

## Joint Legislative Committee on Performance Evaluation and Expenditure Review (PEER)

Report to  
the Mississippi Legislature



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# A Review of the Funds Allocation Process for Mississippi's Community and Junior Colleges

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The Board for Community and Junior Colleges serves as the state-level coordinating agency for Mississippi's community and junior college system. The Legislature created the board in 1986 to receive and distribute funds from the state, federal government, and other sources to the individual colleges.

State law requires the board to audit each community and junior college to determine a student count that is used to allocate funds appropriated by the Legislature. The board's enabling legislation gives it broad authority to require the individual colleges to supply information that the board needs and to compile and produce reports on that information; also, the board's staff has the implied authority to do whatever is necessary to ensure that the count used to allocate funds to the individual colleges is accurate and appropriate.

PEER found that the board does not work with individual colleges to manage class size for maximum efficiency. Because state law requires the board to count enrollment at a point early in the semester and 25% of students drop classes after that point, the board has continued to allocate funds for instruction of students who do not complete the semester. Also, because the board has not provided information regarding inefficiencies related to class size to the Legislature, the Legislature does not have all of the information it needs with which to make decisions regarding wise use of the state's scarce resources.

Concerning the board's auditing of enrollment data of the community and junior colleges, the board does not obtain sufficient, competent evidence to arrive at conclusions regarding the records reviewed. Because the board does not establish an error rate for its statistical samples, it does not provide the most accurate estimate of the student population. Also, by allowing college personnel to perform certain components of the audit, the board has not complied with independence and due professional care standards. Thus the board's current methods of reviewing the colleges' enrollment data do not assure an accurate, appropriate count to serve as the basis for the allocation of funds and the number of students used in the board's formula for allocating funds has most likely been overstated.

June 20, 2006

## **PEER: The Mississippi Legislature's Oversight Agency**

The Mississippi Legislature created the Joint Legislative Committee on Performance Evaluation and Expenditure Review (PEER Committee) by statute in 1973. A joint committee, the PEER Committee is composed of seven members of the House of Representatives appointed by the Speaker and seven members of the Senate appointed by the Lieutenant Governor. Appointments are made for four-year terms with one Senator and one Representative appointed from each of the U. S. Congressional Districts. Committee officers are elected by the membership with officers alternating annually between the two houses. All Committee actions by statute require a majority vote of four Representatives and four Senators voting in the affirmative.

Mississippi's constitution gives the Legislature broad power to conduct examinations and investigations. PEER is authorized by law to review any public entity, including contractors supported in whole or in part by public funds, and to address any issues that may require legislative action. PEER has statutory access to all state and local records and has subpoena power to compel testimony or the production of documents.

PEER provides a variety of services to the Legislature, including program evaluations, economy and efficiency reviews, financial audits, limited scope evaluations, fiscal notes, special investigations, briefings to individual legislators, testimony, and other governmental research and assistance. The Committee identifies inefficiency or ineffectiveness or a failure to accomplish legislative objectives, and makes recommendations for redefinition, redirection, redistribution and/or restructuring of Mississippi government. As directed by and subject to the prior approval of the PEER Committee, the Committee's professional staff executes audit and evaluation projects obtaining information and developing options for consideration by the Committee. The PEER Committee releases reports to the Legislature, Governor, Lieutenant Governor, and the agency examined.

The Committee assigns top priority to written requests from individual legislators and legislative committees. The Committee also considers PEER staff proposals and written requests from state officials and others.

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June 20, 2006

Honorable Haley Barbour, Governor  
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Honorable Billy McCoy, Speaker of the House  
Members of the Mississippi State Legislature

On June 20, 2006, the PEER Committee authorized release of the report entitled **A Review of the Funds Allocation Process for Mississippi's Community and Junior Colleges.**

A handwritten signature in cursive script, reading "Harvey Moss", written over a horizontal line.

Representative Harvey Moss, Vice Chair

**This report does not recommend increased funding or additional staff.**



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# A Review of the Funds Allocation Process for Mississippi's Community and Junior Colleges

## Executive Summary

### Introduction

In response to legislative concerns, the PEER Committee examined the relationship between enrollment and funding at the state's community and junior colleges, including the role of the Board for Community and Junior Colleges in the process.

### Background

Mississippi has fifteen community and junior colleges that operate thirty-three centers, including thirty comprehensive campuses, two vocational-technical centers, and one academic extension center. These facilities provide educational services through academic courses and degrees for transfer to universities and senior colleges; academic, technical, and vocational programs for career goals; and continuing education opportunities. As of June 30, 2005, 92,097 students were enrolled in Mississippi's community and junior college system according to a non-duplicated head count.

The Board for Community and Junior Colleges serves as the state-level coordinating agency for the system. The Legislature created the board in 1986 to receive and distribute funds from the state, federal government, and other sources to the community and junior colleges. Among other powers and duties state law gives to the board, MISS. CODE ANN. Section 37-4-3 (1972) authorizes the board to:

- provide general coordination of the colleges and assemble reports;
- study the needs of the state as they relate to the mission of the community and junior colleges; and,
- require the individual colleges to supply such information as the board may request and compile reports based on that information as the board deems advisable.

Also, each year since the board's creation, the appropriations bills for the community and junior colleges have required the board to audit the colleges' enrollment statistics. The FY 2006 appropriations bill for the community and junior colleges states:

*The Director of the State Board for Community and Junior Colleges, or his designee, shall audit each public community and junior college and shall determine who shall be counted in each college and shall certify the*

## **Description of the Budget Request and Funds Allocation Process for Community and Junior Colleges**

### **Budget Request Process for Community and Junior Colleges**

The budget request process for the community and junior colleges' state funds involves the following steps:

- 1) In April of each budget year, the board's staff sends a questionnaire to each college regarding the projections for the next two fiscal years. The questionnaire requests information such as projections on enrollment, faculty salary increases, the number of new positions needed, and estimated local funding support and revenue from fee increases.
- 2) After the colleges complete the questionnaire, the community and junior college presidents meet in May and June to discuss their funding needs and develop a legislative agenda. The presidents formally agree in the minutes of the Mississippi Association of Community and Junior Colleges on amounts they plan to request from the Legislature.
- 3) Based on the guidelines agreed upon at the presidents' meeting, the individual colleges prepare their budget requests and submit them to the board. The board consolidates these into a single budget request for the community and junior college system, which is submitted to the Legislative Budget Office at the beginning of August.

The total legislative appropriation for community and junior colleges for FY 2005 was \$155,113,312. The board itself receives a separate appropriation.

### **Recent Changes in the Board's Formula for Allocating Funds**

After the Legislature completes its annual appropriations process, the board distributes the funds to the individual colleges based on enrollment data. The individual colleges submit enrollment data to the board, the board audits the data, and the board allocates funds to the individual colleges based on a funding formula.

The formula for the allocation of funds has recently changed based on results of a statutorily required consultant's study of the formula. Until FY 2004, the board allocated funds to community and junior colleges based on an enrollment figure consisting of a head count of students at each individual college. (For purposes of this report, a "head count" is an enrollment figure determined by the individual college and the board at a specified point in the semester.) In 2002, the Legislature passed MISS. CODE ANN. Section 37-4-15 (1972), requiring that the board contract with a

consultant to study the state's funding formula for community and junior colleges and report the findings to the Legislature. The consultant recommended that the board utilize a student enrollment ratio based on full-time equivalent students,<sup>1</sup> rather than on head count of enrollment.<sup>2</sup>

To implement the consultant's recommendation, over a five-year period the board is phasing out use of the enrollment head count as the basis for allocation of funds and phasing in use of the student FTEs as the basis for such. By FY 2008, funding allocation will have totally converted to the use of FTEs.

## **FY 2005 Funds Distributed by the Board to Community and Junior Colleges**

In addition to funds appropriated by the Legislature, the Board for Community and Junior Colleges is also responsible for distributing some federal funds, other state funds, and local funds to the community and junior colleges or on behalf of the colleges. During FY 2005, the board distributed \$206,066,904 to or on behalf of the colleges. The Exhibit on the following page provides a breakdown of these funds.

### **Efficiency and Accuracy of the Board's Budget Request and Funds Allocation Process**

**The Board for Community and Junior Colleges does not work with individual colleges to manage class size for maximum efficiency. Also, because state law requires the board to count enrollment at a point early in the semester and 25% of students drop classes after that point, the board has continued to allocate funds for instruction of students who do not complete the semester.**

As noted previously, the annual appropriations bills for the community and junior colleges require the Board for Community and Junior Colleges to assure that the colleges' enrollment data upon which the funding allocation will be based is accurate. Because the appropriations bill specifically requires the director of the board's staff to "determine who shall be counted" and to certify that number to the board, the board's staff has the implied authority to do whatever is necessary to ensure that the count used to allocate funds to the individual colleges will be accurate and appropriate.

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<sup>1</sup> A *full-time equivalent* student is considered to be one who takes twenty-four credit hours in an academic year. Therefore, a student taking thirty credit hours is considered to be 1.25 FTEs.

