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# The **FABRIC** of College Readiness:

## Focusing on Academics to Bypass Remediation in College

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January 2009

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### Proficiency Measures and Rigorous Coursework

Students who have genuine access to higher education encounter a seamless educational system, entering the institution of their choice prepared to engage in college-level work and attain their degrees in a timely fashion. However, when they enter college unprepared and must enroll in remedial courses, not only do costs increase, but they reduce their chances of completing a program of study.

In 2000, the Montana University System and the Office of Public Instruction began to address these problems by convening groups of high school and college instructors to study mathematics and writing proficiency measures. The results were the passage of the Board of Regents' **Mathematics Proficiency Policy** (301.15) in 2003 and **Writing Proficiency Policy** (301.16) in 2005. Both policies set minimum test score thresholds that were phased in to reach the level of proficiency equivalent to the skill level required for placement into college-level mathematics and composition by 2009/10.

To further align these policies into consistent practices across the Montana University System, a **Composition Placement Policy** (301.17) and **Developmental Education Policy** (301.18) were passed by the Board of Regents in 2008.

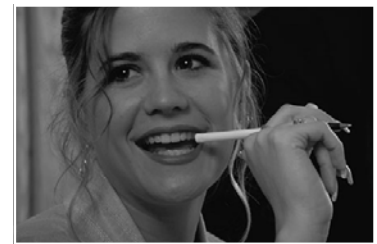
Perhaps more important than admissions exams are the courses that students take in high school. The mission of K-12 education is to develop the full potential of every student. The Montana University System provides students with a wide array of options, from certificates that can be earned in one year to doctoral degrees. When students set high expectations for themselves, taking rigorous courses in high school (such as upper-level mathematics), they keep their options open: they are ready to enter college without needing to take remedial courses; they are ready to begin a baccalaureate program if they wish; and they are on track to complete a degree on time.

What courses should students take to be prepared for the two and four year programs in the Montana University System? How well are Montana's high school students achieving the admissions standards? How can schools and colleges work together to improve students' readiness for college?

Some answers may emerge by studying the college admissions standards, readiness data for the class of 2008 and recent remediation data. By focusing on academics in high school, students can bypass remediation in college.

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[http://mus.edu/  
collegeprep.asp](http://mus.edu/collegeprep.asp)

## MONTANA UNIVERSITY SYSTEM ADMISSION POLICIES

Several policies govern admissions to the campuses of the Montana University System including General Admissions (301), In-state Requirements (301.1), Out-of-state Requirements (301.2), College Preparatory Program (301.7), Math (301.15), and Writing (301.16). The two-year campuses have open admissions. All policies can be found at <http://mus.edu/admissions.asp>.

**Policy 301.1 In-state Admission Requirements** is the general admission policy. Graduates of accredited high schools must meet minimum standards to enter any 4-yr campus of the Montana University System. Students must have at least a 2.5 high school GPA (grade point average); OR rank in top half of the school's graduating class; OR earn the following minimum test scores:

Minimum admissions exam scores:	ACT Composite	SAT Total
MSU-Northern, UM-Western	20	1440
MSU-Billings & Bozeman; UM-Missoula and MT Tech of UM	22	1540

In addition, students must complete the Board of Regents' College Preparatory Program. Students graduating in 2010 or later must complete the **Rigorous Core** to be eligible for a Montana University System Honor Scholarship. **Policy 301.7 Board of Regents' College Preparatory Program** describes the courses in the minimum core, established in 1991. The rigorous core was passed in 2002 as part of Policy 301.15 (Mathematics Proficiency). The Office of the Commissioner of Higher Education maintains and posts the lists of each high school's courses that qualify for the Regents' College Preparatory Program on the website: <http://mus.edu/asa/hscp/index.asp>.

Course	Minimum Core	Years	Rigorous Core	Years
Mathematics	Algebra I, II, and Geometry (or the sequential content equivalent).	3	Algebra I, II, and Geometry (or the sequential content equivalent) and a course beyond Algebra II (such as Trigonometry, Pre-Calculus, Calculus, Computer Math, or course equivalent)	4
English	Written and oral communication skills and literature	4	Written and oral communication skills, literature, and a designated college-prep composition or research-writing course	4
Science	2 lab sciences: one year must be earth science, biology, chemistry or physics	2	Full year each: General, physical or earth science; biology; chemistry or physics	3
Social Studies	Global studies (world history, world geography), American history, and government. Economics, American Indian history or other third-year course	3	Global studies (world history, world geography), American history, and government. Economics, American Indian history or other third-year course. Recommend: ½ yr of other courses such as psychology, humanities	3
Electives	World language (2 yrs), and/or computer science, visual and performing arts, or vocational education	2	World language (2 yrs), and/or music, fine arts, speech/debate, career and technical education (such as information technology, computer science)	3

**Board Policy 301.15 Math Proficiency** requires that students demonstrate math proficiency by earning score listed below in order to be fully admitted to any of Montana's public four-year campuses. Or, they may earn minimum Grades of C in each math course of the High School **Rigorous Core** (above) including 4 years of math (Algebra I & II, Geometry and a course beyond Algebra II). By encouraging students to take the Rigorous Core, including taking math as seniors, this policy will ensure that more students will be ready for college-level mathematics.







