May 22, 1996

Representative Bill Wright
House of Representatives
318 State Capitol Bldg
Salt Lake City UT 84114

Subject: **Higher Education Issues** (Report #96-03)

Dear Representative Wright:

At your request, our office has conducted a survey of the issues in higher education outlined in your letter to Speaker of the House, Melvin R. Brown. Unfortunately, our research found that sufficient data does not currently exist to adequately address most of the questions you have raised. In addition, we have concerns with some of the data that does exist because of weaknesses in the data collection process. We found that some of the available data relies on self-reporting mechanisms in the data collection process. Self-reporting has always been regarded as a suspect method of collecting data. Nevertheless, in spite of these shortcomings, we have attempted to provide you with as much information as possible on each issue, noting the weaknesses in the data where appropriate.

The Utah System of Higher Education currently tracks and reports information gathered by each institution on degrees and awards, enrollments, tuition and fees, cost studies, and faculty staffing. Unfortunately, while this information is useful, it does not contain enough detail to adequately answer all of your concerns. Our analysis concluded that it would take considerable effort and expense for our office to produce the data needed to adequately address your questions. Again, we emphasize that much of the data needed to address your questions does not currently exist. However, higher education officials report that beginning in 1997, colleges and universities across the nation will begin reporting comprehensive studies using newly adopted uniform data collection procedures. Officials from the Board of Regents indicated that data on the number of entering freshmen that graduate, the number of years needed to graduate, the number of students that temporarily stop-out of school to serve church missions, and other relevant information is in the process of being gathered. Because all institutions will be using the same uniform data collection and reporting procedures, the information will be comparable from one institution to another. Overall, we feel the best

option may be to wait for the results of these studies to see if they adequately address your concerns.

There are a number of reasons why the data needed to address your concerns is not currently available. First, school officials report that the data has not been collected because it is either too difficult or too expensive to collect. For example, it will be extremely time consuming and costly to track information on students that dropout of the system. This is because it is practically impossible for institutions to distinguish between dropouts and students that have temporarily stopped attending school. Reports indicate that a number of students temporarily stop attending school for months or even years at a time but eventually return to complete their degree. Trying to determine if a student is a dropout or a stop-out is extremely difficult. Board of Regents officials report that collection of the data has not previously been of sufficient priority to reallocate funding from other priority concerns. In addition, university officials report that they have not felt it necessary to collect some of the data because, until recently, no one has asked for it. However, over the last decade, concerned parties have asked for information on graduation rates, the number of years needed to earn a degree, the percent of freshmen that dropout and other issues. In response, some institutions attempted to conduct studies and collect data on these points. Unfortunately, their attempts were not entirely successful. As a result, data pertaining to these issues is limited. The information that is available is contained later in this report.

Disagreement Exists Over The Role of Higher Education

Because some of the questions in your letter relate to the role of higher education and whether students need a 4-year degree since many good paying jobs are available through applied technology and vocational training, the following section examines some of the differing perspectives on this issue. Overall we found that there seems to be a basic philosophical disagreement over the purpose of higher education. Some argue that the purpose of higher education is to provide students with the training and specific technical skills necessary to get a job. However, others believe the role of higher education also includes providing students with a broad-based learning experience in a wide variety of subjects to develop well-rounded individuals. It is doubtful that this age-old debate will soon end. In some cases, having a college education is more a measure of social status than a calculated stepping-stone in building a career. Society (particularly in Utah) appears to have determined long ago that the value of higher education is obvious, that the marginal value gained from higher education is greater than most alternatives.

Certainly some 4-year degrees are more predisposed toward helping graduates obtain a job than other degrees. However, university officials report that obtaining a job may not be the most pressing concern of every student. Basically, students enter college for a wide variety of

reasons. For some students college is the means of obtaining the skills and training necessary to get a job. However, other students just want to study subjects of interest and could care less about getting a job. Still others want to study subjects of interest at the undergraduate level then worry about getting a marketable skill in graduate school. Career counselors indicate that most students choose a field of study based on subjects of interest rather than researching the job market to learn which degrees and technical skills are in demand. They indicated that only about 5 percent of college students enroll in career planning courses and workshops. One career counselor said the only time 95 percent of the students ever visit the career center is after graduation when they come by to see if there are any jobs available.