<sup>2</sup> A *head count* of enrollment is a count of individual students, regardless of the number of semester hours each student takes, counted at a specific point in the semester.  
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**Exhibit: Distribution of Funds for FY 2005 Legislative Appropriation**

**Legislative Appropriation**

Amount Distributed through Enrollment Formula

General Fund	\$ 84,724,534	
Education Enhancement Fund	26,602,239	
Budget Contingency Fund	<u>14,789,832</u>	
Total Distributed through Enrollment Formula		\$ 126,116,605
<u>Other Funds</u>		
State and School Employees' Life and Health Plan (General Fund)	16,808,282	
Debt Service of Education Technology Program (Education Enhancement Fund) *	3,160,215	
Other (General Fund)	<u>9,028,210</u>	
Total Other Funds		<u>28,996,707</u>
Total Legislative Appropriation		\$ 155,113,312

**Federal Funds**

Workforce Investment Act	141,480	
Adult Basic Education	3,742,411	
Automatic Grant	<u>5,317,150</u>	
Total Federal Funds		9,201,041

**Local Funds**

Adult Basic Education Special Projects	<u>95,439</u>	
Total Local Funds		95,439

**Other State Funds**

Vocational Education Teacher Program (State Department of Education)	28,029,682	
Vocational Education Equipment (State Department of Education)	692,080	
Adult Basic Education (State Board for Community and Junior Colleges)	1,247,718	
Workforce Education (State Board for Community and Junior Colleges)	<u>11,687,632</u>	
Total Other State Funds		<u>41,657,112</u>
Total Funds Distributed to the Colleges Through the Board		<u>\$ 206,066,904</u>

\* This amount is not distributed to the colleges, but it is distributed on behalf of the colleges by the board.

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SOURCE: Senate Bill 3122, 2004 Regular Session; Board for Community and Junior Colleges' budget requests

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**Efficiency Issues Related to Class Sizes**

***The Board for Community and Junior Colleges does not monitor individual colleges' management of class size nor has it taken the initiative to work with the staff of individual colleges to reduce possible inefficiencies related to class size.***

As a steward of taxpayers' funds by virtue of its duty to distribute funds and provide general coordination of the colleges, the board has the fiduciary responsibility to monitor the efficiency with which the community and junior colleges spend those funds.

One area that the board should monitor for efficiency is class size at the individual colleges. Although classes should never reach the point that they are so large that they impact a student's ability to learn, classes should not be so small as to be financially impractical. The FY 2006 appropriations bill for community and junior colleges included a performance goal of 22 students as an average class size.

PEER reviewed records reflecting class sizes at nine of the fifteen colleges. These records applied to classes from which students select courses to meet their core requirements for an associate's degree. At these nine colleges, for FY 2005, the average size of

the classes from which students select courses to meet their core requirements was 18. However, 25% of these classes had fewer than ten students and 10% of these classes had fewer than five students.

Class size affects overall efficiency because as class size decreases, cost per student increases significantly. Based on a target class size of 22 and the average full-time equivalent instructor's salary of \$43,926 (including fringe benefits), the average cost per student per class at the community and junior colleges would be \$200. In a class of 18 students, the cost per student per class would be \$244. In a class with nine students, the cost per student would be \$488 and in a class with four students, the cost per student would increase to \$1,098.

Because the board does not exercise its authority to work with individual colleges to improve efficiency related to class size, it has not maximized its opportunity to help the colleges make the best use of their resources.

## **Impact of the Student Drop Rate on the Allocation of Funds**

***The Board for Community and Junior Colleges has complied with requirements of the community and junior colleges' appropriations bills to make enrollment counts at a specified point early in the semester. However, because approximately 25% of students drop classes after the date of the board's enrollment count but before the end of the semester, the board continues to allocate funds to instruct students who are not enrolled in classes for the entire semester.***

The community and junior colleges' recent appropriations bills have required that the board capture enrollment data for the individual colleges early in the semester. The board determines the number of students at the six-week point of the fall and spring semesters and at the one-third point in the summer semesters. (Mississippi Gulf Coast Community College also adds the number of FTEs during an additional semester conducted at Keesler Air Force Base.)

The timing of when students drop classes has an impact on a college's funding. If a student drops a class prior to the board's student head count and student FTE calculation, that student is not included in that college's enrollment number. However, if the student drops a class after the board makes its student head count and student FTE calculation, the student is included in the enrollment number used in calculating the college's allocation of funds.

Twenty-five percent of the students enrolled in a public community college class in Mississippi drop that class after the date of the board's enrollment count but before the end of the semester. Thus the board's enrollment count, upon which it bases the allocation of funds to the individual colleges, is significantly higher than the actual number of students that complete classes. Based on historical trends and the colleges' cost of instruction, the board allocated approximately \$24.6 million in funding in FY

2005 for community and junior college students who dropped classes after the enrollment count but before the end of the semester.

If the language of the appropriations bills were changed to require the board to capture the enrollment count at a more appropriate time (e.g., at the end of the semester), the funding allocations should more closely approximate the actual cost to the state of educating students at each individual college.

## The Board's Auditing of Enrollment Data of the Community and Junior Colleges

**Although state law requires the Board for Community and Junior Colleges to audit each college for the purpose of determining a student count to be used in the allocation of appropriated funds, the board does not obtain sufficient, competent evidence to arrive at conclusions regarding the records reviewed.**

The provision requiring the board to audit enrollment has been used in the board's appropriation bill each year since its creation in 1986. An audit of this type should involve examination of records whose accuracy should be maintained and ensured by the individual institution. The institution's recordkeeping process should be consistent with common practice, which requires that the method of recordkeeping have a reasonable basis that may be replicated in a uniform and broadly defensible way. While many forms of disciplined inquiry could be used to evaluate the board's auditing process, the most relevant method of disciplined inquiry for auditing record evidence would be the Generally Accepted Auditing Standards (GAAS).

PEER evaluated the board's methods of auditing individual colleges' student enrollment and attendance by using GAAS and found weaknesses related to:

- obtaining sufficient, competent evidential matter;
- maintaining independence and due professional care; and,
- issuing a report.

Because the board's review of enrollment data does not meet these audit standards, it does not technically qualify as an audit, which the community and junior colleges' appropriations bills require.

Also, the board's current methods of reviewing the colleges' enrollment data do not assure an accurate, appropriate count to serve as the basis for the allocation of funds and the number of students used in the board's formula for allocating funds has most likely been overstated.

## **Lack of Sufficient, Competent Evidential Matter**

***By not adhering to standard statistical sampling methodology, the Board for Community and Junior Colleges fails to obtain sufficient, competent evidential matter.***

The board uses several samples in its review of college enrollment and attendance records. If the board selected statistically valid samples and determined true error rates for enrollment and attendance figures, the board could use the error rate to estimate more accurately the number of students to remove from the population before allocating funds. However, because of the selection methods of these samples, PEER does not believe the samples represent sufficient, competent evidential matter. PEER does not believe the samples are representative of the populations.

## **Failure to Determine a True Error Rate**

***In calculating the student enrollment counts of individual colleges, the Board for Community and Junior Colleges does not establish an error rate for samples taken and thus does not provide the most accurate estimate of the student population.***

One of the advantages of statistical sampling is that if done properly, an auditor can determine an error rate that may be projected to the population of the sample. Because the board does not properly choose statistical samples, the board cannot determine an error rate to project to the population. By not applying a statistically sound error rate, the board cannot determine the number of students that should be subtracted from the enrollment count upon which funds allocation is based. If a proper error rate is not applied to individual colleges' enrollment counts, total enrollment is inflated. Over a period of years, this results in an artificially increasing growth pattern.

## **Lack of Independence and Due Professional Care**

***By allowing college personnel to perform certain components of the audit, the Board for Community and Junior Colleges has not complied with independence and due professional care standards.***

In performing its audit of an individual college's enrollment data, the board chooses random samples to test for enrollment errors and attendance errors. This sampling is an important step in the audit because student records with enrollment or attendance errors are removed from the student database for the purposes of calculating the enrollment number that will be used in the formula for allocating funds. A smaller number of students will result in a smaller share of allocated funds.

PEER found the following conditions in the board's conduct of audits:

- After choosing the enrollment sample and attendance sample of the colleges' data, the board forwards the samples to the colleges in order for college personnel to perform the audit steps on their own records. College personnel are not independent when auditing records of their employer (the college), because the college has a fiscal interest in maintaining higher counts of students in order to receive higher levels of funding.
- After the initial samples, the board then chooses a sub-sample from the original samples and forwards the sub-sample to the appropriate college to present the records electronically to the board. Since the board does not have its own personnel present when the colleges' personnel pull the records of the sub-sample, the board cannot ensure the accuracy of the records reviewed.
- The board chooses another sample for on-site testing. However, the board announces the time of the audit in advance, which alerts the colleges to an impending audit and the opportunity to correct deficiencies prior to the board staff's arrival.

PEER does not intend to imply that college personnel are not performing the audits properly. However, under Generally Accepted Auditing Standards, work not deemed independent cannot be relied upon when drawing conclusions about audited records. Therefore, the records reviewed by the college personnel should not be considered by the board in calculating the student enrollment figure used in allocating funds.

## **Lack of Workpapers and Failure to Issue a Final Audit Report**

***The Board for Community and Junior Colleges does not prepare workpapers documenting work performed nor does it produce a report detailing the results of its audit work pertaining to enrollment and attendance. As a result, the Legislature does not have evidence that the audit has been certified by the board.***

Auditors should prepare and maintain audit documentation as the principal record of auditing procedures applied, evidence obtained, and conclusions reached. The workpapers should serve as evidence of the work performed and provide supporting evidence should that work be questioned. While the board maintains documentation in many areas related to its audit, it does not document weaknesses in individual institutions' internal controls, such as problems with maintenance of and access to records. The board also does not document its sampling methods to ensure reasonable accuracy. Also, while the board maintains records of exceptions found in the audit, it does not differentiate as to which sample had exceptions. Because of this, a sample error rate for each college cannot be recreated. Thus the board has incomplete documentation of the audit if needed for review by a third party.

