DOCUMENT RESUME

ED 095 948 JC 740 319

TITLE	Student Enrollments. Technical Group Report No. 11.
INSTITUTION	Montana Commission on Post-Secondary Education, Helena.
PUB DATE	May 74
NOTE	49p.
EDRS PRICE	MF-$0.75 HC-$1.85 PLUS POSTAGE
DESCRIPTORS	Admission Criteria; Colleges; Community Colleges; *Enrollment Projections; *Enrollment Trends; Higher Education; *Post Secondary Education; Questionnaires; School Holding Power; *State Surveys; *Student Enrollment; Tables (Data); Technical Institutes; Technical Reports; Transfer Policy; Vocational Schools
IDENTIFIERS	*Montana

ABSTRACT

The results are presented of a study made to: (1) describe methods of projecting statewide and institutional enrollments in Montana and determine the accuracy of projections over the preceding 5 years; (2) prepare projections for the state and its postsecondary institutions through the year 2000; (3) review and describe standards and practices of admission, standards of retention, procedures and standards of transfer, and to recommend desirable changes; and (4) provide data on student persistence, dropouts, and length of time for completion of degree and certificate programs. Numerous tables provide the project data, and recommendations are made. Appendixes to the report are: How to Project Enrollment--Six University System Units; How to Project Enrollment--Three Private Colleges; and Questionnaire. (DB)

TECHNICAL GROUP REPORT NO. 11

STUDENT ENROLLMENTS

Prepared for

COMMISSION ON POST-SECONDARY EDUCATION
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May, 1974

This is one of a series of reports by technical consulting groups which are advisory to the Montana Commission on Post-Secondary Education. The data and recommendations presented in these reports reflect the work of the technical group and its members and not the views of the Commission itself.

The primary purpose of these reports is to provide the Commission with information relevant to its task of developing plans for the future of Montana post-secondary education. Each report will be reviewed by the members of the Commission and used in the Commission's deliberations.

The Commission is indebted to the many individuals from institutions of post-secondary education, state agencies and professional organizations who served on the technical consulting groups, and to the institutions and agencies which contributed the data and personal services which made it possible for the technical groups to carry out their charges.

TECHNICAL GROUP ON
STUDENT ENROLLMENTS

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Don Kettner, Dawson College
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Jon Pozega, Missoula Vo-Tech Center
Bill Bartholome, Carroll College

STUDENT ENROLLMENTS

Charge

1. Describe methods of projecting statewide and institutional enrollments and the accuracy of projections over the past five years

   a) Review alternative methods of projection

   b) Recommend any revisions as may be necessary in the methodology of projecting enrollments

2. Prepare projections, or, if necessary, a series of projections based upon alternative assumptions, for the state and its post-secondary institutions through 2000

3. Review and describe standards and practices of admission, standards of retention, procedures and standards for transfer, and recommending such changes as may be desirable

4. Provide data on student persistence, dropouts, and length of time for completion of degree and certificate programs

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TECHNICAL GROUP ON STUDENT ENROLLMENTS

INTRODUCTION

The technical committee met on four occasions during the course of its existence and developed a questionnaire (see Appendix C) centered around the specific topics outlined in its charge.

Most of the committee's time was concerned with policies relating to admissions and transferability. It was extremely helpful for the four different types of postsecondary institutions (i.e., Montana University System, private, community college, and vo-tech) to discuss mutual problems in these specific areas since they represented the student's first encounter with the institution. Each committee member's knowledge of his collegues' institutions, goals, and mission was greatly enhanced, thereby increasing the potential for continuing communication coordination among all varieties of Montana postsecondary education.

Since Bill Lannan has been involved with enrollment projection techniques, the committee charged him with the responsibility of arriving at the projections as outlined in charge #2. Each committee member, however, had an opportunity to review these projections as they finally developed.

The results of the questionnaire were analyzed by the committee representatives from each type of institution; Don Kettner received and analyzed the community colleges, Jon Pozega the vocational-technical centers, Charles Kittock, the University System (also Bill Lannan), and Bill Bartholome, the private colleges.

The recommendations as they appear in the report are the results of the work of the whole committee.

Assumptions

The committee believes that every citizen of Montana should

be guaranteed an equal opportunity to pursue his or her full educational potential, recognizing that education is a life-long process.

Every postsecondary institution has a responsibility and commitment to provide educational services to its surrounding area as well as to the state, recognizing the need for effective coordination of limited fiscal, human, and physical resources; providing of course, that the mission of the educational program remains within the dictates of its governing board.

The student, as a consumer from every walk of life, is the reason the educational community exists. All of the functions of the institution should thus be focused on serving the needs and goals of the student. The student's time is as important a resource as is his capability; as a consumer of educational services, he should not be hindered by any arbitrary or unnecessary regulations.

Postsecondary education in Montana and the nation is experiencing enrollment patterns that are substantially changed from the trends established during the sixties, which saw students flocking to postsecondary institutions in ever-increasing numbers. The current trend shows enrollment declines or stabilizations which affect projections for both enrollment and programs. In Montana, the vocational-technical centers are not experiencing these declines.

The primary source of enrollments in postsecondary education in Montana is the high school student. Effective communication with high school students, their parents, and counselors must be a high priority concern for all units of postsecondary education.

Another enrollment source of steadily increasing importance is the "non-traditional" student; including the seasonal student, the special or short-term student, the time-delayed student, the special interest student, the personal enrichment student, the adult and continuing education student, the extension student, and those who pursue education in ways other than the traditional programmatic methods leading to academic degrees.

Admissions

The committee attempted to investigate the policies whereby a student enters a postsecondary institution for the first time. Generally, all of the public postsecondary units maintain an open admission policy for residents of the state. The out-of-state student may not be admitted if it would mean the displacement of a resident student. In addition, some of the institutions have academic restrictions for the non-resident student. The private colleges maintain the right to refuse admission to students who, in their judgement, do not have the ability or the motivation to profit from the educational program involved.

