

DOCUMENT RESUME

ED 351 939

HE 026 000

TITLE Report to the General Assembly on Academic  
 Accountability at Colorado Public Colleges and  
 Universities.

INSTITUTION Colorado Commission on Higher Education, Denver.

PUB DATE Feb 92

NOTE 20p.

PUB TYPE Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS \*Accountability; Basic Skills; College Outcomes  
 Assessment; Degrees (Academic); Educational  
 Assessment; Educational Policy; \*Educational Quality;  
 Higher Education; \*Institutional Evaluation; Minority  
 Groups; Program Implementation; School Holding Power;  
 Self Evaluation (Groups); State Agencies; \*State  
 Colleges; State Departments of Education; State  
 Legislation; State Standards; \*State Universities;  
 Statewide Planning; Teacher Education

IDENTIFIERS \*Colorado

ABSTRACT

This paper reports on the Colorado Commission on Higher Education (CCHE) and their progress in implementing their goals as set by the state legislature which concern efforts to assess students knowledge capacity, and skills. In particular the report describes CCHE efforts to monitor institutional implementation efforts, summarizes institutional progress in assessment, and lists issues that emerged from institutional reports. A first section, a review of institutional reports, describes data to support the process used by CCHE to monitor institutional compliance with the accountability statute and discusses the criteria that each institution report on with a chart to provide detailed information. Also included are a description of the written review of each institution's report with a sample of the CCHE questions and institutional answers. The second section considers issues derived from the institutional accountability reports including supporting data, recommendations, and designation of a responsible agency to carry out the recommendations. The specific issues covered in this section are effectiveness of basic skills, assessment of teacher education programs, and minority retention and graduation. Appended information includes a chart on how students are informed of institutional expectations, a chart on information dissemination, and estimated costs of accountability by institution. (JB)

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# COLORADO COMMISSION ON HIGHER EDUCATION

Report to the General Assembly on  
Academic Accountability at Colorado  
Public Colleges and Universities

February 1992

Colorado Commission on Higher Education  
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## **EXECUTIVE SUMMARY**

This report responds to the General Assembly directive to the Colorado Commission on Higher Education (CCHE) to develop policies, monitor implementation and report annually about public higher education institutional efforts to assess their students "knowledge, capacity, and skills." The CCHE developed policies and criteria to respond to the directives in the statute. The report 1) describes CCHE efforts to monitor institutional implementation efforts, 2) summarizes institutional progress in assessment and 3) lists three issues that emerged from the institutional reports.

Colorado public higher education institutions have documented an increase in students' knowledge, skills and capacities as the result of taking classes, finishing general education curricula, and receiving degrees in disciplines or vocational programs. Institutions provided data for the following report based on their efforts to measure their students' abilities. All institutions are implementing an accountability plan according to statute and policy.

Institutional reports have some common themes. Many institutions found that advising is an area that students and alumni find deficient. To remedy this problem, institutions are providing more information and training to faculty. Most institutions find that their student retention rates are lower than expected and need to be increased. Academic alert systems that identify students with academic difficulties early in a semester, and freshman seminars to introduce students to college life and available services are strategies to increase retention.

Three frequent themes that have statewide implications emerge from the institutional reports: basic skills effectiveness, assessment of teacher education programs, and minority retention/graduation. Since HB 1187, the Commission has targeted each of these areas for further study because of their importance to the state as a whole. The report recommends that institutions or governing boards study these areas to clarify the results of assessment measures. The CCHE will continue to monitor these areas, including institutional and governing board response. Modifying CCHE policies could be one response to needs identified by further study of these statewide issues.

## **INTRODUCTION**

In HB 1187, the Colorado General Assembly directed the Colorado Commission on Higher Education to develop policies and monitor the implementation of accountability plans at public higher education institutions. In addition, the Commission must report the status of institutions' implementation efforts to the General Assembly annually. This report fulfills that mandate.

The report has two sections: 1) a description of and data to support the process used by CCHE to monitor institutional compliance with the Accountability statute, and 2) statewide policy issues derived from the institutional accountability reports. The first section discusses the criteria that each institution must report to CCHE with a chart to provide detailed information. A description of the CCHE written review of each institution's report with a sample of CCHE questions and institutional answers completes the first section.

The second section lists three statewide policy issues derived from the institutional reports. Each issue is described, supporting data supplied, recommendations discussed and a responsible agency designated to carry out those recommendations.