Applicable standards also require that auditors produce a report containing comprehensive, relevant information detailing the



results of an audit. However, the board does not produce a comprehensive final report detailing results of its work. Thus the Legislature has no official evidence of the board's certification of its audit of enrollment.

## Recommendations

1. While complying with the mandate of state law to “determine who shall be counted in each college and...certify the number,” the Board for Community and Junior Colleges should incorporate the following steps:
  - A. The board should obtain sufficient, competent evidential matter through the performance of statistically valid samples and produce error rates that can be used to project a more accurate estimate of the number of students to be removed from student populations before allocating funds.
  - B. The board should ensure that the persons conducting any steps in the audit process are independent in fact and appearance from the community and junior colleges.
  - C. The board should create and maintain workpapers documenting work performed in preparation for the audits (including reviews and analysis of each college's systems of internal controls relating to areas audited), actual performance of the audits, and conclusions reached as a result of the audits.
  - D. For each audit conducted, the board should produce an audit report describing records reviewed, the scope of the audit, and conclusions reached as a result of the audit.
2. The Legislature should amend MISS. CODE ANN. Section 37-4-3 (1972) to require the Director of the Board for Community and Junior colleges, or his designee, to audit each public community and junior college for the purpose of determining student head count or full-time student equivalent to be used in the allocation of funds based on enrollment at the close of each grading term. The director should report the audit results for the four previously completed semesters to the Legislature and the Board for Community and Junior Colleges by December 15 of each year. In the event that the Legislature adopts this recommendation, the Appropriations committees may cease the practice of including audit requirements in the board's appropriations bills.
3. The Director of the Board for Community and Junior Colleges, or his designee, should meet with each public community and junior college staff for the purpose of

discussing and formulating an action plan to improve the efficiency of the colleges by reducing the number of class sections for core classes. The study should address those class sections with fewer than ten students and how class schedules could be formulated to compensate for the 25% student drop rate. The director should report the results of this study to the Legislature and the Board for Community and Junior Colleges by December 15, 2006.

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# A Review of the Funds Allocation Process for Mississippi's Community and Junior Colleges

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## Introduction

### Authority

In response to legislative concerns, the PEER Committee reviewed how Mississippi allocates funds to the public community and junior colleges and the role of the Board for Community and Junior Colleges in this allocation process. PEER conducted the review pursuant to the authority granted by MISS. CODE ANN. Section 5-3-37 et seq. (1972).

### Scope and Purpose

PEER sought to examine the relationship between enrollment and funding at the state's community and junior colleges, including the role of the Board for Community and Junior Colleges in the process. PEER evaluated:

- how individual colleges and the board develop a composite budget request for the community and junior colleges;
- how drop rates affect distribution of funding;
- how class sizes affect instructional costs per student;
- whether the board has adequate controls in place to ensure that the state's community and junior colleges properly report enrollment data; and,
- how the board audits enrollment at the institutions as required in Senate Bill 2050, Second Extraordinary Session of 2005, and previous appropriation bills.

## Method

In conducting its review, PEER:

- reviewed state laws relating to the Board for Community and Junior Colleges;
- reviewed appropriation bills relating to the board;
- reviewed the board's enrollment audit policy manuals;
- reviewed the individual community and junior colleges' enrollment audit policy manuals;
- interviewed personnel of the Board for Community and Junior Colleges; and,
- analyzed data collected by the colleges to determine class size and drop rates.

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## Background

### Mississippi's Community and Junior College System

Mississippi has fifteen community and junior colleges that operate thirty-three centers, including thirty comprehensive campuses, two vocational-technical centers, and one academic extension center. These facilities provide educational services through academic courses and degrees for transfer to universities and senior colleges; academic, technical, and vocational programs for career goals; and continuing education opportunities. As of June 30, 2005, 92,097 students were enrolled in Mississippi's community and junior college system according to a non-duplicated headcount.

The community and junior colleges serve fifteen community and junior college districts set by state law (MISS. CODE ANN. Sections 37-29-31, 37-29-401, 37-29-451, 37-29-501, and 37-29-551 [1972]). Although state law sets out the districts, the districts are governed by local boards of trustees composed of members representing the counties within the respective districts. The Board for Community and Junior Colleges serves as the state-level coordinating agency for the system.

### Authority and Responsibilities of the Board for Community and Junior Colleges

The Legislature created the Board for Community and Junior Colleges in 1986 to receive and distribute funds from the state, federal government, and other sources to the community and junior colleges (see MISS. CODE ANN. Section 37-4-3 [1] [1972] for the board's enabling legislation). The next chapter of this report, beginning on page 5, describes the process used to distribute funds to the community and junior colleges and board's role in that process.

Among other powers and duties state law gives to the board, CODE Section 37-4-3 authorizes the board to:

- provide general coordination of the colleges and assemble reports;
- study the needs of the state as they relate to the mission of the community and junior colleges; and,
- require the individual colleges to supply such information as the board may request and compile reports based on that information as the board deems advisable.

Also, each year since the board's creation, the appropriations bills for the community and junior colleges have required the board to audit the colleges' enrollment statistics. The FY 2006 appropriations bill for the community and junior colleges (Senate Bill 2050, Second Extraordinary Session of 2005) states:

*The Director of the State Board for Community and Junior Colleges, or his designee, shall audit each public community and junior college and shall determine who shall be counted in each college and shall certify the number to the State Board for Community and Junior Colleges.*

Appendix A, page 23, lists the basic principles and standards of auditing that would apply to the board's auditing of the enrollment data of individual colleges and describes the relationship of auditing standards to the profession of auditing.

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# Description of the Budget Request and Funds Allocation Process for Community and Junior Colleges

## Budget Request Process for Community and Junior Colleges

In accordance with MISS. CODE ANN. Section 37-4-3 (1) (1972), the Board for Community and Junior Colleges serves as the coordinator for budget requests to the Legislature submitted by the fifteen community and junior colleges. The budget request process for the colleges' state funds involves the following steps:

1. In April of each budget year, the board's staff sends a questionnaire to each college regarding the projections for the next two fiscal years. (For example, the April 2006 questionnaire will ask colleges to make projections regarding FY 2007 and FY 2008.) The questionnaire requests information such as projections on enrollment, faculty salary increases, the number of new positions needed, and estimated local funding support and revenue from fee increases.
2. After the colleges complete the questionnaire, the community and junior college presidents meet in May and June to discuss their funding needs and develop a legislative agenda. The presidents formally agree in the minutes of the Mississippi Association of Community and Junior Colleges on amounts they plan to request from the Legislature.
3. Based on the guidelines agreed upon at the presidents' meeting, the individual colleges prepare their budget requests and submit them to the board. The board consolidates these into a single budget request for the community and junior college system, which is submitted to the Legislative Budget Office at the beginning of August.

The total legislative appropriation for community and junior colleges for FY 2005 was \$155,113,312. The board itself receives a separate appropriation.

## Recent Changes in the Board's Formula for Allocating Funds

**After the Legislature completes its annual appropriations process, the board distributes the funds to the individual colleges based on enrollment data.**

After the Legislature completes its annual appropriations process, the board distributes the funds to the individual colleges based on enrollment data. The individual colleges submit enrollment data to the board, the board audits the data, and the board allocates funds to the individual colleges based on a funding formula. The formula for the allocation of funds has recently changed based on results of a statutorily required consultant's study of the formula.

### Previous Method of Determining Enrollment for Funding Allocation

Until FY 2004, the board allocated funds to community and junior colleges based on an enrollment figure consisting a head count of students at each individual college. (For purposes of this report, a "head count" is an enrollment figure determined by the individual college and the board at a specified point in the semester.) The board and the individual colleges determined this head count at the sixth week of the fall semester or its equivalent, as required by the appropriations bills for community and junior colleges for the respective fiscal years.

### Statutorily Required Study of the State Funding Formula for Community and Junior Colleges

**Over a five-year period, the board is phasing out use of the enrollment head count as the basis for allocation of funds and phasing in use of the student FTEs as the basis for such.**

In 2002, the Legislature passed MISS. CODE ANN. Section 37-4-15 (1972), requiring that the board contract with a consultant to study the state's funding formula for community and junior colleges and report the findings to the Legislature. The consultant recommended that the board utilize a student enrollment ratio based on full-time equivalent students<sup>3</sup>, rather than on head count of enrollment.<sup>4</sup> The board adopted this recommendation and began phasing in the change, as described below.

### Phase-In of Consultant's Recommendation

To implement the consultant's recommendation, over a five-year period (FY 2004 through FY 2008), the board is phasing out use of

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<sup>3</sup> A *full-time equivalent* student is considered to be one who takes twenty-four credit hours in an academic year. Therefore a student taking thirty credit hours is considered to be 1.25 FTEs.