Nevertheless, getting a good-paying job appears to be a key factor in most students' decision to attend college. A 1977 survey of high school seniors found that economic motives were listed as a basis for college attendance about 3.5 times more frequently than noneconomic motives. A 1985 study of college freshmen reported that 72 percent said, "the chief benefit of a college education is that it increases one's earning power." However, while building one's education around a technical skill that is currently in demand seems to be a wise course of action, the bottom line is that students cannot be forced into technical disciplines nor can they be required to pursue specialized training. Perhaps the most education officials can do is make every effort to ensure that students are provided information on job market conditions, technical skills in demand, and educational disciplines that are most likely to lead to successful careers.

The latest information we were able to obtain on the job market indicates that more education is being required as a basic entry factor in many occupations and that demand for college graduates is increasing because of the complexity and the rising level of required skills. However, other reports indicate that many good-paying jobs require a 2-year associate degree in a technical field and that fewer require a 4-year college degree. The current emphasis for first time job positions is skill oriented. An article in **Fortune Magazine**, September 18, 1995, stated that millions of jobs have been created since 1990 and many are in industries that are "high-knowledge" industries. About 43% of net employment over the past five years came from high knowledge industries which are defined as an industry where 40% or more of workers are professional, technicians or other "knowledge workers." Most education officials we spoke with tend to agree that students should possess accurate information about the economic value of 2-year specialized training versus a 4-year college degree when making their educational decisions. For some students, technical training may only be the first step in their education---a good way to obtain a skill or trade needed to land their first job. However, employment specialists indicate that in order to be eligible for certain promotions and executive positions down the road, students may have to return to school for a bachelor's or graduate degree. As a practical matter, it should be noted that it is difficult for students to commit to a career decision early because values and priorities change over time. Students should realize that they will probably change jobs many times in their life. One survey reported that the

average young person can look forward to six or seven different jobs during their lifetime, emphasizing the need to be well rounded and versatile.

Some college graduates we spoke to expressed disappointment with the information they received from university departments and placement centers. They said they were not provided with accurate information regarding the availability of jobs in their field of study and that information relating to starting salaries was grossly exaggerated. Our review found a lack of consistent data concerning placement percentages and starting salaries. At some universities this information is not collected. At others, where it is collected, we found inconsistent collection methods and a heavy reliance on self-reporting methods which caused us to question the accuracy of the data. However, our overall assessment of high school and college career centers was positive because we found a wealth of information available from outside sources. We found job market surveys, employment outlooks, volumes of employment encyclopedias describing thousands of different jobs and the associated educational requirements, computer programs that matched student aptitudes and interests with jobs and so on. Overall, the problem does not seem to be a lack of information, but getting students to take advantage of the resources available.

Information Gathered on Specific Questions

The remainder of this report will discuss each specific issue outlined in your letter.

1. What percentage of entering freshmen complete a 4-year degree?

In general, we found limited information on the number of entering freshmen that complete 4-year degrees at the state's colleges and universities. While institutions report the number of students that graduate annually, there are currently insufficient reporting and tracking mechanisms in place to accurately document the number of freshmen in a given class (cohort) that eventually complete a degree. Overall, a few attempts have been made at some institutions to track freshmen cohorts; however, we found that most of these studies are of too short a duration to capture the total number that will eventually complete a degree. In addition, the studies that have been attempted often use dissimilar techniques in collecting and reporting cohort data making the information difficult to compare. (A cohort is defined as a group of individuals having a statistical characteristic such as age or class membership in common in a demographic study.)