At issue here is the concept of an "open admission" versus a "restrictive admission" policy. Should the admission policy vary with the type of postsecondary institution? For example, in California, the admission policy varies from "open door" in the community colleges to severe academic restriction in the universities. Should there be an age, class-standing, high school diploma, or enrollment quota restriction?

Nationally, the trends have been to broaden the opportunity for anyone to pursue their educational potential by removing the obstacles of finance, ethnic background, and past educational experiences. The federal government's financial aid programs have attempted to alleviate some of the financial burdens as well as provide extra help for the disadvantaged. Locally, as well as nationally, vocational-technical training and the community college concept have opened their door to anyone who desires to pursue an occupationally oriented program. Just recently, Representative James G. O'Hara urged that the principle of a free public education be extended into the first two years of college (postsecondary education) and suggested that the "needs" test for federal student financial aid be dropped.

The committee recommends that all public postsecondary units in Montana continue to practice an "open admission" policy for all first time beginning resident students and that their catalogues state the policy explicitly. As admissions requirements are dropped, counseling should be stressed. An entering student should be aware of the various educational opportunities available to him; what the requirements for him are in each field of study, what the employment opportunities are in each field, and

what a profile of his strengths and weaknesses indicates. Studies across the nation have shown that to leave this counseling responsibility to an institution's faculty is inadequate. Many universities are moving toward the creation of advising or counseling centers staffed by professional counselors in the areas of education and work, as well as, psychological, skill, and aptitude testing. These centers concentrate on the needs of entering and second year students. In the colleges and universities, the academic departments concentrate on the needs of juniors and seniors as the students become more involved in their specialties. The need for effective counseling is further evidenced by the statistical percentage lag of 17-21 year-old Montana students attending postsecondary units within the state compared to the national averages (47.5% against 57.0% in 1970).

Realizing the necessity for proper counseling of the high school aged student who may forego completion of his formal secondary education in order to enter college or a vocational-technical school, it may be necessary to place a restriction that suggests that under normal circumstances, the student must be at least 18 years of age. Principle exceptions to this would be those who complete high school at an earlier age and those entering vo-tech centers where the law mandates acceptance of students at 16 years of age. The integrity and quality of the institutions must be maintained to reflect the educational goals and missions of the institution. For this reason, the committee further recommends that every effort be made to improve the academic counseling of the institution.

In recognition of the private colleges' independence, the committee recommends that they continue to practice a selective admissions policy.

In keeping with the open admission and counseling recommendations, a third recommendation regarding non-punitive grading must be made. Grading systems are within the normal purview of the individual institution's faculties and staff, yet the committee recognizes its own charge concerning admissions, retention, transfer, and persistence, and therefore, recommends that a positive, non-punitive grading system be adopted for all lower-division classwork undertaken at public postsecondary institutions. In such a system, if a student does not obtain an A, B, or C, he must continue to take the course until he does, or receive no

credit for the course. An unsuccesrful student will eliminate himself. At the same time, he will no longer carry with him a transcript acknowledging his failure and penalizing him for trying to better himself through education.

Finally, since all public units must be accountable to the tax-paying public of Montana, the admission policies should assure that no out-of-state students are admitted who would effect the displacement of, or refusal of admission to Montana residents.

RETENTION

Definition

It is the philosophical and practical attitude of the committee that all appropriate procedures must be implemented which will help to retain the student in the particular unit of his choice to completion of his desired objectives. Realizing however, that standards of excellence must also be maintained by the units, exceptions to an all-inclusive retention policy must be made. It is these exceptions which are addressed by the committee: e.g., the reasons for which a student may be dismissed from the unit for either academic or disciplinary reasons.

Policy

All Montana units have a retention policy which revolves around academic attainment with the exception of Flathead Valley Community College. The standards at all other units vary from a required GPA of 1.5 as a requirement for freshmen in some units to a 2.25 GPA in the major field for some seniors. Absenteeism is a major type of retention standard used by the vocational-technical centers. Academic probation is employed in varying degrees and for varying lengths by all units in the state with (again) the exception of FVCC. Standards for disciplinary action vary throughout the state from none, to well-defined areas outlined fully in the individual unit catalogues.

Recommendation

It is the recommendation of the committee that all of the public postsecondary institutions develop the same standards for

retention of undergraduate students. By so doing, students and parents will understand what is required in order to maintain acceptable and continuous attendance. These standards should be the same for similar types of institutions; i.e., the six University System units, the three community colleges, and the five vocational-technical centers. The three private colleges maintain the right, and should maintain the right, to establish individual and independent policies with regard to student retention standards and exceptions.

PERSISTENCE

Definition

The study of persistence is directed at the student from the time of his entrance into a unit of postsecondary education, to his final exit from all units of postsecondary education. Since postsecondary doors are "open" to a student for 50 or more years on an international basis, the difficulty of obtaining total information forces us to a more practical aim, one of determining those sorts of statistics which give illumination to a particular institution's patterns regarding a student's time usage in his pursuit of a postsecondary education.

Policy

The subject of persistence has been much discussed among postsecondary administrators but there is very little hard data available from which one could draw inferences and make predictions. Studies which have been done in the past are so dated and statistics so non-relevant, that additional studies will have to start afresh and will have no data base upon which to begin their studies.

Recommendation

The committee recommends that -- since student acceptance and persistence to completion are the ultimate tests of the effectiveness and the quality of a course, a program, or an institution -- a practical model, adaptable to the various types of institutions, should be developed for the continuing study of student persistence. Once adopted, the data should be reviewed periodically to help upgrade the quality and relevancy of educational offerings and to improve student retention.