In addition to this report, each legislator was sent a copy of a two-page summary developed by each institution in the legislator's district about its accountability efforts. The two-page summaries provide specific information about each institution's plan and results. Additional copies of the summaries and each institution's complete report are available from CCHE.

## **INSTITUTIONAL REPORT REVIEW**

### **Statutory Directives and Criteria**

CCHE developed a set of criteria based on the four directives in the statute to review each accountability report. The four statutory directives and their related criteria are presented on the next page.

Statutory Directives	Criteria
<p>CRS 23-13-101 (a) "That institutions of higher education be held accountable for demonstrable improvements in student knowledge, capacities, and skills between entrance and graduation;"</p>	<p>Does the institutional report:</p> <ol style="list-style-type: none"> <li>1) document changes made as a result of assessment?</li> <li>2) provide evidence of continuing examination of existing goals?</li> <li>3) contain current data on the assessment of general education, discipline-specific education, retention and completion, alumni/student satisfaction, and after-graduation performance?</li> </ol>
<p>CRS 23-13-101 (b) "That these demonstrable improvements be publicly announced and available;"</p>	<p>Does the institutional report record how the institution publicly disseminated the student assessment results?</p>
<p>CRS 23-13-101 (c) "That institutions express clearly to students their expectations of student performance;"</p>	<p>Does the institutional report document how the institution informed its students about institutional expectations regarding student outcomes?</p>
<p>CRS 23-13-101 (d) "That these improvements be achieved efficiently through the effective use of student and institutional resources of time, effort and money."</p>	<p>Does the institutional report include a financial statement to document institutional accountability costs?</p>

In addition, the reports must include information about minority student achievement and faculty involvement in the accountability process. The following table tabulates each institution's success in meeting each criterion.

## REPORT CRITERIA

Gov. Boards	Inst.	Program Changes	Review Goals	Dissemination of Findings	Expected Student Outcomes	Cost	Minority Data	Response to 1989 Comments	General Education	Majors	Retention/Grad.	Student/Alumni Satisfaction	After Grad. Performance
SBA	CSU	X	X	X	X	X	X	X	X	X	X	X	X
	USC	X	X	X	X	X	X	X	X	X	X	X	X
	FLC	X	X	X	X	X	X	X	X	X	X	X	X
REGENTS	UCB	X	X	X	X	X	X	X	X	X	X	X	X
	UCCS	X		X	X	X	X	X	X	X	X	X	X
	UCD	X	X	X	X	X	X	X	X	X	X	X	X
	UCHSC	X	X	X	X	X	X	X	NA	X	X	X	X
UNC		X		X	X	X	X	X	X	X	X	X	X
CSM		X	X	X	X	X	X	X	X	X	X	X	X
STATE COLLEGES	MESA	X		X	X	X	X	X	X	X	X	X	X
	MSC	X	X	X	X	X	X	X	X	X	X	X	X
	ASC	X	X	X	X	X	X	X	X	X	X	X	X
	WSC	X	X	X	X	X	X		X	X	X	X	X
COMM. COLLEGES	ACC			X	X	X	X	X	X	X	X	X	
	CCA	X		X	X	X	X	X	X	X	X	X	X
	CCD	X	X	X	X	X	X	X	X	X	X	X	X
	FRCC	X		X	X	X	X	X	X	X	X	X	X
	LCC	X	X	X	X	X	X	X	X	X	X	X	X
	MCC	X		X		X		X	X	X	X	X	X
	OJC		X	X		X	X	X	X	X	X	X	X
	PCC	X	X	X	X	X	X	X	X	X	X	X	X
	PPCC	X	X	X	X	X	X	X	X	X	X	X	X
	RRCC	X	X	X	X	X	X	X	X	X	X	X	X
	TSJC	X		X	X	X	X	X	X	X	X	X	X
LOCAL DISTRICT COLLEGES	AIMS	X	X	X	X	X	X	X	X	X	X	X	X
	CMC	X		X	X	X	X		X	X	X	X	X
	CNCC	X		X	X	X	X	X	X		X	X	X
	NJC	X	X	X	X	X	X	X	X	X	X	X	X

## Results

Most institutions provided data for all criteria; the most difficult criterion to meet appears to be "continuing examination of goals". Ten institutions either did not provide data to meet this criterion or misunderstood the question and provided incorrect information. To meet this criterion, an institution must compare its assessment results to its goals and judge if the goals remain valid. Changes in goals occur because the original goals were not sufficiently demanding, written too narrowly, or may not have expressed educational objectives that were originally intended. The CCHE staff, in its annual spring meeting with assessment directors, will discuss this criterion to clarify expectations.