Assessment	Admission. Fall 2009	FULL Admission: Fall 2010 & beyond
ACT Math	18	22
SAT Math	440	520
AP Calculus AB or BC Subject Exam	3	3
CLEP College Algebra-Trig, Calculus, or Trig	50	50

## Policy

**Board Policy 301.16 Writing Proficiency** requires that students demonstrate writing proficiency through a variety of measures to be fully admitted to the four-year campuses. These scores will also “place” students into college-level composition at all units of the Montana University System, two-year and four-year campuses. Most of Montana’s high schools voluntarily participate in the Montana University System Writing Assessment, which is described in more detail on pages 8-10 of this publication.

Assessment	FULL Admission. Fall 2009 & beyond
ACT Writing Subscore on Optional Writing Test or	7
ACT Combined English/Writing Score or	18
Essay Score Writing Section of SAT or	7
SAT Writing Section Score or	440
Montana University System Writing Assessment or	3.5
AP English Language Literature Examination	3

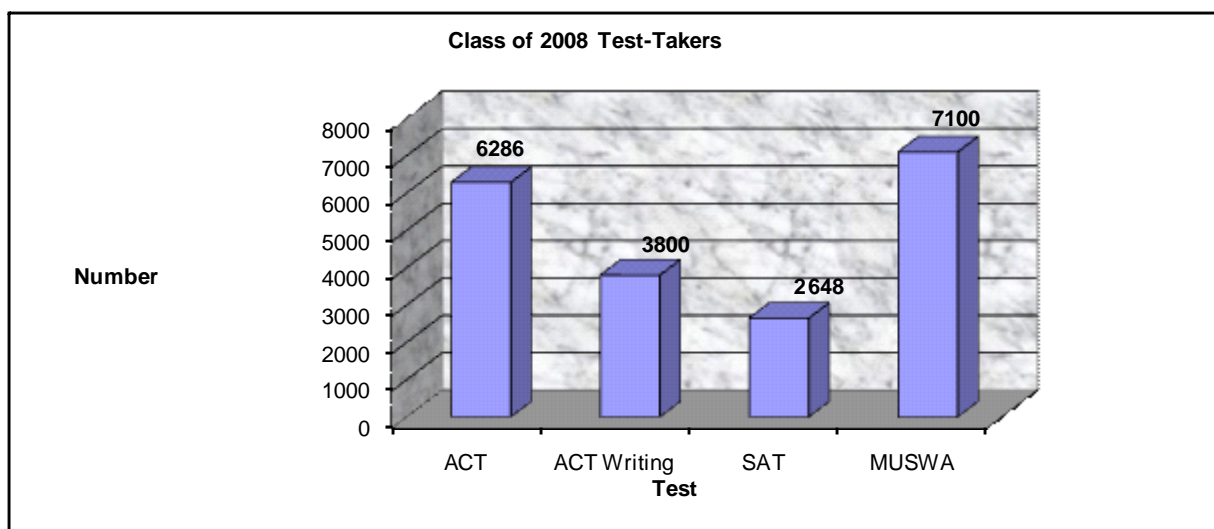
In general, if students are **Provisionally Admitted, rather than Fully Admitted**, they are placed into developmental courses. If a student has not yet demonstrated the ability to meet writing proficiency standards or mathematics proficiency standards for 2010, the student may be admitted to a 2-year degree program or admitted provisionally to a 4-year program. In the case of provisional admissions, before gaining full admission status, the student may prove appropriate proficiency by re-taking one or more of the listed assessments to earn the required score, earn a grade of C- or better in the composition or mathematics course that is the prerequisite to the course that satisfies the general education program requirements, or submit a letter to the admissions office documenting a disability that prevented student from adequately demonstrating proficiency in a test setting if no accommodations were provided at the time of the test. (Section IE of policy: <http://mus.edu/borpol/bor300/301-16.htm>.) If students have been provisionally admitted, they must change that status to full admission before the end of three semesters or the completion of 32 credits in the Montana University System, whichever event occurs first. Taking the Rigorous Core keeps students’ options open and reduced remediation.