PAST ENROLLMENT PROJECTIONS -- METHODS AND ACCURACY

Montana University System

The system office has made enrollment projections for the six units since the early sixties. Originally, a ratio method was employed that used six Montana census districts, coupled with a projected increased tendency. The data base was the past Montana University System enrollment reports and the public elementary and secondary enrollments from the Office of the Superintendent of Public Instruction. The method was improved during the late sixties and an outline of this method is included in Appendix A. The accuracy of the enrollment projections vary from time to time. Short range projections were normally more accurate than the long range, but this is as expected. The accuracy of the projections made in 1968, 1970, and 1972 are included in Appendix A. Please note that only full-time plus part-time students who are enrolled in the institutional programs of the institution are projected. There are no estimates on the extension or continuing education programs.

Private Colleges

Each private college provided its own enrollment projections for its budgetary needs and, for a very short range period, usually one year in advance. A linear or straight line method was used, which over a short range can be quite accurate. Included in Appendix B is a brief description of the method employed and a measure of the accuracy. The projections include all students who are enrolled. Full-time, part-time, adult, and continuing, and/or extension are included.

Vocational-Technical Centers

Typically, the vocational-technical centers throughout the state are operating at full capacity with enrollment projections based on available space and anticipated legislative appropriations. The number of course offerings available and the limitations imposed by the facility size are somewhat restricted by the legislative funding from the biennial budget. Vocational-technical centers do have the authority to levy 1 mill for adult education. With a mandated open-entry/open-exit policy, the units are forced to function on a first-come/first-serve basis. The singular ex-

ception to this is when an out-of-state registrant would prevent a state resident from enrollment. Sample surveys seem to be the main method used to determine the labor force needs of the surrounding area. These surveys lead to increased or decreased emphasis on specific programs.

The Office of the Superintendent of Public Instruction does make enrollment projections on a statewide basis in order to provide an analysis of the state's manpower needs, job opportunities, and the development of an annual and long range vocational education plan. These projections (through 1978) use six sources of data:

1. Montana Employment Security Commission Statistics
2. State Department of Planning and Economic Development; Montana Data Book
3. State Department of Social and Rehabilitation Services Statistics
4. Bureau of Indian Affairs Statistics
5. U. S. Census Bureau, 1970 Census of Population
6. Montana Manpower Planning Advisory Council Statistics

Community Colleges

The methods employed varied among three community colleges. They normally used the high school enrollment in their immediate service area as a basis and the projections were made over a short range period. Their projections include all students enrolled in the institution: i.e., full-time, part-time, extension, community service, and adult and continuing education. Prior to the community college coordination function being delegated to the Board of Regents, the projections were done in a manner similar to the one used to determine the ANB in the elementary and secondary schools. There has never been a coordinated effort to project and identify potential community college enrollments.

POSTSECONDARY ENROLLMENT PROJECTIONS FOR ALL UNITS 1974 - 2000

There are three different enrollment projections, each having slightly different assumptions. Essentially, the method for each one is about the same with some slight exceptions.

The data base for all but the Montana University System units is sparse and may not be sufficient to justify the results obtained. For example, the University System data base is complete from 1963 through 1974; the community colleges and private colleges from 1969 through 1974; and the vocational-technical schools from 1970 through 1973.

A cohort survival technique was used to project the 1973-74 public school enrollment to high school graduates. The data base was the 1965-66 to 1973-74 public elementary and secondary school enrollment. This projection serves as the base for the following three enrollment projections for the University System units; the private colleges, community colleges and vocational-technical centers.

PROJECTION #1

Montana University System Units, Private Colleges, and Community Colleges

Method:

1. Using the '65-73 Montana University System enrollment and the '69-73 private college and community college enrollments, the projected high school graduates for 1974-84 were translated into Montana first-time beginning freshmen in all of the higher education units.

2. Non-resident, first-time beginning freshmen were projected on their relationship to Montana first-time beginning freshmen and were added to the Montana first-time freshmen and then translated into a freshmen class for the higher education community.

3. A cohort survival was employed to determine sophomore, junior, and senior enrollments for the entire educational community.

4. Estimating graduate and unclassified students completed the enrollment projections.

5. The projections were distributed to the three types of institutional groups (i.e., Montana University System, private colleges, and community colleges) by a ratio method for each classification (i.e., freshmen, sophomore, junior, etc.) based on past relationships.

6. The distribution to the unit was based on each unit's past enrollments related to the total enrollment by type of institution.

7. The enrollment in 1990 and 2000 are based on the population of 18-23 year-olds who would be attending a type of higher education unit and distributed as above.

PROJECTION #2

Montana University System Units, Private Colleges, and Community Colleges

Method:

1. Using the data 1969-70 through 1973-74, Montana University System data, the projected high school graduates for the years 1974-84 were translated into Montana first-time beginning freshmen for each unit and then into total first-time beginning freshmen and finally a total freshmen class.

2. A cohort method predicted for each unit for each year the freshman, sophomore, junior, and senior levels.

3. The graduate enrollment was determined on the ratio of past graduate enrollments to the total enrollment at the unit.

4. The private college and community college enrollments were projected on the relation of each of their totals to the total University System enrollment.

5. The distribution of the private college enrollments to each of the private colleges was the same as the method in Projection #1. The same method was used for the community colleges.