<sup>4</sup> A *head count* of enrollment is a count of individual students, regardless of the number of semester hours each student takes, counted at a specific point in the semester.



the enrollment head count as the basis for allocation of funds and phasing in use of the student FTEs as the basis for such. To determine total FTEs, the individual colleges add the number of FTEs at the sixth week of classes in both the fall and spring semesters and at the one-third point in each of the summer semesters. Mississippi Gulf Coast Community College also adds the number of FTEs during an additional semester conducted at Keesler Air Force Base.

During this phase-in period, the board is using a student enrollment ratio combining the head count and FTEs as a basis for funding, according to the following plan:

<b>Fiscal Year</b>	<b>Basis of Board's Allocation of Funds to Individual Colleges</b>
2004	4/5 head count and 1/5 FTEs
2005	3/5 head count and 2/5 FTEs
2006	2/5 head count and 3/5 FTEs
2007	1/5 head count and 4/5 FTEs
2008	Total conversion to FTEs

## **FY 2005 Funds Distributed by the Board to Community and Junior Colleges**

**In addition to funds appropriated by the Legislature, the board is also responsible for distributing some federal funds, other state funds, and local funds to the community and junior colleges or on behalf of the colleges.**

In addition to funds appropriated by the Legislature, the Board for Community and Junior Colleges is also responsible for distributing some federal funds (e.g., from the U. S. Department of Labor for workforce training), other state funds (e.g., grants from the Department of Education), and local funds (e.g., from fees for the Mississippi Virtual Community College) to the community and junior colleges or on behalf of the colleges. During FY 2005, the board distributed \$206,066,904 to or on behalf of the colleges. The Exhibit, page 8, provides a breakdown of these funds.

## Exhibit: Distribution of Funds for FY 2005 Legislative Appropriation

**Legislative Appropriation**

Amount Distributed through Enrollment Formula

General Fund	\$ 84,724,534	
Education Enhancement Fund	26,602,239	
Budget Contingency Fund	14,789,832	
Total Distributed through Enrollment Formula		\$ 126,116,605

Other Funds

State and School Employees' Life and Health Plan (General Fund)	16,808,282	
Debt Service of Education Technology Program (Education Enhancement Fund) *	3,160,215	
Other (General Fund)	9,028,210	
Total Other Funds	28,996,707	
Total Legislative Appropriation		\$ 155,113,312

**Federal Funds**

Workforce Investment Act	141,480	
Adult Basic Education	3,742,411	
Automatic Grant	5,317,150	
Total Federal Funds		9,201,041

**Local Funds**

Adult Basic Education Special Projects	95,439	
Total Local Funds		95,439

**Other State Funds**

Vocational Education Teacher Program (State Department of Education)	28,029,682	
Vocational Education Equipment (State Department of Education)	692,080	
Adult Basic Education (State Board for Community and Junior Colleges)	1,247,718	
Workforce Education (State Board for Community and Junior Colleges)	11,687,632	
Total Other State Funds	41,657,112	
Total Funds Distributed to the Colleges Through the Board		\$ 206,066,904

\* This amount is not distributed to the colleges, but it is distributed on behalf of the colleges by the board.

SOURCE: Senate Bill 3122, 2004 Regular Session; Board for Community and Junior Colleges' budget requests

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## Efficiency and Accuracy of the Board's Budget Request and Funds Allocation Process

The Board for Community and Junior Colleges does not work with individual colleges to manage class size for maximum efficiency. Also, because state law requires the board to count enrollment at a point early in the semester and 25% of students drop classes after that point, the board has continued to allocate funds for instruction of students who do not complete the semester.

As noted on page 4, the annual appropriations bills for the community and junior colleges require the Board for Community and Junior Colleges to assure that the colleges' enrollment data upon which the funding allocation will be based is accurate. The FY 2006 appropriations bill for the community and junior colleges (Senate Bill 2050, Section 4, Second Extraordinary Session of 2005) states:

*The Director of the State Board for Community and Junior Colleges, or his designee, shall audit each public community and junior college and shall determine who shall be counted in each college and shall certify the number to the State Board for Community and Junior Colleges. [emphasis added]*

**The board's staff has the implied authority to do whatever is necessary to ensure that the count used to allocate funds to the individual colleges will be accurate and appropriate.**

Because the appropriations bill specifically requires the director of the board's staff to "determine who shall be counted" and to certify that number to the board, the board's staff has the implied authority to do whatever is necessary to ensure that the count used to allocate funds to the individual colleges will be accurate and appropriate.

Also, the board's enabling legislation (MISS. CODE ANN. Section 37-4-3 [1972]) gives the board broad authority to require the individual colleges to supply information that the board needs and to compile and produce reports on that information. Such reports could include information regarding the performance and efficiency of the community and junior colleges in expending appropriated funds and information regarding student attendance, which would be valuable to the Legislature in making appropriation decisions.

PEER found that the board has not exercised its authority because it has not monitored class sizes for efficiency or worked with the staff at individual colleges to reduce possible inefficiencies related to class size. Also, because the board is required by law to make enrollment counts at a specified point early in the semester and because approximately 25% of students drop classes after that point, it has continued to allocate funds to instruct students who are not enrolled in classes for the entire semester.

The board has not reported to the Legislature on these conditions or the effect they could have on appropriations decisions.

## Efficiency Issues Related to Class Sizes

***The Board for Community and Junior Colleges does not monitor individual colleges' management of class size nor has it taken the initiative to work with the staff of individual colleges to reduce possible inefficiencies related to class size.***

The Board for Community and Junior Colleges derives its authority to oversee from MISS. CODE ANN. Section 37-4-3 (1972). Sub-section (6) states:

*The powers and duties of the State Board for Community and Junior Colleges shall be: . . .*

*(b) To make studies of the needs of the state as they relate to the mission of the community and junior colleges. . . .*

*(d) To require community and junior colleges to supply such information as the board may request and compile, publish and make available such reports based thereon as the board may deem advisable.*

As a steward of taxpayers' funds by virtue of its duty to distribute funds and provide general coordination of the colleges, the board has the fiduciary power to monitor the efficiency with which the community and junior colleges spend those funds.

**As a steward of taxpayers' funds by virtue of its duty to distribute funds and provide general coordination of the colleges, the board has the fiduciary power to monitor the efficiency with which the community and junior colleges spend those funds.**

One area that the board should monitor for efficiency is class size at the individual colleges. Although classes should never reach the point that they are so large that they impact a student's ability to learn, classes should not be so small as to be financially impractical. Senate Bill 2050, the FY 2006 appropriations bill for community and junior colleges, included a performance goal of twenty-two students as an average class size.

To measure the efficiency of the colleges' class sizes, PEER determined the average class size in the group of classes from which students select courses to meet their core requirements for an associate's degree. The class sizes reviewed included all sections of the following course offerings:

Accounting, Biology, Business Administration, Chemistry, Computer Science, Economics, Education, English, History, Humanities, Journalism, Mathematics, Modern Foreign Languages, Psychology, and Sociology

PEER considered average class sizes from the following community and junior colleges:

Gulf Coast, Hinds, Holmes, Itawamba, Meridian, Mississippi Delta, Northwest, Pearl River, and Southwest

Information on class sizes from the remaining six colleges (Coahoma, Copiah-Lincoln, East Mississippi, East Central, Jones, and Northeast) was either incomplete or was presented to PEER in an electronic format that was incompatible.

*PEER reviewed records reflecting class sizes at nine of the fifteen colleges. These records applied to classes from which students select courses to meet their core requirements for an associate's degree. At these nine colleges, for FY 2005, 25% of the classes averaged fewer than ten students per class and 10% of the classes averaged fewer than five students per class.*

For FY 2005, the average class size in the classes from which students select courses to meet their core requirements was 18. However, 25% of these classes had fewer than ten students and 10% of these classes had fewer than five students.

For example, PEER reviewed the size of all English classes offered by Hinds Community College for the Spring 2005 semester and divided the classes into those with ten or more students and those with nine or fewer students. PEER then determined that:

- 169 classes had ten or more students and these classes averaged 18.9 students per class.
- 32 classes had nine or fewer students and these classes averaged 6.5 students per class.

Of the 32 classes with fewer than ten students, 7 classes had fewer than 5 students and averaged 2.4 students per class.

*Class size affects overall efficiency because as class size decreases, cost per student increases significantly.*

Based on a target class size of 22 and the average full-time equivalent instructor's salary of \$43,926 (including fringe benefits), the average cost per student per class at the community and junior colleges would be \$200. In a class of 18 students, the cost per student per class would be \$244. In a class with nine students, the cost per student would be \$488 and in a class with four students, the cost per student would increase to \$1,098.

PEER acknowledges that the issue of efficiency in class sizes should logically apply only to the group of courses from which students select courses to meet their core requirements for an associate's degree. This is because specialized courses for academic, technical, and vocational programs for career goals (e.g., piano instruction) or continuing education opportunities (e.g., Creative Learning in Retirement) would most likely have a lower average number of students per class due to the nature of the courses and the number of students that would be involved in that program.

*The Board for Community and Junior Colleges has not monitored individual colleges' management of class size nor has it taken the initiative to work with the staff of individual colleges to reduce possible inefficiencies related to class size.*

**Because the board has not provided information regarding inefficiencies related to class size to the Legislature, the Legislature does not have all of the information it needs with which to make decisions regarding wise use of the state's scarce resources.**

The board's staff did not provide any evidence to PEER that it monitors class sizes for efficiency or questions the staff at individual colleges about possible inefficiencies. Because the board does not exercise its authority to work with individual colleges to improve efficiency related to class size, it has not maximized its opportunity to help the colleges make the best use of their resources. Also, because the board has not provided information regarding inefficiencies related to class size to the Legislature, the Legislature does not have all of the information it needs with which to make decisions regarding wise use of the state's scarce resources.