Most institutions are meeting the second and third directives of the accountability statute. Institutions informed their students of assessment-related expectations and publicly announced their assessment results. Some institutions have already provided information to local news media informing the public of the accountability results at local colleges. (See Appendix 1 and 2 for more detailed information.)

The cost of accountability decreased from last year's total of \$3.1 million. This year, estimated institutional accountability costs equaled \$2.5 million. This is approximately \$14.15 per headcount student for the state, approximately \$3.50 less per student than last year. Two year colleges spent an average of \$14.85 per student, universities/colleges spent approximately \$14.95 per student, and the research universities spent approximately \$12.27 for each undergraduate student. Both direct and indirect costs decreased from last year and all categories (e.g personnel, travel, etc.) decreased. (See Appendix C for more detailed information.)

During the 1991 Interim Joint Education Committee Hearings, legislators expressed concern that institutions were not properly validating their goals with the help of outside publics. CCHE will add another criterion requiring all institutions to describe their goal validation process, with special attention to external reviewers of accountability goals.

## General Observations

Data provided by institutions demonstrate that students' knowledge and skills actually do increase from entrance to exit. Institutions developed many assessment measures to evaluate directly increases in knowledge due to individual classes, major programs, and general education curriculum. All institutions are implementing a plan that is consistent with the statute to "be accountable for improvements in knowledge, skills and capacities."



The institutions' sophistication in developing and using measures and interpreting data is significantly higher than in the previous year. Many more institutions used information gathered from assessment measures to make changes in their curricula, teaching styles, and requirements for graduation than last year. Faculty at most institutions were involved in the process. Some reports relayed information on faculty interest in accountability information and how faculty used the data as support for making changes.

One area that most institutions found deficient through their accountability measures is advising. Current students and alumni often stated a need for better advising. Many institutions responded to this accountability information by providing more information and training to faculty to improve their advising skills.

A second area of concern is the low retention rate at all types of institutions. Changes to increase retention include academic alert programs, which identify students with academic difficulties early in the semester, and Freshman Seminar classes, which provide an introduction to college and the array of services available.

Assessment of the majors or vocational degrees is progressing very well at the majority of institutions. Faculty are closely involved in the processes of developing goals, applying measures, interpreting data and changing to solve identified problems. Course sequencing, prerequisites, and writing skills are examples of issues identified by accountability data and addressed by faculty.

### Review Questions and Institutional Responses

In addition to reviewing each report to determine if all criteria are met, CCHE also audits accountability goals, measures, and results. If CCHE finds unclear or unrealistic explanations or measures, the institution is requested to provide more information. The following questions and institutional responses are a small sample of all the questions and responses received regarding the 1989/90 Accountability report.

#### STATE BOARD OF AGRICULTURE

Colorado State University:

CCHE Question: (To the Political Science faculty, who developed a measure to assess this program by asking two questions of their graduating seniors.) Can two questions reflect the entire political science curriculum?

**Response: "First the Department does not seek to test student knowledge of the curriculum. Instead, objectives are to sample knowledge in areas central to the curriculum and their abilities to analyze politics in an informed and systematic basis.**

**Further the questions posed are not narrow, and memorization is not tested. The Department wishes to know if instruction has given students significant relational information and concepts which help them think, analyze, grope with difficult questions, make meaningful comparisons, and understand the complexities of political life."**

University of Southern Colorado:

**CCHE Question: Most of your dissemination procedures appear to be internal; more external procedures are necessary.**

**Response: "AY 1990-91 was the first year to collect baseline data. During the past year our external dissemination consisted of submitting several articles to the Pueblo Chieftain, publishing our assessment program and expectations in the 1990/92 bulletin and sharing our results to date with area high school counselors."**

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## STATE BOARD OF TRUSTEES

Metropolitan State College of Denver

**CCHE Question: The processes that many departments developed do not look at programs in light of program outcomes, but focus on individual students.**

**Response: "MSCD faculty understand that they are assessing their programs in order to improve them. However, faculty choose to assess by examining students' performances. To make students take assessment activities seriously, faculty believe that the activities and a performance criterion must become requirements for graduation. If the activities are required for graduation, faculty are faced with the problem of what to do if a student does not meet**

**the criterion. This issue is of grave concern to the faculty, and last year faculty may have placed undue emphasis upon this aspect and insufficient emphasis on how they would use the information to improve their programs."**

Mesa State College:

CCHE Question: CCHE is concerned about the lack of data reported for majors.