Enrollment Projection - Montana University System

Projection #1

Assumptions

1. Status quo: no attempt to forecast any in or out migration, declining or increasing population trends.

2. The students' desire to attend a unit of higher education will remain constant.

3. No forecast in physical facilities to increase or decrease capacity.

Enrollment Projection - Montana University System

Fall Quarter or Semester Net Enrollment
Projection #1

	1974-5	1975-6	1976-7	1977-8	1978-9	1979-80	1980-1	1981-2	1982-3	1983-4	1984-5	1990-1	2000-2001
UM	8186	8066	8290	8344	8343	8429	8263	7970	7659	7205	6825	8535	9774
MSU	7720	7607	7817	7868	7868	7949	7792	7516	7222	6794	6436	8048	9217
Tech	761	750	771	776	776	784	768	741	712	670	635	794	910
WMC	679	669	687	692	682	699	685	661	635	597	566	708	811
EMC	2818	2777	2854	2873	2873	2902	2844	2744	2637	2481	2350	2939	3366
NMC	1043	1028	1057	1064	1064	1074	1053	1016	976	918	870	1088	1246
TOTAL	21,207	20,897	21,476	21,617	21,606	21,837	21,405	20,648	19,841	18,665	17,682	22,112	25,324

Enrollment Projection - Private Colleges

Fall Quarter or Semester Net Enrollment
Projection #1

Carroll	1052	1039	1063	1067	1069	1078	1058	1029	996	948	908	1122	1300
CGF	995	983	1006	1009	1011	1019	1000	973	942	896	859	1062	1230
RMC	554	537	550	552	553	557	547	532	515	490	470	581	673
TOTAL	2591	2559	2619	2628	2633	2654	2605	2534	2453	2334	2237	2765	3203

Enrollment Projection - Community Colleges

Fall Quarter or Semester Net Enrollment
Projection #1

	1974-5	1975-6	1976-7	1977-8	1978-9	1979-80	1980-1	1981-2	1982-3	1983-4	1984-5	1990-1	2000-2001
DC	541	544	565	560	553	559	541	515	491	465	448	550	642
MCC	541	544	565	560	553	559	541	515	491	465	448	550	642
FVCC	1323	1329	1381	1870	1351	1367	1323	1258	1201	1136	1096	1347	1570
TOTAL	2405	2417	2511	2490	2457	2485	2405	2288	2183	2066	1992	2447	2854

Enrollment Projection - Montana University System

Projection #2

Assumptions

1. There will be a very slight increasing tendency for high school graduates to go to higher education.

2. The large units in Missoula, Bozeman and Billings will grow at a more rapid rate than the smaller units.

Enrollment Projection - Montana University System

Fall Quarter or Semester Net Enrollment
Projection #2

	1974-5	1975-6	1976-7	1977-8	1978-9	1979-80	1980-1	1981-2	1982-3	1983-4	1984-5	1990-1	2000-2001
UM	8175	8194	8409	8703	8969	9180	9377	9295	9132	8907	8516	9165	10,497
MSU	7847	7761	7846	8087	8268	8358	8530	8431	8260	8045	7673	8258	9,458
Tech	658	641	639	664	680	682	689	678	654	629	595	640	733
WMC	555	539	649	569	580	587	596	584	568	548	519	559	640
EMC	2466	2363	2337	2409	2468	2514	2594	2590	2558	2512	2423	2608	2,986
NMC	822	879	895	930	944	945	959	938	902	867	819	881	1,010
TOTAL	20,583	20,377	20,775	21,362	21,909	22,266	22,745	22,516	22,074	21,508	20,545	22,111	25,324

Enrollment Projection - Private Colleges

Fall Quarter or Semester Net Enrollment
Projection #2

Carroll	908	892	898	926	950	964	985	974	955	930	888	1122	1300
CGF	859	843	850	876	898	912	932	922	903	879	839	1062	1230
RMC	470	461	465	479	491	499	509	504	494	481	459	581	673
TOTAL	2236	2196	2213	2282	2339	2375	2426	2400	2352	2290	2186	2765	3203

Enrollment Projection - Community Colleges

Fall Quarter or Semester Net Enrollment
Projection #2

	1974-5	1975-6	1976-7	1977-8	1978-9	1979-80	1980-1	1981-2	1982-3	1983-4	1984-5	1990-1	2000-2001
DC	495	486	490	506	518	526	537	532	521	507	484	550	642
MCC	495	486	490	506	518	526	537	532	521	507	484	550	642
FVCC	1210	1188	1198	1235	1267	1286	1313	1299	1273	1240	1184	1347	1570
TOTAL	2201	2161	2178	2247	2303	2338	2388	2363	2315	2254	2152	2447	2854

PROJECTION #3

Montana University System Units, Private Colleges, and Community Colleges

Method:

Same as Projection #2.

Enrollment Projection - Montana University System

Projection #3

Assumptions

1. Assume the tendency for a high school senior to go to a unit of the Montana University System in 1974-75 would be the same as 1973-74.

2. Any past tendencies were projected forward one year and held constant for the next 8 years.

Enrollment Projection - Montana University System

Fall Quarter or Semester Net Enrollment
Projection #3

	1974-5	1975-6	1976-7	1977-8	1978-9	1979-80	1980-1	1981-2	1982-3	1983-4	1984-5	1990-1	2000-2001
UM	8177	8088	8043	8104	8164	8213	8324	8181	7962	6694	7286	9308	10,661
MSU	7859	7583	7556	7684	7736	7779	7893	7753	7543	7296	6910	8828	10,110
Tech	681	610	562	558	551	552	557	548	529	508	481	615	704
WMC	600	512	447	420	386	387	393	386	375	361	343	438	502
EMC	2488	2149	1981	1924	1863	1868	1894	1856	1796	1729	1636	2090	2,394
NMC	919	814	767	767	751	750	761	744	716	688	651	832	953
TOTAL	20,724	19,756	19,356	19,457	19,451	19,549	19,822	19,468	18,921	17,276	17,307	22,111	25,324

Enrollment Projection - Private Colleges

Fall Quarter or Semester Net Enrollment
Projection #3

Carroll	914	862	838	838	835	838	850	835	811	783	741	1122	1300
CGF	864	816	792	792	790	793	804	790	767	740	701	1062	1230
RMC	472	446	434	434	431	433	440	431	419	405	384	581	673
TOTAL	2250	2124	2064	2064	2056	2065	2094	2056	1997	1928	1826	2765	3203