## Impact of the Student Drop Rate on the Allocation of Funds

*The Board for Community and Junior Colleges has complied with requirements of the community and junior colleges' appropriations bills to make enrollment counts at a specified point early in the semester. However, because approximately 25% of students drop classes after the date of the board's enrollment count but before the end of the semester, the board continues to allocate funds to instruct students who are not enrolled in classes for the entire semester.*

Because the Board for Community and Junior Colleges allocates funds based on the number of students at each college, the issues of when to count the number of students at each college and the impact of students dropping courses on that count are important factors.

*The community and junior colleges' recent appropriations bills have required that the board capture enrollment data for the individual colleges early in the semester.*

The Board for Community and Junior Colleges determines the number of students at the six-week point of the fall and spring semesters and at the one-third point in the summer semesters. (Mississippi Gulf Coast Community College also adds the number of FTEs during an additional semester conducted at Keesler Air

Force Base.) The board's action complies with recent appropriations bills for community and junior colleges, which have required that the count be made at that point.

*The point at which students drop classes has an effect on the enrollment count used in the colleges' funding formula.*

The timing of when students drop classes has an impact on a college's funding. If a student drops a class prior to the board's student head count and student FTE calculation, that student is not included in that college's enrollment number.

**If a student drops a class after the board makes its student head count and student FTE calculation, the student is included in the enrollment number used in calculating the college's allocation of funds.**

However, if the student drops a class after the board makes its student head count and student FTE calculation, the student is included in the enrollment number used in calculating the college's allocation of funds. For example, if a student at a community college drops a course at the beginning of the seventh week of the spring semester, he or she is counted in the enrollment figure used to calculate the college's funding and the college receives full compensation for the student, but the student is not actually present in the class for ten of the sixteen weeks of the semester.

*Twenty-five percent of the students enrolled in a public community college class in Mississippi drop that class after the date of the board's enrollment count but before the end of the semester. Thus the board's enrollment count, upon which it bases its allocation of funds, is significantly higher than the actual number of students that complete classes.*

**Based on historical trends and the colleges' cost of instruction, the board allocated approximately \$24.6 million in funding in FY 2005 for community and junior college students who dropped classes after the enrollment count but before the end of the semester.**

PEER reviewed enrollment and attendance data on the group of courses from which students make selections to meet their core requirements for an associate's degree. PEER found that of the students enrolled in classes, 25% of the students never complete those classes.

However, because the colleges' enrollment counts are made so early in the semester, those counts do not reflect this loss of 25% of the students. Thus funding is allocated based on a much higher number than the actual number of students that complete classes. Based on historical trends and the colleges' cost of instruction, the board allocated approximately \$24.6 million in funding in FY 2005 for community and junior college students who dropped classes after the enrollment count but before the end of the semester.

*If the language of the appropriations bills were changed to require the board to capture the enrollment count at a more appropriate time (e.g., at the end of the semester), the funding allocations should more closely approximate the actual cost to the state of educating students at each individual college.*

Given that 25% of students drop after the currently used count date, a more accurate measure of the cost to a college to educate a

student would be to count the number of students enrolled at the end of the semester, as evidenced by the number of grades (passing or failing) issued. This determination should exclude students given grades of withdrawn-passing or withdrawn-failing, thus excluding them from the count used as a basis for the allocation of funds.



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# The Board's Auditing of Enrollment Data of the Community and Junior Colleges

Although state law requires the Board for Community and Junior Colleges to audit each college for the purpose of determining a student count to be used in the allocation of appropriated funds, the board does not obtain sufficient, competent evidence to arrive at conclusions regarding the records reviewed.

Senate Bill 2050, Second Extraordinary Session of 2005, specifically requires the Board for Community and Junior Colleges to audit each community and junior college to determine a student count that is used to allocate funds appropriated by the Legislature to the colleges. This provision to audit enrollment has been used in the board's appropriations bill each year since its creation in 1986.

**The board's current methods of reviewing the colleges' enrollment data do not assure an accurate, appropriate count to serve as the basis for the allocation of funds and the number of students used in the board's formula for allocating funds has most likely been overstated.**

An audit of this type should involve examination of records whose accuracy should be maintained and ensured by the individual institution. The institution's recordkeeping process should be consistent with common practice, which requires that the method of recordkeeping have a reasonable basis that may be replicated in a uniform and broadly defensible way. In the social sciences, the method of common practice is referred to as "disciplined inquiry." Disciplined inquiry may be used in a broad range of applications, including auditing. While many forms of disciplined inquiry could be used to evaluate the board's auditing process, the most relevant method of disciplined inquiry for auditing record evidence would be the Generally Accepted Auditing Standards (GAAS). (See the Appendix A, page 23, for information on these standards and the relationship of the standards to the auditing, as well as related forms of disciplined inquiry.)

PEER evaluated the board's methods of auditing individual colleges' student enrollment and attendance by using Generally Accepted Auditing Standards and found weaknesses related to:

- obtaining sufficient, competent evidential matter;
- maintaining independence and due professional care; and,
- issuing a report.

Because the board's review of enrollment data does not meet these audit standards, it does not technically qualify as an audit, which the community and junior colleges' appropriations bills require.

Also, the board's current methods of reviewing the colleges' enrollment data do not assure an accurate, appropriate count to serve as the basis for the allocation of funds and the number of students used in the board's formula for allocating funds has most likely been overstated.

## Lack of Sufficient, Competent Evidential Matter

*By not adhering to standard statistical sampling methodology, the Board of Community and Junior Colleges fails to obtain sufficient, competent evidential matter.*

The board uses several samples in its review of college enrollment and attendance records. If the board selected statistically valid samples and determined true error rates (see discussion on page 17) for enrollment and attendance figures, the board could use the error rate to estimate more accurately the number of students to remove from the population before allocating funds.

However, because of the selection methods of these samples, PEER does not believe the samples represent sufficient, competent evidential matter, the results of which could be used in the formula for allocating appropriated funds. PEER does not believe the samples are representative of the populations.

## Statistical Sampling May Constitute Sufficient, Competent Evidential Matter

**Under the board's current statistical sampling methods, the samples may not be representative of the population and certain records are not considered in selecting some samples.**

As noted on page 24, the third standard of fieldwork requires that sufficient, competent evidential matter be obtained to afford a reasonable basis for auditors rendering an opinion on the information examined. Under GAAS, sufficient, competent evidential matter may be obtained through statistical sampling because it is often impractical and costly to audit every possible item.

If statistical sampling is performed as part of the audit, it must be performed properly so that all items in the population have an equal chance to be included in the sample and the sample must be representative of the population. Under the board's current statistical sampling methods, the samples may not be representative of the population and certain records are not considered in selecting some samples. Therefore, the board's sampling efforts do not comply with GAAS.

## The Board's Sample Selection

The board chooses two random samples, one pertaining to enrollment and one to attendance, and forwards the samples to the colleges. These samples are always 20% of the population, determined arbitrarily by the board, and are not made with any reference to a statistical model. Therefore, these samples may or may not be representative of the population.

From the above samples, the board chooses two sub-samples equal to 20% of the original samples. Again, the sample size is an arbitrary decision by the board with no reference to a statistical sample model. This sub-sample may or may not be large enough to be considered statistically representative of the total classes.

The board creates two more samples (one for enrollment and one for attendance) by selecting a sample size necessary to produce a 95% confidence level. However, any items chosen as part of the samples mentioned above are excluded in selecting this sample. By not giving all items in the population an equal opportunity to be chosen, the board's sample selection techniques do not comply with GAAS.

The board chooses two final samples (one for enrollment and one for attendance) consisting of 30% of student enrollment and classes, which does not exclude students and classes selected in previous samples. However, this sample size is not determined using a statistical calculation and is therefore arbitrary. Further, this sample may or may not be representative of the population.

See Appendix B, page 26, for a detailed analysis of the board's use of statistical samples.

## Failure to Determine a True Error Rate

*In calculating the student enrollment counts of individual colleges, the Board for Community and Junior Colleges does not establish an error rate for samples taken and thus does not provide the most accurate estimate of the student population.*

One of the advantages of statistical sampling is that if done properly, an auditor can determine an error rate that may be projected to the population of the sample. Because the board does not properly choose statistical samples, the board cannot determine an error rate to project to the population. By not applying a statistically sound error rate, the board cannot determine the number of students that should be subtracted from the enrollment count upon which funds allocation is based.

**If a proper error rate is not applied to individual colleges' enrollment counts, total enrollment is inflated. Over a period of years, this results in an artificially increasing growth pattern.**

For example, if an auditor detects 25 errors in a sample of 500 items, the error rate would be 5% (25 divided by 500). In a properly selected statistical sample, the error rate is multiplied by the population to determine the estimated total number of errors that would be found if the entire population were audited. Continuing the example, if the population is 6,000 and the statistical sample's error rate is 5%, then the auditor could project this error rate to the population and determine that there are 300 errors in the entire population.

During its audits, the board does remove the errors in enrollment and attendance that are found in conducting the samples. However, because the board does not properly select statistical samples, it is unable to project an error rate to the entire

population. Therefore, the board is underestimating the total number of errors that should be removed from the population before using that number to allocate funds.