**Response: "Discipline-specific assessment now uses assessment techniques, outcomes, and standards established by each department. The academic goal for each area of specialization, however, at this time remains the same as outlined in previous reports - that students have '...adequate preparation in an area of specialization to permit graduate studies or a professional career.' The change in assessment techniques, outcomes, and standards represents an expansion of the original assessment program, allowing each area to select from a more effective multiplicity of assessment instruments and procedures."**

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## UNIVERSITY OF COLORADO SYSTEM

University of Colorado - Colorado Springs

CCHE Question: Many departments did not furnish data.

**Response: "UCCS is in complete agreement with CCHE's concerns. We realize that some of our departments do not fully understand the accountability process. Therefore, we plan to schedule a meeting with all deans, department chairs, administration, and staff who are currently involved with assessment reporting. During this meeting, we will explain the correct format to be used in reporting student outcome assessment;..."**

University of Colorado - Boulder

CCHE Question: There seems to be widespread concern about students' critical thinking abilities. Are there any plans to address this issue on an institution-wide basis?

**Response: "Some Critical Thinking courses are evaluated now because they are also capstone courses used by individual departments in their assessment plan. As described further in the discussion of General Education in the following section, a more concerted effort will be made to add evaluation of Critical Thinking courses in AY 1991-92."**

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#### **TRUSTEES OF THE UNIVERSITY OF NORTHERN COLORADO**

**CCHE Question: If the Math department considers the California Achievement Test (CAT) as too elementary to measure Math skills of sophomores, why is the Professional Teacher Education program reporting it as an assessment measure?**

**Response: "First, the CAT is a state-mandated test for persons seeking certification as teachers in the Colorado schools. Second, the CAT is not an outcomes measure; rather, it is part of the entrance requirements to the Professional Teacher Education Program. Thus, the issues of the level of math required on the CAT and level of math skill considered appropriate for any UNC graduate are unrelated. Furthermore, the fact that about 1/3 of students who apply for entrance to the PTE program fail the math portion of the CAT suggests to them that their skills may be considerably below what will be needed to meet the university's math-skill criterion."**

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#### **TRUSTEES OF THE COLORADO SCHOOL OF MINES**

**CCHE Question: CSM's report appeared very administratively based with little faculty input. CCHE is concerned about the apparent lack of faculty involvement.**

**Response: "Faculty have been heavily involved since the beginning of the process--they formed the bulk of the committee which designed CSM's plan and they comprise the current committee which evaluates and reports on assessment results. ... As juniors enter the portfolio process for the first time this year (1991-92), the faculty in each department have been asked to devise a plan through which the technical competence of their students can be measured."**

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STATE BOARD OF COMMUNITY COLLEGES AND OCCUPATIONAL  
EDUCATION

Otero Junior College

CCHE Question: Class attendance does not necessarily result in increased knowledge and the General Assembly requires accountability plans with measures that go beyond reporting grades. OJC needs to develop some additional methods.

Response: "Table II shows the Fall courses offered and the choice of measure, pre-test/post-test or audit, to be used to measure learning during the Fall semester."

Lamar Community College

CCHE Question: Are faculty incorporating specific employer suggestions into the curriculum?

Response: "The Business Systems Technology faculty have completed major curriculum revisions that were based on feedback obtained from employers within the business community. The Ranch/Farm Management Program will be implementing new curriculum components during 1991-92 which directly respond to employer suggestions to address the repair and maintenance of commonly used ranch and farm equipment."

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LOCAL DISTRICT COLLEGES

Aims Community College

CCHE Question: The relationship between some of your objectives (2.3 & 2.4) and the assessment measures is unclear. (Objective 2.3 - Think critically about a variety of human issues at success or minimum competency levels established by the faculty in the division and course work. Objective 2.4 - Weigh and respect different systems of human values, both contemporary and historical, making appropriate connections between past, present and future at success or minimum competency levels established by the faculty in the division and course work.)