Enrollment Projection - Community Colleges

Fall Quarter or Semester Net Enrollment
Projection #3

	1974-5	1975-6	1976-7	1977-8	1978-9	1979-80	1980-1	1981-2	1982-3	1983-4	1984-5	1990-1	2000-2001
DC	498	470	457	457	455	457	464	455	422	427	404	550	642
MCC	498	470	457	457	455	457	464	455	442	427	404	550	642
FVCC	1218	1150	1118	1118	1113	1118	1134	1114	1082	1044	988	1347	1570
TOTAL	2215	2091	2032	2032	2023	2033	2062	2024	1966	1898	1797	2447	2854

PROJECTION #1

Vocational-Technical Centers

Method:

1. A ratio method was employed where the vocational-technical center enrollments were related to a pool of students made up of high school graduates who would normally be enrolled in the vocational-technical center for a two-year program.

2. The distribution to each of the centers was based on the actual distribution of each related to the whole.

3. The 1990 and 2000 enrollments are based on an estimation of the 18-23 year-old population and distributed to each institution as indicated above.

Enrollment Projection - Vocational-Technical Centers

Projection #1

Assumptions

1. Status quo: no attempt to forecast an in or out migration, declining or increasing population trends.

2. The students' desire to attend a vocational-technical center will remain constant.

3. No forecast in physical facilities to increase or decrease capacity.

4. No forecast in program changes, employment saturation.

Enrollment Projection - Vocational-Technical Centers

(Annual Full-time Accumulative Enrollment)*
Projection #1

	1974-5	1975-6	1976-7	1977-8	1978-9	1979-80	1980-1	1981-2	1982-3	1983-4	1984-5	1990-1	2000-2001
Billings	559	569	586	604	613	602	603	594	561	496	498	588	713
Butte	817	832	858	884	897	880	882	869	821	726	728	860	1043
Gt. Falls	583	594	612	631	640	628	630	620	586	518	519	613	743
Helena	576	586	605	623	632	621	622	612	579	512	513	606	734
Missoula	957	974	1004	1035	1050	1031	1033	1017	961	850	852	1007	1220
TOTAL	3492	3555	3665	3777	3832	3762	3770	3712	3508	3102	3110	3674	4453

* A full-time student at a vocational-technical center is defined as one attending 20 or more hours per week and who attends any time during the academic year (July 1 through June 30) for any period of time. A particular student is only counted once, even though he may enroll in more than one program.

Projection #2 - Vocational-Technical Centers

Method: Same as Projection #1

Assumptions: Same as Projection #1 except any increasing tendencies for the high school senior to attend a vocational-technical center was projected for the 1974-75 year and then held constant.

Enrollment Projection - Vocational-Technical Centers

(Annual Full-time Accumulative Enrollment)*
Projection #2

	1974-5	1975-6	1976-7	1977-8	1978-9	1979-80	1980-1	1981-2	1982-3	1983-4	1984-5	1990-1	2000-2001
Billings	598	608	626	648	660	651	655	647	615	584	552	588	713
Butte	874	889	916	948	966	952	958	946	900	854	807	860	1043
Gt. Falls	624	634	654	677	690	679	684	676	642	609	576	613	743
Helena	616	627	646	669	681	671	675	667	634	602	569	606	734
Missoula	1024	1041	1072	1110	1131	1114	1122	1108	1054	1000	945	1007	1220
TOTAL	3736	3799	3914	4052	4128	4067	4094	4044	3845	3649	3449	3674	4453

* A full-time student at a vocational-technical center is defined as one attending 20 or more hours per week and who attends any time during the academic year (July 1 through June 30) for any period of time. A particular student is only counted once, even though he may enroll in more than one program.

Projection #3 - Vocational-Technical Centers

Method: Same as Projection #1 except the pool was made up of high school seniors enrolled as of October 1 of the year instead of high school graduates.

Assumptions: Same as Projection #2

Enrollment Projection - Vocational-Technical Centers

(Annual Full-time Accumulative Enrollment)*
Projection #3

	1974-5	1975-6	1976-7	1977-8	1978-9	1979-80	1980-1	1981-2	1982-3	1983-4	1984-5	1990-1	2000-2001
Billings	583	596	614	636	648	638	642	634	603	572	541	588	713
Butte	853	871	898	930	947	933	939	928	882	837	791	860	1043
Gt. Falls	608	622	641	663	676	666	670	662	630	597	565	613	743
Helena	601	615	633	656	668	658	664	654	622	590	558	606	734
Missoula	999	1020	1052	1089	1109	1093	1100	1086	1033	980	927	1077	1220
TOTAL	3644	3724	3838	3974	4048	3988	4013	3964	3770	3576	3382	3674	4453

* A full-time student at a vocational-technical center is defined as one attending 20 or more hours per week and who attends any time during the academic year (July 1 through June 30) for any period of time. A particular student is only counted once, even though he may enroll in more than one program.

There are a few anomalies inherent in the data base and these are indicated directly:

1. The only data for elementary and secondary schools were public grade, junior high, and high school enrollments. (Private grade and high school enrollments were not available.)

2. Extension, continuing education and adult education enrollments are included in the community colleges and private colleges, but not in the university units nor the vo-tech centers. The university unit enrollments are full time and part time net enrollments at the end of the fall quarter or semester. The vo-tech's enroll on an annual full time accumulative basis and represent only the fundamental 21 programs.

3. There are literally thousands of students enrolled annually in the university units under the extension programs, continuing and adult education programs. The units serve practically every community in the state in one way or another. The agricultural extension program headquartered at Montana State University with agents in every county in Montana offer community service programs. The citizens served by the various programs are not included in the University projections.

4. Last year 12,500 students were enrolled in the vocational-technical centers in their adult and continuing education and special programs. Again, these students are not included in the projections.