University and college officials indicated that students transferring from one institution to another are currently counted as a loss. However, officials from the Board of Regents report that they are now capable of tracking students that transfer from one institution to another and that some information on transfer students is now available from the Commissioner's Office.

At the present time, the Board of Regents is still in the planning stage of being able to track degree completion and graduation rates for freshmen cohorts.

In accordance with the federal "Right to Know Act," colleges and universities initially intended to track the 1991 freshmen cohort to determine the percentage of entering freshmen that complete a 4-year degree. However, on a national level problems and concerns arose with the data collection procedures and no official definition or guidelines were published until 1996. A new set of data collection procedures has finally been approved and schools plan to begin reporting data in 1997. Under the new guidelines published in 1996, all colleges and universities will report data under the same format. These sources of information should provide a better answer to your question once the data is collected.

As mentioned, data that is currently available is very limited. However, we were able to obtain four studies conducted at three universities: two studies at the University of Utah (1983 and 1988 freshmen cohorts), one study at Southern Utah University (1988 freshmen cohort), and one at Weber State University (1986 freshmen cohort). For now, these studies represent the best available data on the percentage of entering freshmen that eventually complete a 4-year degree. Because each school compiles their own data, there are inconsistencies and difficulties in comparing data. We are unaware of any national data that could be used as a standard of comparison. However, national data will be reported in 1997 as required by the Federal Right to Know Act.

Figure I
Graduation Rates of Freshmen Cohorts

Institution	Percent of Freshmen Earning a Degree	Number of Years Studied
University of Utah	43.6%	11 years; class of 1983
University of Utah	40.8%	6 years; class of 1988
Southern Utah University	33.0%	6 years; class of 1988
Weber State University	45.3%	8 years; class of 1986

Note: Each year additional students from each freshman cohort graduate. For example, 1% of the 1983 cohort at the University of Utah graduated in year 11.

The phenomena known as "stopping-out" is the main reason why it is extremely difficult to

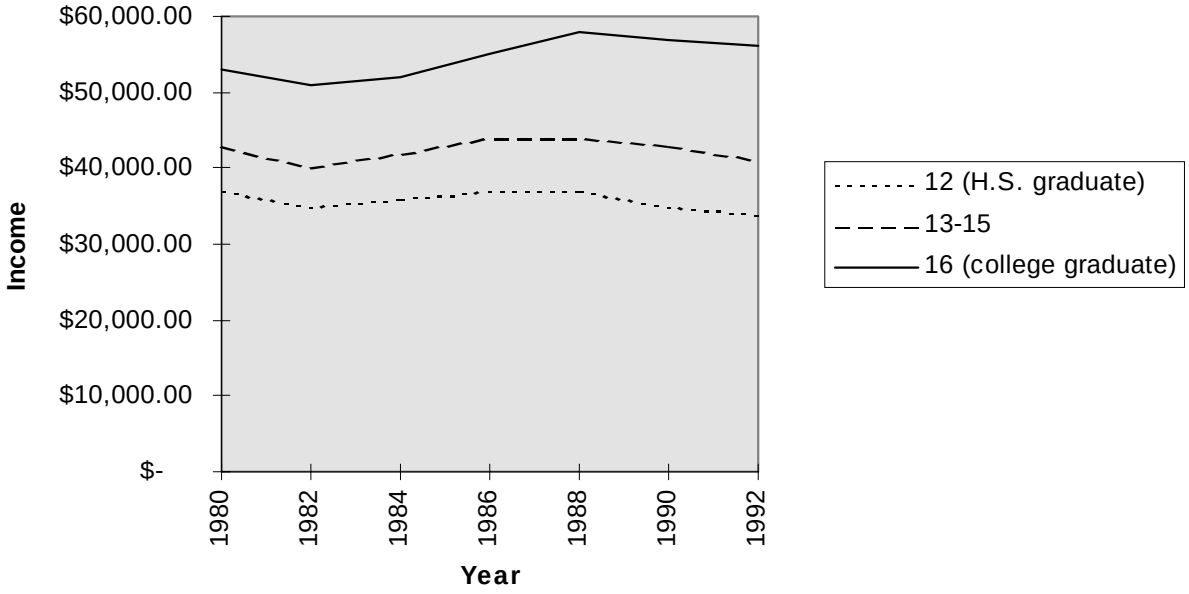
determine the number of entering freshmen that will eventually complete a 4-year degree. Stopping-out occurs whenever a student disrupts continuous schooling. There are a variety of reasons why students temporarily stop-out such as taking a job to earn money for education, carrying out family responsibilities, or fulfilling church or community duties. In Utah, a large number of students stop-out to serve church missions. Research indicates that stop-out behavior may occur several times during a student's formal postsecondary education. In a survey of the reasons students withdraw from college conducted at Utah State University (USU), 38 percent cited the need to work to earn money for school as the reason for leaving while 32 percent said they just wanted a break from college. According to Utah System of Higher Education (USHE) reports, stopping-out is the major reason students require between six and eight years to complete a baccalaureate degree and over three years to complete an associate degree. Basically, it is nearly impossible to distinguish between a dropout and a temporary stop-out. Some students that intend to stop out never return while others who initially intend to drop out return to complete a degree.