**Response:** "In meetings with the Behavioral and Social Sciences Division regarding this issue, the scope of performance expectation 2.3 was determined to be somewhat too general in relation to the specific curricular content assessed. The performance expectation have been revised to : "Think critically about psychological, sociological, and geographical issues at success or minimum competency levels established by the faculty in the division and course work." Also the faculty of the Behavioral and Social Sciences Division are now reviewing both performance expectations 2.3 and 2.4 relative to the acquisition of content versus demonstration of behavioral change."

**STATEWIDE POLICY ISSUES**

The institutional accountability reports provide two views: institutional information and a view of issues statewide. The following issues appear to be ones that may have statewide implications.

1) Effectiveness of Basic Skills - Three institutions reported information on students assessed as needing basic skills. One group of students took the advice to take remedial courses; the other group did not take the advice. The institution then compared the success of each group in college level courses. Although those that took the remedial courses had higher success rates, the differential is not large in most cases. The following data provides the support for this issue.

**Students Assessed As Needing Basic Skills**

Percent of Students Successful in College Level Courses

	OJC		CCA		TSJC	
	Remedial Course	No Course	Remedial Course	No Course	Remedial Course	No Course
English	71%	67%	78%	67%	91%	88%
Math	67%	27%	89%	55%	96%	100%

Took Remedial N = 384, No remedial N = 197

**Recommendation:** Only the three schools identified above reported this kind of information. This group is too small to provide definitive evidence of the effectiveness of basic skills preparation, but it does provide enough evidence to suggest further exploration of this issue. Ideally each institution should be addressing this issue, but the demands of this kind of research project may be

beyond the resources of some community colleges. The community college governing board does have the resources and this is an issue that should be addressed by them. Depending on the results on the governing board study, CCHE may further address this issue. Responsible entity: SBCCOE and CCHE.

2) Assessment of Teacher Education Programs - Institutions have not developed meaningful assessment techniques for teacher education programs. Most programs rely on some or all of the following: California Achievement Tests (an entry test required by the Colorado Department of Education), the CDE 1st and 3rd year survey of new teachers, student teaching grades, and the CDE survey of school districts. None of these assessments distinguish between programs, nor do they provide much detail to individual programs since most percentages hover around 90%-95% level for all questions at all institutions. Most institutions therefore find the need to change very little in their programs. Because of the inadequacy of these assessment measures, it is difficult to tell if programs should be changed. Basically, these assessments support the status quo.

Recommendation: Teacher education assessment should reflect current thinking about assessment. Current assessment results are not sensitive enough to distinguish between programs or apparently give enough information to institutions to suggest substantive changes in programs. Assessment techniques are the responsibility of individual institutions. Linkages in Networking Colleges and Schools (LINCS), a joint committee established by CDE and CCHE, and recently adopted as a task force of the Colorado Achievement Commission, could be an excellent resource for education deans to share views of statewide needs at both the K-12 and higher education level. Responsible entity: Education Deans and, as a resource, LINCS.

3) Minority Retention/Graduation - The minority graduation and retention rates are, at almost all institutions, significantly lower than for non-minority students. CCHE studied this issue in the last year and produced a report detailing retention and graduation rates for all public higher education students in Colorado. The study found that from fall 1986 to fall 1990, minorities persisted or graduated at lower rates than non-minorities at both community colleges and four year institutions. This information will be updated annually.

## Persistence/Completion Rates for Colorado Public Higher Education\*

	Community Colleges <sup>1</sup>	Four Year Institutions
Blacks	26%	45%
Asians	40%	68%
Native Americans	36%	47%
Hispanics	36%	55%
Whites	47%	65%
Total	44%	64%
	N=3,912	N=9,029

\* See Persistence/Completion Rates for Colorado Public Higher Education - CCHE November, 1992 Agenda Item IV, B for methodology.

The Commission has a statutory directive to develop statewide affirmative action plans and has instituted an affirmative action program that sets minority graduation goals for institutions. The graduation rate for minorities will be monitored each year and compared to previously set graduation goals. This is an area where institutions know that they must make progress to serve fully the entire population of Colorado.

Recommendation: CCHE should continue to monitor the retention and graduation rates of minorities and publicly report those results. Responsible Entity: CCHE

### CONCLUSION

This report documents CCHE's statutory responsibility to monitor institutional accountability efforts and to report on those efforts to the legislature. All institutions fulfill the mandate to measure the increase in knowledge, skills, and capacities that occur between entrance and graduation. They also are using the information to make changes in their classes, teaching methods, and programs. The changes are too numerous to document in this report, but can be obtained from the full reports available from CCHE or the institutions.