COMMENTS

There is a projected decrease in the high school graduating class caused by a decrease in the grade and high school population. This decrease will be apparent in the postsecondary units in 1978-79 but more pronounced from 1981-82 to 1984-85.

The non-traditional student is not really recognized in these projections. The national trends to provide educational services

in a non-traditional manner will definitely effect enrollment estimates when this program becomes more pronounced in Montana. These trends are presently visible to some extent in the vocational-technical centers.

At the present time, about 46% of all graduating seniors from Montana public schools become first time beginning freshmen in the units of higher education in Montana. This does not represent the average over the past few years but appears to be the current trend.

One cannot say with any certainty, but 14 to 15% of the vocational-technical enrollment could have come from a high school graduation pool made up of the graduating seniors, from, not only the immediately previous Spring, but of past Springs as well.

Thus, one could safely say that about 54% of the high school graduating seniors stay in Montana and attend a postsecondary unit. The remaining (who are certainly qualified) go out of state, to an in-state proprietary school, or refrain from attending any sort of postsecondary unit.

National statistics from 1958, 1963, and 1968 have shown that more Montana students leave the state for postsecondary education than come into the state, resulting in an outward migration deficit.

Using the cohort survival technique, the projected high school senior population shows a definite tapering off at about 1980 which results in an additional factor used in the enrollment projections.

In conclusion, and in addition to the recommendations that have been suggested by the committee, it is further recommended that a program be developed to project the student demand for postsecondary educational services annually, and that a data base be developed that would service the projection technique that is developed. Since the National Center for Higher Education Management Systems at WICHE has developed a Data Element Dictionary covering curricula, facilities, finance, staff and students, the committee recommends this Dictionary be used as a foundation in the development of a compatible data base for all postsecondary education units.

SUMMARY OF RECOMMENDATIONS

THE COMMITTEE RECOMMENDS:

1. Open admission policy for first time beginning resident students at public postsecondary institutions.

2. Increased stress on counseling at all stages and for all types of postsecondary institutions.

3. A positive, non-punitive grading system for all lower-division classwork taken at public postsecondary institutions.

4. Uniform standards for the retention of undergraduate students throughout all similar types of units of public postsecondary education.

5. A practical model for the continuing study of student persistence.

6. Establishment of a data base system using the NCHEMS-WICHE Data Element Dictionary format.

APPENDICES

Appendix A

How To Project Enrollment
Six University System Units

UNIVERSITY SYSTEM ENROLLMENT PROJECTION METHODS
APPENDIX A

From the pupil registration by county by grades (1-12) since 1955, the total enrollment for the state public schools is determined for each grade of each year. An analysis of this information yields survival ratios for each grade that can be utilized to predict how many high school seniors will be enrolled for the next eleven years. Therefore, we have actual and predicted enrollments in grade 12, i.e. the senior year in high school for a 22-year period.. These seniors are placed into groups to form a high school pool since some of the seniors, for example, those from the years 1964-65, 65-66, 66-67, and 67-68, are attending a unit of the University System in the 1968-1969 academic year. An analysis is then made on the ratio of the resident enrollment in the System to the high school and for each year that actual information is available. We then predict what this ratio will be in the future and apply it to the predicted high school pool to determine the resident enrollment. Finally, this enrollment is distributed to each unit.

I'd like to back up now and point out some vital steps in this procedure so that you will know how they are handled. Besides the tendency for elementary and secondary students to remain in school and get a high school diploma there is also an increasing tendency for:

(1) The high school graduate to go on to college.
(2) College students to remain in school and graduate.
(3) College graduates to continue in graduate or professional schools.

I have assumed that this tendency can be written mathematically: $Y=A-B^{-kt}$ when A, B and k are constants that can be determined with known values of "Y" as the ratio of the resident enrollment in the System to the high school pool. A graph of the factor, "Y" is illustrated in Figure 1.

We know that every student that graduates from high school could go on into some form of higher education. However, we cannot expect them to attend a unit of the Montana University System. From the statistics that we have, we are showing that about 10% of the students will go to institutions of higher education other than the Montana University System. Since a regular bell shaped curve distribution of grades indicates that a "C" grade, which is required for high school graduation, represents 66 2/3% of the senior students, we predict that ultimately about 56% of the high school seniors will attend a unit of the Montana University System (See Figure 1). Thus, the ratio of resident enrollment in the Montana University System resident enrollment for each year will be equal to the predicted high school pool, times the tendency factor, "Y". The projected resident system enrollment is apportioned to the unit's utilizing the past distribution of the resident enrollment to the total resident enrollment. Non-resident enrollment projections are based on the past ratios of non-resident to resident enrollment of the System and apportioned accordingly.

Finally, the net November 1st enrollment projections equal the resident enrollment plus the non-resident enrollment for each year for each unit.

University of Montana

ACTUAL ENROLLMENT* vs PROJECTED ENROLLMENT*

* Net Full time-Part time (headcount) Enrollment

	Actual	1968 Projection	Difference & % Error	1970 Projection	Difference & % Error	1972 Projection	Difference & % Error
1968	7,218	7,050	168 (23%)				
1969	7,903	7,340	563 (7.1%)				
1970	8,393	7,490	903 (10.8%)	8,336	57(0.7%)		
1971	8,800	7,690	1,110 (12.6%)	8,766	34(0.4%)		
1972	8,624	7,910	714 (8.3%)	9,114	-490(-5.7%)	8,804	-180(-2.1%)
1973	8,468	8,150	318 (3.8%)	9,354	-886(-10.5%)	9,160	-692(-8.2%)
1974		8,350		9,461		9,189	
1975		8,570		9,634		9,206	
1976		8,750		9,765		9,235	
1977		8,990		9,956		9,333	
1978				10,097		9,359	
1979				10,159		9,348	
1980				10,269		9,329	
1981						9,129	