Another factor to consider is that not all freshmen enter higher education with intentions to graduate. An official at Weber State University (WSU) noted that vocational and technical programs have notoriously low graduation rates because students do not need a degree in order to get a good-paying job. Students take the classes they need to gain a skill and enter the workforce without completing a bachelor or associate degree. A variation on this point is that some students enter school, already gainfully employed, and take a few classes in order to gain an additional skill or to get a promotion. Again, a degree is not desired or necessary, but the student benefits from the classes either through salary or position advancement.

2. Evaluate the type of employment wages and types of jobs dropouts receive.

There is no data available from the colleges and universities on the employment and salary level of those who do not complete a degree. None of the state's colleges and universities track dropouts. School officials reported that it would be too costly both in terms of time and resources to track the employment history of dropouts. Again, they emphasized that it is practically impossible to tell a dropout from a stop-out. As a result, it would be extremely difficult to identify which students to include in an employment study of dropouts. We were able to obtain some data from the U.S. Department of Commerce, Bureau of the Census which reported that having more education, even without completing a degree, translates to increased income earnings. This data shows that individuals with one to three years of higher education have higher salaries than those with only a high school education, but not higher than individuals that complete a 4-year degree.

Figure II
Median Family Income by Years of Education (1980 - 1992)



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

3. Identify cost that the state incurs to educate those who drop out of college after a few semesters.

Sufficient data to accurately answer this question is not available. Cost data reported by USHE indicates that the direct cost of instruction per FTE student is $1,790 per year for lower division courses and that the full cost of instruction per FTE student is $4,098 per year for lower division courses. Approximately 39% of new freshmen do not return for a second year. However, multiplying the number of freshmen that do not return by reported cost figures would not produce a meaningful number because, as noted, it is impossible to distinguish between a dropout and a stop-out. Moreover, the number of freshmen not returning includes students that have transferred to other institutions. These students may go on to complete a degree using the credits earned at the first institution.

Cost data was obtained from the **Utah System of Higher Education's 1996-97 Data Book**. The USHE cost study provides information by major program on direct and calculated indirect instructional costs for each institution and for the total system. The average appropriated

direct instructional expenditures per full-time equivalent (FTE) student in lower division courses during 1994 - 95 averaged $1,790 with a high of $2,188 per FTE student at WSU University and a low of $1,497 per FTE student at Utah Valley State College (UVSC). (Appropriated direct costs of instruction include applicable expenditures financed by the Education and General appropriation line items plus other line items that support instruction.) The average full cost of instruction per FTE student in lower division courses during 1994 - 95 averaged $4,098 with a high of $5,476 at College of Eastern Utah and a low of $3,529 at Salt Lake Community College. (Full cost of instruction includes direct expenditures plus allocations for physical plant, institutional support, academic support, and student services.)