According to the board's staff, the board allows the colleges' staffs to correct exceptions throughout the audit process and the board does not document which errors came from which sample. Such practices make the determination of true error rates impossible.

The board's staff contends that exceptions found during the sample testing are not indicative of the exception rate of the total student population when the board has conducted a full audit. However, if a statistical sample has been properly chosen, a full audit should produce an error rate approximately equal to the error rate of the statistical sample. The fact that the board's sample error rates differs from the error rates of full audits supports PEER's assertion that the board's samples are not being correctly chosen for statistical sampling purposes.

If a proper error rate is not applied to individual colleges' enrollment counts, total enrollment is inflated. Over a period of years, this results in an artificially increasing growth pattern.

## Lack of Independence and Due Professional Care

***By allowing college personnel to perform certain components of the audit, the Board for Community and Junior Colleges has not complied with independence and due professional care standards.***

In performing its audit of an individual college's enrollment data, the board chooses random samples to test for enrollment errors and attendance errors. *Enrollment errors* include problems related to enrollment, such as a lack of a proper transcript. *Attendance errors* include lack of adequate participation by a student in a class. The board defines a lack of adequate participation as accumulating six or more absences before the sixth week of the semester.

This sampling is an important step in the audit because student records with enrollment or attendance errors are removed from the student database for the purposes of calculating the enrollment number that will be used in the formula for allocating funds. A smaller number of students will result in a smaller share of allocated funds.

PEER found the following conditions in the board's conduct of audits:

- After the board chooses the enrollment sample and attendance sample, it forwards the samples to the colleges in order for college personnel to perform the audit steps on their own records.

Allowing college personnel to audit the first sample is a violation of GAAS regarding independence. College personnel are not independent when auditing records of their employer (the college), because the college has a fiscal interest in maintaining higher counts of students in order to receive higher levels of funding.

- After the initial samples, the board then chooses a sub-sample from the original samples and forwards the sub-sample to the appropriate college to present the records electronically to the board.

Since the board does not have its own personnel present when the colleges' personnel pull the records of the sub-sample, the veracity of these records could be questioned. PEER does not imply that any record tampering takes place on the part of college personnel; however, under GAAS, there must be no question regarding the authenticity of records reviewed. By not taking steps to ensure the accuracy of the records reviewed, the board is in violation of the GAAS general standard regarding due professional care.

- The board chooses another sample for on-site testing. However, the board announces the time of the audit in advance, which alerts the colleges to an impending audit and the opportunity to correct deficiencies prior to the board staff's arrival. Such notice would also violate the general standard regarding due professional care in performing the audit.

Although the authenticity of the chosen records is safeguarded to some degree by limiting the number of records forwarded to the colleges and limiting the time within which the colleges must produce the records, the method remains problematic. Two of the basic methods used by auditors to ensure the accuracy of the records reviewed are to exert control over the records chosen or be physically present when the records are actually retrieved for inspection. Both of these basic elements are missing in the board's current methods.

**Because audit work not deemed independent cannot be relied upon when drawing conclusions about audited records, the records reviewed by the college personnel should not be considered by the board in calculating the student enrollment figure used in allocating funds.**

Clearly, college personnel are not independent in auditing their own records. Again, PEER does not intend to imply that college personnel are not performing the audits properly. However, under GAAS, work not deemed independent cannot be relied upon when drawing conclusions about audited records. Therefore, the records reviewed by the college personnel should not be considered by the board in calculating the student enrollment figure used in allocating funds.

## Lack of Workpapers and Failure to Issue a Final Audit Report

*The Board for Community and Junior Colleges does not prepare workpapers documenting work performed nor does it produce a report detailing the results of its audit work pertaining to enrollment and attendance. As a result, the Legislature does not have evidence that the audit has been certified by the board.*

### Lack of Workpapers

The Statements on Auditing Standards require that auditors prepare and maintain audit documentation as the principal record of auditing procedures applied, evidence obtained, and conclusions reached. The workpapers should serve as evidence of the work performed and provide supporting evidence should that work be questioned.

**While the board maintains documentation in many areas related to its audit, it does not document weaknesses in individual institutions' internal controls, such as problems with maintenance of and access to records.**

While the board maintains documentation in many areas related to its audit, it does not document weaknesses in individual institutions' internal controls, such as problems with maintenance of and access to records. The board also does not document its sampling methods to ensure reasonable accuracy. Also, while the board maintains records of exceptions found in the audit, it does not differentiate as to which sample had exceptions. Because of this, a sample error rate for each college cannot be recreated. Thus the board has incomplete documentation of the audit if needed for review by a third party.

### Lack of an Audit Report

**Because the board does not produce a comprehensive final report detailing results of its work, the Legislature has no official evidence of the board's certification of its audit of enrollment.**

Standards of Reporting comprise four of the ten Generally Accepted Auditing Standards. Even though these standards relate to reporting the results of financial audits, the same principles apply in reporting the results of non-financial audits. The auditors should produce a report containing comprehensive, relevant information detailing the results of the audit. The report would offer valuable insight to the Legislature, the board itself, and the boards of the individual colleges in measuring each institution's compliance with applicable enrollment and attendance policy and procedures.

Based on its samples of enrollment and attendance records, the board calculates the number of students to be removed before using that number to allocate funds. However, the board does not produce a comprehensive final report detailing results of its work. Thus the Legislature has no official evidence of the board's certification of its audit of enrollment.

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## Recommendations

1. While complying with the mandate of state law to “determine who shall be counted in each college and...certify the number,” the Board for Community and Junior Colleges should incorporate the following steps:
  - A. The board should obtain sufficient, competent evidential matter through the performance of statistically valid samples and produce error rates that can be used to project a more accurate estimate of the number of students to be removed from student populations before allocating funds.
  - B. The board should ensure that the persons conducting any steps in the audit process are independent in fact and appearance from the community and junior colleges.
  - C. The board should create and maintain workpapers documenting work performed in preparation for the audits (including reviews and analysis of each college’s systems of internal controls relating to areas audited), actual performance of the audits, and conclusions reached as a result of the audits.
  - D. For each audit conducted, the board should produce an audit report describing records reviewed, the scope of the audit, and conclusions reached as a result of the audit.
2. The Legislature should amend MISS. CODE ANN. Section 37-4-3 (1972) to require the Director of the Board for Community and Junior Colleges, or his designee, to audit each public community and junior college for the purpose of determining student head count or full-time student equivalent to be used in the allocation of funds based on enrollment at the close of each grading term. The director should report the audit results for the four previously completed semesters to the Legislature and the Board for Community and Junior Colleges by December 15 of each year. In the event that the Legislature adopts this recommendation, the Appropriations committees may cease the practice of including audit requirements in the board’s appropriations bills.

3. The Director of the Board for Community and Junior Colleges, or his designee, should meet with each public community and junior college staff for the purpose of discussing and formulating an action plan to improve the efficiency of the colleges by reducing the number of class sections for core classes. The study should address those class sections with fewer than ten students and how class schedules could be formulated to compensate for the 25% student drop rate. The director should report the results of this study to the Legislature and the Board for Community and Junior Colleges by December 15, 2006.



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# Appendix A: Generally Accepted Auditing Standards and their Relationship to Oversight

## Need for and Promulgation of Standards for Auditing

Auditing is a systematic process of objectively obtaining and evaluating evidence regarding assertions of fact made by a party and communicating the quality of these assertions to other interested parties. Auditing is also a form of attestation, which is an expert's communication about the reliability of another person's assertion about a particular fact. For example, a jeweler may attest to a non-jeweler about the quality of a particular jewel. The quality of an audit is measured by its adherence to widely accepted disciplined and systematic processes which can be independently verified and recreated.

Many disciplined and systematic processes exist for evaluating the quality of an audit or any other rational process. Many professional organizations and academic groups create guidelines for measuring the quality of work performed by peers. For example, in the field of psychometrics, the systematic measurement of psychological traits, the American Educational Research Association, American Psychological Association, and the National Council on Measurement in Education jointly developed the Standards for Educational and Psychological Testing (SEPT) in order to measure the quality of work in this field. SEPT has standards for constructing statistical samples, documentation of samples, fairness in sample testing, and application of samples.

Because of the requirement of the board to "audit" the enrollment and "certify" the number in the appropriation bill, Generally Accepted Auditing Standards (GAAS) are the most relevant standards to apply to measure the quality of the board's work. GAAS represent the minimum level of conduct for an audit and present broad ideals governing the conduct of an audit. Like SEPT, GAAS set standards for documentation, construction of statistical samples, fairness in sample testing, and application of samples.

## Criteria for the Board's Auditing of Colleges' Enrollment Data

Because the Board for Community and Junior Colleges is required by appropriations bills to audit each community and junior college, PEER presents in this appendix the major basic principles and standards of auditing as they relate to the board's responsibility for auditing the individual colleges.

GAAS standards are divided into General Standards, Fieldwork Standards, and Reporting Standards. The General Standards relate to the auditor and require the auditor:

- to have adequate technical training and proficiency as an auditor;
- to be independent in performing the audit; and,
- to exercise due professional care in performing the audit and preparing the final report.

The Standards of Fieldwork relate to performing the actual audit and require:

- that the work be adequately planned and properly supervised;
- that the auditor understand the internal control structure under review in order to determine the tests to be performed; and,
- that the auditor obtain sufficient, competent evidential matter to serve as a basis for conclusions regarding records reviewed.