Difference — Actual Enrollment - Projected Enrollment

% Error — $\frac{\text{Actual Enrollment - Projected Enrollment}}{\text{Actual Enrollment}} \times 100$

1-8-74

Montana State University

ACTUAL ENROLLMENT* vs PROJECTED ENROLLMENT*

* Net Full time-Part time (headcount) Enrollment

	Actual	1968 Projection	Difference & % Error	1970 Projection	Difference & % Error	1972 Projection	Difference & % Error
1968	7,274	7,330	-56 (-0.8%)				
1969	7,718	7,450	268 (3.5%)				
1970	8,187	7,780	407 (5.0%)	8,016	171(2.1%)		
1971	8,113	8,000	113 (1.4%)	8,428	315(3.4%)		
1972	7,898	8,230	-332 (-4.2%)	8,763	-865(-11%)	7,903	-5(-0.10%)
1973	8,025	8,480	-455 (-5.7%)	8,994	-969(-12.1%)	8,453	-428(-5.3%)
1974		8,680		9,098		8,480	
1975		8,920		9,264		8,496	
1976		9,110		9,389		8,522	
1977		9,360		9,573		8,612	
1978				9,708		8,638	
1979				9,769		8,627	
1980				9,875		8,609	
1981						8,425	

Difference — Actual Enrollment - Projected Enrollment

% Error — $\frac{\text{Actual Enrollment - Projected Enrollment}}{\text{Actual Enrollment}} \times 100$

Montana College of Mineral Science & Technology

ACTUAL ENROLLMENT* vs PROJECTED ENROLLMENT*

* Ne- Full time-Part time (headcount) Enrollment

	Actual	1968 Projection	Difference & % Error	1970 Projection	Difference & % Error	1972 Projection	Difference & % Error
1968	726	640	86 11.9%				
1969	897	730	167 18.6%				
1970	989	680	309 31.2%	1,018	-29 -2.9%		
1971	894	710	184 (20.6%)	1,071	-177 (-19.8%)		
1972	779	720	59 (7.6%)	1,114	-335 (-43%)	897	-118(-15.2%)
1973	749	740	9 (1.2%)	1,143	-394 (52.6%)	886	-137(-18.3%)
1974		760		1,156		889	
1975		780		1,177		891	
1976		800		1,193		893	
1977		820		1,216		903	
1978				1,233		906	
1979				1,241		905	
1980				1,255		903	
1981						883	

Difference — Actual Enrollment - Projected Enrollment

% Error — $\frac{\text{Actual Enrollment - Projected Enrollment}}{\text{Actual Enrollment}} \times 100$

1-8-74

Western Montana College

ACTUAL ENROLLMENT* vs PROJECTED ENROLLMENT*

* Net Full time-Part time (headcount) Enrollment

	Actual	1968 Projection	Difference & % Error	1970 Projection	Difference & % Error	1972 Projection	Difference & % Error
1968	962	1,010	-48 5%				
1969	1,072	1,020	52 4.9%				
1970	1,042	1,080	-38(-3.7%)	1,137	-95(-9.1%)		
1971	959	1,110	-151(-15.8%)	1,198	-239(25%)		
1972	839	1,140	-301(-36%)	1,243	-404(-48%)	927	-88(-10.5%)
1973	700	1,170	-470(-67%)	1,276	-576(-82%)	938	-238(-34%)
1974		1,200		1,291		940	
1975		1,230		1,313		942	
1976		1,250		1,333		946	
1977		1,290		1,358		955	
1978				1,378		958	
1979				1,386		957	
1980				1,402		955	
1981						935	

Difference — Actual Enrollment - Projected Enrollment

% Error — $\frac{\text{Actual Enrollment - Projected Enrollment}}{\text{Actual Enrollment}} \times 100$

1-8-74

Eastern Montana College

ACTUAL ENROLLMENT* vs PROJECTED ENROLLMENT*

* Net Full time-Part time (headcount) Enrollment

	Actual	1968 Projection	Difference & % Error	1970 Projection	Difference & % Error	1972 Projection	Difference & % Error
1968	3,573	3,350	223(6.2%)				
1969	3,771	3,670	101(2.7%)				
1970	4,062	3,560	502(12.4%)	4,133	-71(-1.8%)		
1971	3,466	3,660	-194(-5.6%)	4,347	-881(-25%)		
1972	2,741	3,770	-1,029(-38%)	4,519	-1,778(-65%)	3,200	-459(-16.8%)
1973	2,757	3,880	-1,123(-41%)	4,638	-1,881(-68%)	3,411	-654(-24%)
1974		3,970		4,692		3,420	
1975		4,070		4,776		3,428	
1976		4,160		4,842		3,439	
1977		4,270		4,936		3,475	
1978				5,006		3,484	
1979				5,037		3,480	
1980				5,093		3,474	
1981						3,399	

Difference — Actual Enrollment - Projected Enrollment

% Error — $\frac{\text{Actual Enrollment - Projected Enrollment}}{\text{Actual Enrollment}} \times 100$

1-8-74

Northern Montana College

ACTUAL ENROLLMENT* vs PROJECTED ENROLLMENT*

* Net Full time-Part time (headcount) Enrollment

	Actual	1968 Projection	Difference & % Error	1970 Projection	Difference & % Error	1972 Projection	Difference & % Error
1968	1,324	1,350	-26(-2%)				
1969	1,471	1,360	111(7.6%)				
1970	1,429	1,430	9(0.6%)	1,573	-134(-9.3%)		
1971	1,330	1,480	-150(-11.3%)	1,654	-324(-24%)		
1972	1,065	1,520	-455(-43%)	1,720	-655(-62%)	1,328	-263(-25%)
1973	1,069	1,560	-491(-46%)	1,765	-696(-65%)	1,298	-233(-22%)
1974		1,600		1,785		1,301	
1975		1,640		1,818		1,304	
1976		1,680		1,842		1,309	
1977		1,720		1,878		1,322	
1978				1,905		1,326	
1979				1,917		1,324	
1980				1,938		1,321	
1981						1,293	