4. How many graduates find employment in the field for which they were educated?

We contacted four institutions for information on the number of graduates that find full-time work in their related field of study. Of the four institutions contacted, all but one track the employment of graduates. The University of Utah (U of U) reported that they no longer collect employment information on graduates because of budget cuts in the career placement center; however, some information is available at the department level. USU reported that 63 percent of their 1994 graduates found full-time employment (56% full-time related field, 7% full-time non-related field). WSU reported that 46 percent of their 1994 graduates found full-time employment (37% full-time related, 10% full-time non-related). SUU reported that 60 percent of their 1994 graduates found employment (data for SUU did not distinguish between full versus part-time employment or whether employment was in a related versus non-related field). It should be noted that each institution collects and calculates data on employment differently, so it is hard to compare percentages from one school to another. For example, USU has each department survey its graduates and then the Career Services Office compiles the information. However, some departments do a thorough job of carefully tracking the employment of their graduates while other departments do not. In addition, the definition of "employed in a related field" can vary from department to department, calling into question the reliability of some of the data collected. In addition, because there is not a standard of consistency in the data collection process between the institutions, it is not plausible to say that USU's employment rate is better than WSU's or SUU's.

A 1991 study conducted by the U.S. Department of Education on a nationally representative sample of about 14,000 bachelor's degree recipients from 400 colleges and universities one year after graduation is shown for comparison purposes.

Figure III
National Survey of Graduates With Full-Time Jobs in Related Field

Major	Employed Full-Time Related Field	Employed Full-Time Non-Related Field	Total Employed Full-Time	Mean Annual Salary
All Majors	**59%**	**15%**	**74%**	**$23,60**
Professional Fields	**71%**	**11%**	**82%**	**25,300**
Business Management	70%	13%	83%	24,700
Education	69%	8%	77%	19,100
Engineering	77%	8%	85%	30,900
Health Profession	79%	2%	81%	31,500
Public Affairs/Social	56%	21%	77%	20,800
Arts and Sciences Fields	**40%**	**22%**	**62%**	**21,700**
Biological Sciences	41%	10%	51%	21,100
Math, Computer Science	63%	8%	71%	27,200
Social Sciences	38%	30%	68%	22,200
Humanities	34%	25%	59%	19,100
Psychology	41%	19%	60%	19,200
History	18%	40%	58%	21,300
Other	57%	17%	74%	20,800

Source: 1991 survey by U.S. Department of Education

The U.S. Department of Education study found that employment rates were higher among graduates in professional fields than among arts and sciences majors (82 percent compared with 62 percent). In addition, graduates in a professional field tend to find jobs related to their field of study while those with majors in arts and sciences are less likely to find a job related to their field. It also seems that a degree in arts and sciences is more likely to be a transitional degree, meaning a high percentage of graduates in these fields tend to enroll in graduate school almost immediately after receiving their undergraduate award. Lastly, many graduates reported that their jobs do not require a 4-year college degree. Forty-four percent of all

employed graduates (full and part time) and 40 percent of those employed full-time reported that a 4-year college degree was not required for their job.

5. How long does it take, on average, for a student to complete a degree and how may credit hours above the minimum requirement are taken by graduates?

The following data was obtained from the USHE's 1995 Assessment and Accountability Report. It shows the average number of years needed to complete a 4-year degree at each institution and the number of credit hours earned by graduates.

Figure IV
Average Completion Rates
by Terms, Years and Accumulated Credits 1993-94

Institution	Terms	Years	Average Credits Earned	Minimum Credits Required
U of U	16.6	5.6	188.3	183
USU	13.8	4.6	182.2	186
WSU	17.4	5.8	202.6	183
SUU	13.7	4.6	205.8	183
UVSC	9.6	4.8	153.3	128*

** UVSC is on a semester system; therefore, fewer credits are needed for graduation*

6. Are there strategies the state can pursue to help high school graduates obtain training and education they need to get a job without spending unnecessary time enrolled in the system?