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<sup>1</sup> In comparing two year and four year persistence/completion rates, it is important to remember that two year students have a wide variety of objectives. Many students with certain goals (e.g. job skills upgrade, personal improvement, courses to obtain a job) do not intend or want a degree, but fulfill their objectives by taking courses only.



The institutional reports reflect some statewide issues that need further clarification. Basic skills, minority retention/graduation, and teacher education assessment are issues that need additional study from a statewide policy perspective.

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## Inform Students of Institution's Expectations

#	Institution	Course	Library	Letter to Students	Brochure	Advising	Course Handouts	Orienta'tion	Student	Recruiters
1	ACC	X					X			
2	ASC	X		X	X					
3	AIMS	X					X	X	X	
4	CCA	X								
5	CCD	X				X				
6	CMC	X								
7	CNCC	X				X				
8	CSM	X								
9	CSU	X								
10	FLC	X						X		
11	FRCC	X				X	X	X	X	
12	LCC	X				X	X	X		X
13	MCC									
14	MSC	X				X				
15	MESA	X		X						
16	NJC	X						X	X	
17	OJC									
18	PCC	X				X	X		X	
19	PPCC	X				X	X			
20	RRCC	X					X			
21	TSJC	X								
22	UCB	X								
23	UCD	X			X					
24	UCCS	X	X	X				X		
25	UCHSC				X	X	X	X	X	
26	UNC	X		X	X					
27	USC	X								
28	WSC	X			X					

# Dissemination of Findings

#	Institut	INTERNAL					STUDENTS				EXTERNAL							
		Advisory Group	Newsletter	Internally	Library	Foundation	Student Publications	Students	Student Government	Brochure	Community Organization	K-12	Legislators	Alumni	News Media	Conferences	Businesses	Recruiters
1	ACC	X		X		X					X							
2	ASC			X	X		X							X				
3	AIMS	X	X	X			X										X	
4	CCA			X							X							
5	CCD	X	X								X						X	
6	CMC	X	X	X					X								X	
7	CNCC		X	X	X				X								X	X
8	CSM		X	X	X		X							X			X	
9	CSU	X		X	X		X		X								X	
1	FLC		X									X					X	X
1	FRCC	X	X	X								X	X				X	X
1	LCC	X	X	X	X		X					X	X				X	
1	MCC	X		X	X				X									
1	MSC			X	X		X		X					X				
1	MESA			X	X				X				X				X	
1	NJC			X			X					X	X				X	
1	OJC			X	X				X								X	
1	PCC	X		X	X					X			X					
1	PPCC	X		X	X		X		X			X						
2	RRCC	X		X	X		X										X	
2	TSJC	X		X	X						X						X	
2	UCB				X												X	
2	UCD	X		X					X		X						X	
2	UCCS			X					X			X					X	
2	UCHSC			X	X				X	X								
2	UNC		X							X				X			X	
2	USC			X							X		X	X	X			
2	WSC	X		X	X												X	

ESTIMATED COSTS OF ACCOUNTABILITY

<u>Costs - Statewide</u>			
\$2,406,789	Total	Direct Costs	\$1,487,978
\$14.15	Per Student	Test/Surveys	122,822
		Equipment/Computer	5,600
		Indirect	844,389
		<b>TOTAL</b>	<b>\$2,406,789</b>

Costs per student (1990/91 headcount)

**Research University Sector**

CSM -	\$15.71
UCB -	9.93
CSU -	12.83
UCHSC -	35.28
avg.	\$12.27

**Universities & Colleges**

UCD -	\$ 7.91
MESA -	13.24
UNC -	15.70
USC -	21.54
UCCS -	11.68
WSC -	4.76
MSC -	14.19
ASC -	36.26
FLC -	28.03
avg.	\$14.95

**Community Colleges**

OJC -	\$ 9.94
RRCC -	6.82
FRCC -	15.19
CCA -	8.27
ACC -	19.58
PPCC -	17.38
LCC -	17.13
MCC -	23.81
CCD -	23.84
PCC -	36.60
TSJC -	38.60
AIMS -	\$ 3.93
CMC -	5.39
NJC -	33.19
CNCC -	15.78
avg.	\$14.85