The four Standards of Reporting are more specific to issuing reports regarding financial data. GAAS require that a report be issued as the result of an audit.

## Need for Independence of the Auditor

An important aspect of auditing is the independence of the auditor. The auditor's independence is vital because it allows a reasonable person to be confident that the work of an auditor is without bias. Auditors should be independent in mental attitude, professional conduct, and in appearance.

According to SAS AU 220.03:

*Independent auditors should not only be independent in fact; they should avoid situations that may lead outsiders to doubt their independence.*

For example, if a bank were audited by the son of the bank's president, the apparent lack of independence by having the son audit the bank would taint any audit conclusions, even if the son were in fact independent and conducted the audit properly. This is also true of employees of a business or other entity. They are not independent because they have a fiscal interest in the entity that could lead to bias and lack the appearance of independence. An independent auditor should be a disinterested third party, independent in fact and appearance.

This definition of independence verifies the independence of the board. The audit of enrollment is conducted to distribute money to the colleges, not to the board. Therefore, the board receives no monetary or other compensation based on the results of the audit.

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## Appendix B: Analysis of the Board for Community and Junior Colleges' Statistical Sampling Methodology

As have previous community and junior college appropriations bills, S. B. 3122, Regular Session 2004, allocated money to the public community and junior colleges to be distributed by the Board for Community and Junior Colleges based on a ratio of student enrollment in each college. According to S. B. 3122:

*The Director of the State Board for Community and Junior Colleges, or his designee, shall audit each public community and junior college and shall determine who shall be counted in each college and shall certify the number to the State Board for Community and Junior Colleges.*

Thus state law requires the board's Executive Director to produce the most accurate number possible of the students enrolled in the individual institutions and to certify that number to the board. In producing this number, it is imperative that the board utilize the proper auditing techniques.

### Background on the Use of Statistical Sampling in Auditing

The practice of auditing often uses the technique of statistical sampling because it would be impractical and costly to audit every possible item. As noted in *Basic Statistics for Business & Economics* by Lind, Marchal, and Wathen, properly conducted sample tests are sufficient due to:

*. . .the adequacy of the sample results. Even if funds were available, it is doubtful that the additional accuracy of a 100 percent sample - this is, studying the entire population - is essential in most problems.*  
(page 220)

Because an auditor is required to obtain reasonable assurance, rather than absolute assurance, statistical sampling is a valuable tool in auditing. Generally Accepted Auditing Standards (GAAS) do not require that an audit produce *absolute* certainty; rather, GAAS require that an audit produce *reasonable* certainty. The AICPA Auditing Standards Board's interpretations of GAAS--known as Statements on Auditing Standards (SAS)—address this issue. According to SAS AU 110.02:

*Because of the nature of audit evidence and the characteristics of fraud, the auditor is able to obtain reasonable, but not absolute, assurance that material misstatements are detected.*

As a means of providing reasonable assurance, SAS AU 350.04 states that:

*Sufficient competent evidential matter is to be obtained through inspection, observation, inquiries, and confirmation to afford a reasonable basis for an opinion. . . .audit sampling, when properly applied, can provide sufficient evidential matter.*

SAS AU 350.24 describes a properly applied audit sample in the following manner:

*Sample items should be selected in such a way that the sample can be expected to be representative of the population. Therefore, all items in the population should have an opportunity to be selected. For example, haphazard and random-based selection of items represents two means of obtaining such samples.*

Auditors usually employ inferential statistics, the purpose of which is to infer or deduce something about a population or group based on a sample from that population or group. For example, when the United States elects its President, media outlets provide poll results based on the use of inferential statistics. In its simplest form, these polls take a sample of voters from the population of the United States to infer the way all voters would vote. Some important qualifiers concerning these polls help the users understand what the polls infer about the population.

The first of these qualifiers is the *confidence level* of the sample. Because the sample does not contain all voters, the public cannot be absolutely confident in the accuracy of the poll. To compensate for this, the poll uses a confidence level sample to give reasonable accuracy. The most common confidence level is the 95% confidence level sample. This means a sample size large enough is used so that if the same poll were taken 100 times, 95% of the time it would return the same results. The sample is calculated using well-established mathematical formulas.

The second qualifier is the *margin of error*. This is normally expressed by the use of a plus or minus percentage. For example, if a poll states that 65% of the sample will vote for Candidate A, it will also include a margin of error of a certain percentage. If the percentage is 3%, this means that the likely vote for Candidate A will be between 68% and 62%. The margin of error is determined by the sample size. If the auditor wants to decrease the margin of error, he or she will need to increase the sample size.

## PEER Analysis of the Board's Audit Sampling Methods

The Board for Community and Junior Colleges conducts its audit of enrollment using several statistical samples. As a part of the board's sampling procedures, it takes two sets of three sequential

samples to test for two types of errors--admission errors and attendance errors. *Admission errors* include problems related to enrollment, such as a lack of a proper transcript. *Attendance errors* include lack of material participation by a student in a class. The board defines a lack of participation as accumulating six or more absences before the sixth week of the semester.

Because the board conducts two sets of samples at once that are substantially similar, this appendix describes only the audit for attendance, although each step described is conducted twice by the board's staff for the enrollment audit.

The board creates three samples during the audit, described as follows:

- Sample 1 includes two parts: a 20% sample of attendance and a 20% sample of the first 20% sample.
- Sample 2 is a 95% confidence level sample. Sample 2 does not include any records tested in the first sample.
- Sample 3 consists of a test of 30% of the student and class records.

The following sections describe each of the samples in more detail.

## Sample 1

### *Part 1 of Sample 1*

Part 1 of Sample 1 is a random sample of 20% of the classes. The purpose of this audit to check attendance. The board creates the sample and forwards this sample to each college's registrar, notifying the institution of which records to be pulled. Each registrar audits each file within the sample and reports the results of the audit to the board. Any attendance records that do not meet the board's criteria are removed from the database of students maintained by the board. The board's policy does not require that the error rate be applied to the total.

PEER concludes that this 20% sample is not made with any reference to a statistical model such as a 95% confidence level sample; therefore, this sample may or may not be representative of the population and may be considered an arbitrary selection. For example, Coahoma Community College, the smallest college in terms of population, has a reported student population of 2,415. The sample size necessary to be 95% confident that the errors detected in the sample will be within a 6% range of the total population is 740, or 31% of the population. Because the sample size is 20%, rather than 31%, the sample size is not adequate.

Also, this part of the audit is conducted by the registrar of the college. As discussed in Appendix A on page 23, this person is not independent in relation to the college and, therefore, should not be conducting this portion of the audit.

Because of the conditions stated above, this part of the audit is unreliable according to GAAS. Also, this part of the audit is unnecessary because, as noted later in this appendix, if the board's staff conducted Sample 2 properly (i.e., by not excluding any records from the sample and by applying the error rate), Samples 1 and 3 would not be necessary.

### ***Part 2 of Sample 1***

Part 2 of Sample 1 is a sample of Part 1 of Sample 1. The board takes a random sample of records from within the previous 20% sample of classes. The board identifies which records are to be pulled for the sample and notifies the institution. The institution submits the records electronically to the board. If the board determines that a student has not met attendance requirements, the board removes the appropriate number of semester hours for that student from its database.

PEER concludes that this sample is actually conducted by the board's staff and therefore may be regarded as independent. However, the board only audits 4% of the records. This sample size was also determined arbitrarily rather than by relying on a statistical sample model. This size may or may not be representative.

Because of the conditions stated above, this part of the audit is unreliable according to GAAS. Also, this part of the audit is unnecessary because, as noted in the following section, if the board's staff conducted Sample 2 properly (i.e., by not excluding any records from the sample and by applying the error rate), Samples 1 and 3 would not be necessary.

## **Sample 2**

The board creates Sample 2 by selecting a sample size necessary to produce a 95% confidence level in the total number of classes (i.e., error rates found in the sample in ninety-five out of one hundred samples will be indicative of the population within a predetermined range). The board creates a sample of total classes offered by the college; however, any students or classes selected in Sample 1 are excluded from Sample 2. All student hours erroneously counted are subtracted from the student count. The error rate is not applied to the total number of semester hours taken by students.

PEER concludes that while this sample does reference a 95% confidence level sample, it is not a valid sample because it excludes all records from Sample 1. In order to be valid, all records must have the opportunity to be selected.

The board also does not apply the error rate to the total number of students' semester hours to compensate for the number not used in the sample; rather, in the event of an error, it subtracts hours found in the sample. This practice is unfair to smaller

colleges because a higher percentage of the student population must be audited on average to produce the same level of confidence.

Because of the conditions stated above, this part of the audit is not reliable according to GAAS. Also, if the board's staff were to conduct Sample 2 properly (i.e., by not excluding any records from the sample and by applying the error rate), samples 1 and 3 would not be necessary. This sample alone, if properly conducted, would meet the minimum requirements for sufficient competent evidential matter under GAAS.

### **Sample 3**

Sample 3 consists of a test of 30% of classes. Unlike Sample 2, this sample does not exclude students and classes selected in Sample 1 or Sample 2. The board's staff conducts this sample while visiting each campus once during the academic year; the board's staff announces the visits in advance. If the board's staff finds that many errors exist at a particular college, the board may expand the audit to include 100% of records. If this happens, the board charges all expenses associated with the expanded testing to the college. All students erroneously counted are subtracted from the student count.