The state appears to be doing an adequate job of providing information to high school students about job market conditions, career opportunities, and educational alternatives. Each year the Utah Council on Secondary/Post-secondary Relations visits each high school in the state to discuss career and educational options with the students. Representatives from the business colleges, applied technology centers, and the colleges and universities attend. Information is provided about the educational programs offered at each institution and potential

career options that are available. Job Services prints approximately 285,000 booklets containing information about applied technology and vocational education programs and potential jobs available to students through these educational programs.

High school guidance counselors provide students with information about the job market, career options, and educational alternatives. The counselors we talked to do not promote 4-year institutions over business schools or applied technology centers. Instead, they provide information about careers and education alternatives based on each student's aptitude and areas of interest. As potential careers are discussed, the associated educational requirements are discussed.

We contacted six school districts to determine how students are enrolled in career exploration courses. All six districts have programs that automatically enroll sophomores in the career exploration program when they sign-up for driver education. For example, in the Jordan District, students take driver education during one quarter and career exploration the second quarter. All of the other districts we contacted have similar enrollment programs. Career exploration courses test students' aptitude and assess their areas of interest. Students are informed about high-tech careers and the educational requirements and skills required for these jobs. The "Choices" computer program is also available to students. This program lists nearly 700 career options. It gives the educational requirements associated with each career---several careers listed require 2-year instead of 4-year degrees. The program also offers information on the job outlook for each career on a national and local level. High schools have information (pamphlets and brochures) available to students from business colleges and applied technology centers explaining their programs. High schools also hold career fairs where local businesses come to the campus and explain their industry and specific job duties. Some of the businesses require 4-year degrees but many others require 2-year technical degrees.

The state has recently contracted with an advertising agency to develop an ad campaign promoting the advantages of applied technology education. Television ads began running on January 17, 1996, with radio ads to follow. As of January 24th, the television ads had generated over 300 inquires about the applied technology program. The ad program is designed to increase public awareness about the types of jobs and salaries that can be earned through applied technology education. In addition, the ads are designed to enhance the image of applied technology programs by showing some of the sophisticated well-paying technical careers that are available to students through applied technology training.

7. Can a valid and feasible methodology be developed to verify the number of hours worked by professors in the system of higher education?

Overall, our review of faculty workload indicators determined that instruction time is the only workload component accounted for through means other than self-reporting. Again, we note that self-reporting is viewed as a suspect method of gathering consistent data because the information cannot be independently verified. Faculty workload consists of basically three components: instruction, research, and public service. Of the three components, instruction (credit hours taught) appears to be the only component that is measurable in terms of hourly reporting. Time spent in research and public service rely on self-reporting mechanisms. However, most departments have developed performance-based standards to evaluate faculty productivity in research and public service. For example, one department head we spoke with at the U of U reported that faculty members are evaluated on three fronts: (1) the amount of research funding they bring to the university, (2) the number of graduate students under their supervision that receive a degree, and (3) the number of publications they produce. While it may not be practical to monitor the hours a faculty member spends writing a book, performance can be measured if a book is actually published. Education officials do not believe that requiring college faculty to punch a time clock is a practical indicator of productivity. Instead, they point to performance-based indicators as a better measure of value.

In 1991, our office conducted an extensive review of faculty workload. In that report we concluded that satisfactory methods to measure faculty workload and communicate them to outsiders had not been developed. While the teaching load may be quantified, the non-teaching workload remains very difficult to measure. For detailed information on our attempt to measure faculty workload, we refer you to report number 91-03. In order to document whether there has been any change in the way faculty members account for research and public service hours since our last audit, we contacted nine department heads at three institutions of higher education to see how these hours are currently reported. In every case, department heads confirmed that self-reporting is still used to report the hours spent by faculty in these areas.

