacLellan, A. M. (2004). K-16 reform in Maryland: The first steps. In M. W. Kirst & A. Venezia (Eds.), *From high school to college: Improving opportunities for success in postsecondary education* (1st ed., pp. xii, 424 p.). San Francisco, CA: Jossey-Bass.
- Murphy, P. J. (2004). *Financing California's community colleges*. San Francisco, CA: Public Policy Institute of California.

- Nanotechnology News. (2005). *Nanoparticles may help tackle weight loss and obesity*. Retrieved January 1, 2006, from <http://www.azonano.com/news.asp?newsID=1713>
- National Center for Education Statistics. (2004). Integrated Postsecondary Education Data System Retrieved December 20, 2005, from <http://nces.ed.gov/ipeds/cool/>
- National Education Association. (1894). *Report of the committee of ten on secondary school studies*. New York: American Book Company.
- Norris, D. M., & Poulton, S. E. (1997). *Creating a Knowledge Age Vision for Your Community College*. Washington, DC: American Association of Community Colleges.
- North Carolina Community College System. (2005). *2005 critical success factors*. Raleigh, NC: North Carolina Community College System.
- Organisation for Economic Co-operation and Development. (1996). *The Knowledge-Based Economy*. Paris, France.
- Organisation for Economic Co-operation and Development. (1995). The lifelong learner in the 1990s. In D. Atchoarena (Ed.), *Lifelong Education in Selected Industrialized Countries* (pp. 201-215): International Institute for Educational Planning (UNESCO), Paris, and National Institute for Education Research, Tokyo.
- Partnership for 21st Century Skills. (2003). *Learning for the 21st century*. Washington, DC: Partnership For 21st Century Skills.
- Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students: findings and insights from twenty years of research* (1st ed.). San Francisco: Jossey-Bass Publishers.
- Performance Indicator Advisory Committee. (2003). *Establishing performance indicators to assess progress toward meeting the goals of the Illinois commitment: Final recommendations*: Illinois Board of Higher Education.
- Peterson, M., & Augustine, C. (2000). External and internal influences on institutional approaches to student assessment: Accountability or improvement? *Research in Higher Education*, 41(4).
- Peterson, M. W. (1999). The role of institutional research: From improvement to Redesign. *New Directions for Institutional Research*, 1999(104), 83-103.
- President's Commission on Higher Education. (1947). *Higher Education for American Democracy*. New York: Harper & Brothers.
- Richardson, R. C., Bracco, K. R., Callan, P. M., & Finney, J. E. (1999). *Designing state higher education systems for a new century*. Washington, D.C.: American Council on Education/Oryx Press.
- Rifkin, T. (1998). *Improving Articulation Policy to Increase Transfer*. Denver, CO: Education Commission of the States.
- Robison, M. H., & Christophersen, K. A. (2003). *The Socioeconomic Benefits Generated by New Jersey's 19 Community Colleges*. Trenton, NJ: New Jersey State Department of Higher Education.
- Rosenfeld, S. A. (1999). *Linking Measures of Quality and Success at Community Colleges to Individual Goals and Customer Needs*. Paper presented at the Independent Advisory Panel Meeting.
- Salmi, J. (2002, October 30). *Constructing knowledge societies: New challenges for tertiary education in the XXIst century*. Paper presented at the Crossing Borders: Revitalizing Area Studies, University of Michigan.
- Sanchez, F. (2003). Skills for a Knowledge-based Economy. *Leadership*, 33(2), 30-33.
- Sanchez, J. R., & Laanan, F. S. (1997). The economic returns of a community college education. *Community College Review*, 25.
- Sandham, J. L. (1998a, February 18). MA Plan would make districts pay for remediation. *Education Week*.
- Sandham, J. L. (1998b, February 18). New York mayor wants CUNY to drop remedial education. *Education Week*.
- Scharpf, F. (2000). Negative integration: States and the loss of boundary control. In C. Pierson & F. Castles (Eds.), *The Welfare State Reader*. Cambridge, UK: Polity Press.
- Scharpf, F. W. (2002). The European social model: Coping with the challenges of diversity. *Journal of Common Market Studies*, 40(4), 645-670.
- Schultz, T. W. (1961). Investment in Human Capital. *The American Economic Review*, 51(1), 1-17.

- Serban, A. M. (1998). Performance funding criteria, levels, and methods. *New Directions for Institutional Research*, 97, 61-67.
- Shavit, Y., Mèuller, W., & Tame, C. (1998). *From school to work: a comparative study of educational qualifications and occupational destinations*. Oxford New York: Clarendon Press; Oxford University Press.
- Smith Morest, V. (2004). *The academic mission of community colleges: Structural responses to the expansion of higher education*. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA.
- St. John, E. P., & Asker, E. H. (2003). *Refinancing the college dream: Access, equal opportunity, and justice for taxpayers*. Baltimore: Johns Hopkins University Press.
- State of Illinois Board of Higher Education. (2004). *The Illinois Commitment: A policy framework for Illinois higher education*: State of Illinois Board of Higher Education.
- Stedman, J. B. (2003). *The Higher Education Act: Reauthorization Status and Issues*. Washington, DC: Congressional Research Service.
- The College Board. (2001). *Access to Excellence: A Report of the Commission on the Future of the Advanced Placement Program*. New York, NY.
- The Economist. (2005, September 8). Secrets of success. *The Economist*.
- The National Center For Public Policy and Higher Education. (2000). *Measuring up 2000: The state-by-state report card for higher education*. San Jose, California: The National Center for Public Policy and Higher Education.
- The National Center For Public Policy and Higher Education. (2004). *Measuring up 2004 the state report card on higher education: Michigan*. San Jose, California: The National Center for Public Policy and Higher Education.
- Trombley, W. (1998, July). Remedial Education under attack. *National Crosstalk*, 6, 12.
- Tsapogas, J. (2004). *The Role of Community Colleges in the Education of Recent Science and Engineering Graduates*. Washington, DC: National Science Foundation.
- Walsh, K. (1995). *Public services and market mechanisms: Competition, contracting and the new public management*. Basingstoke: Macmillan Press.