PEER concludes that, as with Sample 1, this sample size is not determined using a statistical calculation and is therefore arbitrary. It may or may not be representative of the population. Even if it were representative of the population, the error rate would be unreliable because it would contain corrections made by the board in its previous samples. This would cause the true error rate to be distorted. Additionally, the board announces the time of the audit in advance, which allows the colleges opportunity to edit records.

Because of the conditions stated above, this part of the audit is unreliable according to GAAS. Also, this part of the audit is unnecessary because, as noted on page 29, if the board's staff conducted Sample 2 properly (i.e., by not excluding any records from the sample and by applying the error rate), Samples 1 and 3 would not be necessary.

### **Audit Exceptions and Reporting**

The board's staff contends that exceptions found during the sample testing are not indicative of the exception rate of the total student population when the board has conducted a full audit. According to the board's staff, the board allows colleges to correct exceptions throughout the audit process. The board does compile a comprehensive list of all errors from all samples; however, the board does not document which errors came from which sample nor does it produce a formal audit report.

PEER concludes that because the board conducts three samples of the same information and corrects it each time, it is unlikely that



the error rate would be the same in every sample. For example, if Sample 3 contains records corrected from Samples 1 and 2, Sample 3 would most likely have a lower error rate than samples 1 and 2. It should also be noted also that at no point in its audit does the board produce an error rate that can be reasonably applied to the total student hours.

Additionally, the board's staff does not maintain adequate records to reconstruct each sample. While the board does have a record of all hours deducted, it is impossible to determine which hours were deducted from which sample. Because of this, the samples and results cannot be reproduced nor independently verified as required by GAAS.

PEER notes that the board should also produce an audit report to provide evidence that it has certified the students counted as required in its appropriation bill.

# Agency Response



## STATE BOARD FOR COMMUNITY AND JUNIOR COLLEGES



June 9, 2006

Dr. Max K. Arinder, Ph.D.  
Executive Director  
Joint Committee on Performance Evaluation and Expenditure Review  
Post Office Box 1204  
Jackson, Mississippi 39215-1204

Dear Dr. Arinder:

This correspondence is to provide the Mississippi State Board for Community and Juniors Colleges' (SBCJC) formal response to the PEER review of various aspects of SBCJC operations. The SBCJC wishes to express it's appreciation to the PEER committee staff for its professionalism and efficiency in conducting this review. In terms of response, the SBJC wishes to address each of the three recommendations made within the review. Further, the SBCJC will take under advisement the full report and the discussions with PEER staff and will consider such as technical assistance for the purposes of improving processes and becoming even better stewards of the funds appropriated to Mississippi's community and junior colleges.

We respectfully offer the following responses to the recommendations:

**Recommendation 1:** While complying with the mandate of state law to "determine who shall be counted in each college and ...certify the number," the Board for Community and Junior Colleges should incorporate the following steps:

- A. The board should obtain sufficient, competent evidential matter through the performance of statistically valid samples and produce error rates that can be used to project a more accurate estimate of the number of students to be removed from student populations before allocating funds.

**Although the SBCJC currently uses samples larger than those prescribed by statistical models for the size of populations being examined during audits, this recommendation will be studied to ensure that we utilize the most accurate and acceptable method of sampling.**

- B. The board should ensure that the persons conducting any steps in the audit process are independent in fact and appearance from the community and junior colleges.

**Current practice requires very limited participation from college personnel in the audit process. College personnel assist auditors in retrieving hard folders from files and data from the institution's computer system. The State Board will study methods to strengthen independence. Our community college system is the first 2-year system to be established in this nation. Our structure and purpose require an ongoing (year-round) working relationship between the SBCJC and the colleges on all aspects of the system including the enrollment verification. Therefore, true independence as required in performing financial audits would be difficult to achieve.**

- C. The board should create and maintain work papers documenting work performed in preparation for the audits (including reviews and analysis of each college's systems of internal controls relating to areas audited) actual performance of the audits, and conclusions reached as a result of the audits.

**The SBCJC staff does create and maintain various work papers to document work performed during the audit; such as an exception report form for each enrollment verification conducted, which includes the SBCJC staff who conducted the enrollment verification, the college staff who assisted, type of enrollment verification, term, attendance exceptions, admission exceptions, and comments (if appropriate) on concerns or issues regarding the enrollment verification. However, the Board is open to creating a specially designed internal control questionnaire to be completed during the audit process.**

- D. For each audit conducted, the board should produce an audit report describing records reviewed, the scope of the audit, and conclusions reached as a result of the audit.

**The Board can design an audit report that more specifically describes the records reviewed, the scope of the audit, and conclusions reached as a result of the audit.**

**Recommendation 2:** The Legislature should amend Miss. Code Ann. Section 37-4-3 (1972) to require the Director of the Board for Community and Junior Colleges, or his designee, to audit each public community and junior college for the purpose of determining student head count or full-time student equivalent to be used in the allocation of funds based on enrollment at the close of each grading term. The director should report the audit results for the four previously completed semesters to the Legislature and the Board or community and Junior Colleges by December 15<sup>th</sup> of each year.

**The board urges the Legislature to be extremely cautious of changing the above referenced Code section. The rationale for the word of caution lies with the fact that by moving the date of audit from the six week period of a semester, or its equivalent, there is a very real risk that the quality of the community and junior college system will be affected. We strive to maintain a rigorous program of instruction. Many of**

the students who come to us do not have the academic background required to achieve the level of grades they want or expect. Our instructors are currently under no pressure to create grade inflation. If the period for auditing is moved to the end of the semester and the drop period is not changed, then there will be pressure to inflate grades due to economic factors.

Also, the legislature is encouraged to consider those non-instructional, yet essential, costs incurred by the colleges. In computing costs to consider efficiencies, PEER only utilized instructional costs in the form of salaries. There exists many other critical support functions such as financial aid, business office services, maintenance of buildings, supply of labs, counseling, etc., that begin to incur costs the day a student enrolls in a class. On the other hand, as soon as a student attends his or her first class and with every other class attended, value has been received by that student from the educational experiences. Therefore, a change from the 6<sup>th</sup> week to the end of the semester in obtaining the enrollment count would understate enrollment and could possibly undermine quality.

In addition, enrollment counts done at the end of the semester will not be comparable to enrollment counts done at the 6<sup>th</sup> week period. Since state appropriation is not based on enrollment, enrollment verification at the end of the term would only increase the amount of allocation per student. A higher allocation per student would give the appearance that Mississippi is out of line with other states in the region. Verifying students at the end of the term disregards all the expenses the colleges have incurred on all students who drop out before the end of the term.

Significant computer programming costs will be incurred with the implementation of this change. We would hope that if this change is implemented, the Legislature will appropriate funds to cover computer programming costs.

In my discussions with various legislative leaders such as yourself, I know that you do not want to create the unintended consequences of lowering standards or increasing tuition in the best educational institutions that you have in Mississippi. This time frame for doing audits has existed for years and has worked well until this point in time. If there is perceived to be a need to make such changes it would seem wise to take the appropriate time to study the results before actions are taken that may have very negative consequences. The community and junior college system does not operate in a vacuum, our enrollment numbers are often compared, for a multitude of purposes, to those of the K-12 system and the IHL system. If this, in the opinion of the Legislature, is a necessary alteration for the community and junior colleges, equity would beg that it is likewise appropriate for the two fellow educational organizations.

**Recommendation 3:** The Director of the Board for Community and Junior Colleges, or his designee, should meet with each public community and junior college staff for the purpose of discussing and formulating an action plan to improve the efficiency of the

colleges by reducing the number of class sections for core classes. The study should address those class sections with fewer than ten students and how class schedules could be formulated to compensate for the 25% student drop rate. The director should report the results of this study to the Legislature and the Board for Community and Junior Colleges by December 15, 2006.

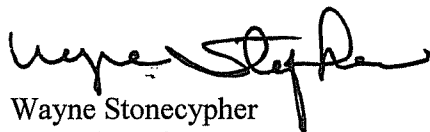
**The community and junior colleges recognize the need to continually monitor class size and to strive to increase student retention. It should be noted that there does exist national studies and data on this topic. Most of those studies point to and support the concept of small class sizes which in turn creates interaction with the instructor. For example, consider the following quote from the 2005 Community College Survey of Student Engagement performed by the Community College Leadership Program at the University of Texas at Austin:**

**In general, the more interaction students have with their teachers, the more likely they are to learn effectively and persist toward achievement of their educational goals. Personal interaction with faculty members strengthens students' connections to the college and helps them focus on their academic progress. Working with an instructor on a project or serving with faculty members on a college committee lets students see first-hand how experts identify and solve practical problems. Through such interactions, faculty members become role models, mentors, and guides for continuous, lifelong learning.**

**With the above noted, we have and will continue to study a number of areas of our community and junior college system and utilize existing research to enhance our programs. Our primary inhibition to such study is that since FY2000 the Legislature has cut general funds to the State Board for Community and Junior Colleges by \$11,109,908. We currently have not filled the position responsible for this function due to lack of funds. It is estimated that it would take \$76,200.00 for the Director of Accountability to accomplish this goal.**

If you have any questions or need further explanation of information we have provided, please do not hesitate to contact our office.

Sincerely,



Wayne Stonecypher  
Executive Director

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