One area of difficulty we encountered in reviewing this issue is that all institutions do not serve the same function or purpose. There are basically three types of institutions in higher education: (1) research institutions where faculty members are responsible for research, scholarly activities, and teaching; (2) teaching institutions where faculty members are responsible for teaching and scholarly activities; and (3) community colleges where faculty members are primarily responsible for teaching. Of the three institutions we visited to survey faculty workload indicators, two are research institutions and the other is a community college. It is hard to compare faculty workloads at different institutions because the mission of each school is distinct and the emphasis on faculty activities varies widely. For example, faculty at the community college we visited are required to teach about 15 contact hours per quarter for a

total of about 45 contact hours in an academic year. The base contract for these faculty members does not include any research, publication or other scholarly requirements. However, at the research institutions we visited, the base contract for faculty includes an expectation to teach about 8 to 10 contact hours on average, and to be involved in research that will lead to one or two publications or professional presentations per year. As a result, comparisons of faculty workload indicators should be restricted to similar departments within like institutions.

Faculty members at research institutions are required to publish scholarly articles and books and stay current in their field as part of tenure evaluation. Research institutions place a heavy emphasis on research and scholarly activity. Many research projects are funded by the federal government and faculty are expected to write and publish findings that result from this funded research. These schools use the tenure and promotion process to evaluate the teaching performance as well as outside research productivity and scholarly activity of faculty members. Tenure review is partly based on the funds they are able to bring to the department and the work that is done in conjunction with projects that are awarded. However, teaching and graduating students is still the top priority for faculty at research institutions. As a matter of policy, projects cannot interfere with teaching responsibilities. Nevertheless teaching loads per quarter are significantly less at research institutions than at teaching institutions. One department head at a research institution stated that only about half of the faculty in the department are on campus teaching at any given time while the rest are working on projects.

The role of faculty members at teaching institutions is somewhat different. Faculty members at teaching institutions are not expected to bring in research dollars. Tenure evaluations weigh teaching, and institutional service more than scholarly or professional development. Thus, more contact hours are spent teaching each quarter and less on research. Division chairs at teaching institutions report that teaching activities take up the majority of faculty hours in a week. Most research is conducted as a part of course development.

We also found it difficult to compare workload indicators between faculty members in different departments within the same institution. This is because some departments are predisposed to teaching while others are predisposed to research. We found that faculty activities differ, depending on the nature of the department and discipline being taught. For example, the head of the History Department at a research institution reported that history professors teach, on average, more credit hours per quarter than professors in the business or science departments. He indicated that the History Department receives few if any federal research grants. By way of comparison, the department head of the School of Engineering reported that his department relies heavily on outside funding for research, stating that engineering is considered a “research-driven” department. As a result, engineering faculty members are expected to bring in research dollars by submitting proposals for large projects. This expectation to “fund” the department with outside money is part of the each faculty

member's base contract. The time these faculty members spend writing proposals and soliciting contracts is part of their workload. Meanwhile, the department head of the School of Business Administration at another research institution stated that teaching is the primary responsibility of the faculty, but faculty are also expected to do independent research in addition to teaching. He said faculty are expected to devote time to publishing articles in scholarly journals and to making presentations as part of tenure and contract expectations but still must keep up with their class loads. The department does not rely on outside funding sources for research, so faculty must find time to do independent research and public service.

In addition to our survey work, we reviewed seven audits of faculty workload conducted by audit teams in other states. Without exception, each audit concluded that faculty workload cannot be accurately measured because instruction time is the only one of the three components that make up total faculty workload that can be objectively determined. Each audit concluded that information on research and public service hours are either unavailable or inconsistent because the available data consisted of self-reported hours without sufficient control measures to ensure accuracy.