Difference — Actual Enrollment - Projected Enrollment

% Error — $\frac{\text{Actual Enrollment - Projected Enrollment}}{\text{Actual Enrollment}} \times 100$

1-8-74

Montana University System

ACTUAL ENROLLMENT* vs PROJECTED ENROLLMENT*

* Net Full time-Part time (headcount) Enrollment

	Actual	1968 Projection	Difference & % Error	1970 Projection	Difference & % Error	1972 Projection	Difference & % Error
1968	21,077	20,730	347(1.7%)				
1969	19,797	21,570	-1,773(-9%)				
1970	24,112	22,020	2,092(8.7%)	24,213	-101(-0.4%)		
1971	23,565	22,650	915(3.9%)	25,464	-1,899(-8.1%)		
1972	21,946	23,290	-1,344(-6.1%)	26,474	-4,528(-20%)	23,269	-1,323(-6%)
1973	21,768	23,980	-2,212(-10.2%)	27,170	-5,402(-25%)	24,146	-2,378(-11%)
1974		24,560		27,483		24,219	
1975		25,210		27,982		24,267	
1976		25,750		28,364		24,344	
1977		26,450		28,917		24,600	
1978				29,327		24,671	
1979				29,509		24,641	
1980				29,832		24,591	
1981						24,064	

Difference — Actual Enrollment - Projected Enrollment

% Error — $\frac{\text{Actual Enrollment - Projected Enrollment}}{\text{Actual Enrollment}} \times 100$

Three Private Colleges

The College of Great Falls employes 3 methods for the projection of enrollments:

1. The composition of the student body (mostly part-time)
2. The percent of yearly increase (last few years a decrease)
3. The pattern of change (it is more difficult for graduates to find employment)

Carroll College has in the past projected enrollment ahead for one year only, for budgetary purposes. The projections of recent years were made by the Vice President for Business Affairs. Carroll's present long term goal is for a FTE of 1,200 to be achieved within a period of two to four years, in order to obtain effective utilization of physical plant and educational programs. (The attached exhibit indicates those sources used in the preparation of enrollment projections).

No data was received from Rocky Mountain College.

Enrollment projections for 1968-73 and the actual enrollments experienced by the College of Great Falls were:

	1968	1969	1970	1971	1972
Projected Enrollment	1100	1200	1200	1100	1000
Actual Enrollment	1264	1159	1165	1031	980
	13%	-3.5%	-3.0%	-6.7%	-2.0%

Enrollment projections for 1970-74 and the actual enrollments experienced by Carroll College were: (expressed as FTE)

	1970	1971	1972	1973	1974
Projected Enrollment		1024	985	823	943
Actual Enrollment	989	1000	920	932	
		-2.4%	-7.1%	11.7%	

Appendix C

Questionnaire

November 19, 1973

To: Presidents and Directors of Postsecondary Institutions in Montana

From: Bill Lannan, Chairman - Technical Group on Student Enrollments - Commission on Postsecondary Education

Subject: Questionnaire

I'm sure you and your staff are being inundated with questionnaires from the various technical groups associated with the Commission on Postsecondary Education, as well as the continual stream of questionnaires from other sources. I pray you can bear the stress and strain of yet another.

The attached questions should be answered by the person(s) with the direct responsibility of performing the queried task(s) and then signed and dated for future reference. Any comments that you or members of your staff may wish to make will be appreciated and incorporated in our final report.

Please return the responses and data by December 21, 1973. If you have any questions please contact me or a member of the committee representing your type of institution. A list of members of the committee and the charge given to it is attached for your reference.

WJL:wb
Enclosures
cc: Mr. Rich Bechtel
Mr. Don Kettner
Mr. Charles Kittock
Mr. Jon Pozega

CHARGE: Describe methods of projecting statewide and institutional enrollments and the accuracy of projections over the past five years. -
a) Review alternative methods of projection

NOTA BENE - University System units need not respond to #1 and 2, but comments on #3, 4 and 5 will be appreciated.

1) Describe the methods of projecting enrollments at your institution (both short-range and long-range if they differ) and define the student projection, i.e. headcount, FTE etc.

2) Provide enrollment projection data for 1968 and the actual comparable data for 1969-73; if headcount is projected, provide actual headcount or if FTE is projected, provide actual FTE.

3) What factors, in your opinion, have influenced the changes that were not foreseen at the time the projections were made?

4) Are adult, continuing education and/or extension students included in the projections? Are special programs such as those funded by MDTA, WIN, SRS etc. included in the projections? If not, how are the programs arranged to anticipate the student's enrollment?

5) If you know of any alternative method of projecting students, please describe or identify source of reference.

CHARGE: Review and describe standards and practices of admission, standards of retention, procedures and standards for transfer.

1) What is the admission standard or policy for your institution as it relates to new students as well as transfer students? Please include any differing standards or policies regarding in-state and out-of-state students.

2) Are there exceptions to these standards which pertain to adults without a high school diploma or its equivalent, or high school students who haven't graduated? If so, please explain.

3) What are the standards for the retention of students?
a) academic - b) disciplinary - c) other (explain) - d) any exception to the above.

4) Other than the admission standards stated above, is there any policy or restriction for the transfer student who expects to graduate from your institution?

5) What is your policy of evaluating a transfer student's transcript?

CHARGE: Provide data on student persistence, dropouts, and length of time for completion of degree and certificate programs.

1) Can you provide the method of and results of any studies that you or others have made in postsecondary institutions on a) student persistence b) dropouts - c) length of time for completion of programs.