In conclusion, unless a completely new approach to time keeping and accountability is developed by Utah's institutions of higher education, it does not appear that reliable information can be obtained to document the hours faculty spend in research and public service.

We hope this letter helps you with the issues you have raised in higher education. If there is any additional information you need or any points on which you need further clarification, please feel free to contact our office.

Sincerely,

Wayne L. Welsh
Auditor General

WLW:KDB/lm

Digest

Our office was asked by Representative Bill Wright to address a number of issues in higher education. Unfortunately, our research found insufficient data to adequately address most of the questions raised by Representative Wright. Moreover, we have concerns with some of the data that does exist because of weaknesses in the data collection process. We found that a great deal of the available data relies on self-reporting mechanisms in the data collection process. Nevertheless, in spite of these shortcomings, we have attempted to provide as much information as possible on each question.

Higher education officials report that beginning in 1997, in accordance with the federal Right to Know Act, colleges and universities across the nation will begin reporting comprehensive studies using newly adopted uniform data collection procedures. Officials from the Board of Regents indicated that information on the number of entering freshmen that graduate, the number of years needed to graduate, the number of students that temporarily stop-out of school, and other relevant information is in the process of being gathered. Overall, we feel the best option may be to wait for the results of these studies to see if they adequately address Representative Wright's concerns.

Our review of the number of freshmen that complete a 4-year degree found limited data. Colleges and universities report the number of students that graduate annually; however, there are currently insufficient reporting and tracking mechanisms to accurately document the number of freshmen in a given class that eventually complete a degree. A few attempts have been made to track freshmen cohorts but the studies have used dissimilar reporting methods and of too short a duration to be useful.

Regarding the employment and salary level of those who do not complete a degree. None of the state's colleges and universities track dropouts. School officials report that it would be too costly both in terms of time and resources to track the employment history of dropouts.

Our review of the costs incurred by the state when students dropout of school after a few semesters found very limited data. The best available data from the Utah System of Higher Education shows that the direct cost of instruction per FTE student is $1,790 per year for lower division courses and that the full cost of instruction per FTE student is $4,098 per year for lower division courses.

We contacted four schools for information on the percentage of graduates that find full-time employment in their field of study. Of the four institutions contacted, only three track the employment history of graduates. USU reported that 63 percent of their 1994 graduates found full-time employment (56% in a related field). WSU reported that 46 percent of their 1994 graduates found full-time employment (37% in a related field). SUU reported that 60 percent of their 1994 graduates found employment (data did not distinguish between full and part-time in a related field).

Concerning the number of years graduates take to earn a degree and the number of credit hours they earn above the minimum required, the Utah System of Higher Education's 1995 Assessment and Accountability Report shows that graduates take about 5 years to earn a degree and earn an average of about 193 credit hours---about 10 hours above the 183 average number of hours required.

Our analysis of whether there are strategies the state can pursue to help high school students obtain the training and education needed to get a job without spending unnecessary time enrolled in 4-year programs determined that the state appears to be doing an adequate job of providing high school students with information about job market conditions, career opportunities, and educational alternatives. Representatives from the state's business colleges, applied technology centers, and community colleges visit every high school campus to provide students with information about their programs. High school guidance counselors assist students with information about the job market, career options, and educational alternatives. Computer programs are available at most high schools which match interests and aptitudes with possible careers. At the high schools we visited we found books listing thousands of career options and the educational requirements needed for each job. Overall, we there appears to be numerous resources on high-tech careers and educational options available to high school students.

Our review of faculty workload indicators determined that faculty workload consists of basically three components: instruction, research, and public service. Of the three components, instruction (credit hours taught) appears to be the only component that is measurable in terms of hourly reporting. Time spent in research and public service rely on self-reporting mechanisms. However, departments have developed performance-based standards such as the amount of research funding faculty members bring in and the number of publication they produce to evaluate productivity. In 1991, our office conducted an extensive review of faculty workload. For detailed information on measuring faculty workload, we refer you to report number 91-03.