High School Courses		
<i>Minimum Graduation Requirements</i>	<i>Regents' College Preparatory Program</i>	<i>Rigorous Core</i>
		
<b>Four Years English</b> <i>Emphasis upon the development of written and oral communication skills and literature</i> <i>Rigorous Core recommends a designated college-prep or research-writing course.</i>		
<b>Two Years Math</b>	<b>Three Years Math</b> <i>Algebra I, Geometry and Algebra II</i>	<b>Four Years Math</b> <i>Algebra I, Geometry, Algebra II and/or Trigonometry, Pre-Calculus, Calculus, Computer Math, Integrated Math VI</i>
<b>Two Years Science</b> <i>One year must be earth science, biology, chemistry, or physics; the other year can be one of those sciences or another approved college preparatory laboratory science.</i>		<b>Three Years Science</b> <i>Full year of each: General or earth science; biology; chemistry or physics.</i>
<b>Two Years Social Studies</b>	<b>Three Years Social Studies</b> <i>Courses shall include Global Studies (such as World History or World Geography); American History; and Government, Economics, Indian History or another third year courses.</i>	
<b>PREPARED FOR:</b> 	<b>PREPARED FOR:</b> 	<b>PREPARED FOR:</b> 
<b>Two Year Programs</b>	<b>Two or Four Year Programs</b>	<b>Two or Four Year Programs, Math Score Waiver, MUS Honor Scholarships, Academic Competitiveness Grants, etc.</b>

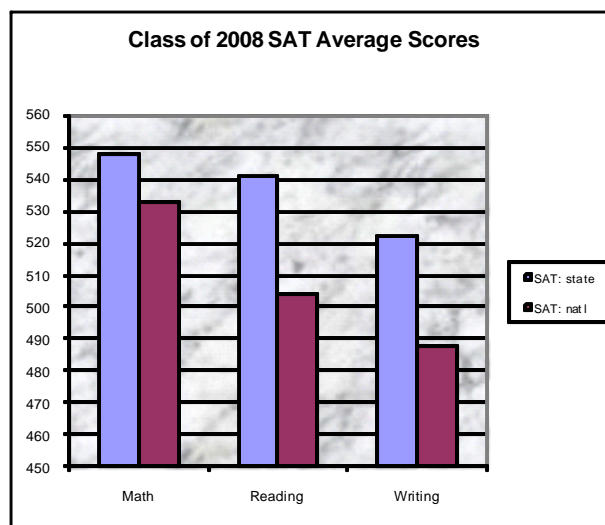
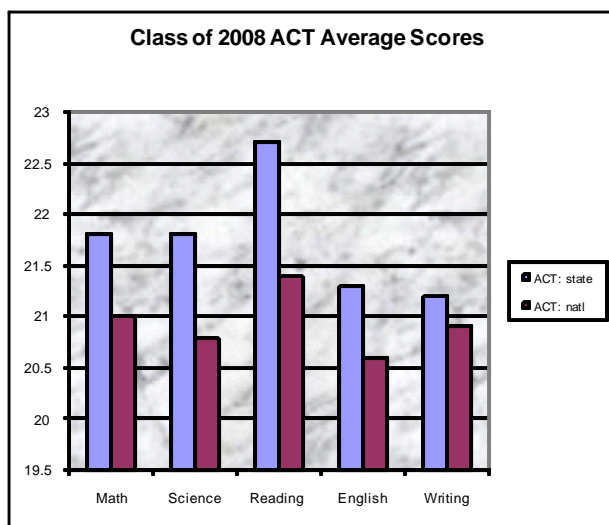
# College Readiness as Measured by Exams

To study how well Montana's students achieve admissions standards, these pages provide a brief summary of the results from the Montana's Class of 2008 who took at least one College Entrance Exam: the ACT, the SAT, and/or the Montana University System Writing Assessment. It also summarizes results from other College Board tests, including Advanced Placement, PSAT, and Subject Area Exams.

Over 60% of Montana's Class of 2008, consisting of 11,202 students\* took an entrance exam (\*March 2008, WICHE). Since students pay to take the ACT and SAT, those students are serious about going to college. High school generally register all of their juniors to take the MUSWA. A questionnaire that accompanies the MUSWA asks students if they intend to go to college. Of those 7,100, 81% (5,751) plan to go to college.



On both the ACT and SAT, Montana's Class of 2008 scored above the national averages, as illustrated on the graphs below. ACT tests for science and SAT does not. ACT reports English and writing scores separately because the ACT writing test is optional whereas an essay is embedded in the SAT exam. When ACT and SAT report scores, they use reading scores to predict college readiness in the social sciences, which are reading-intensive.



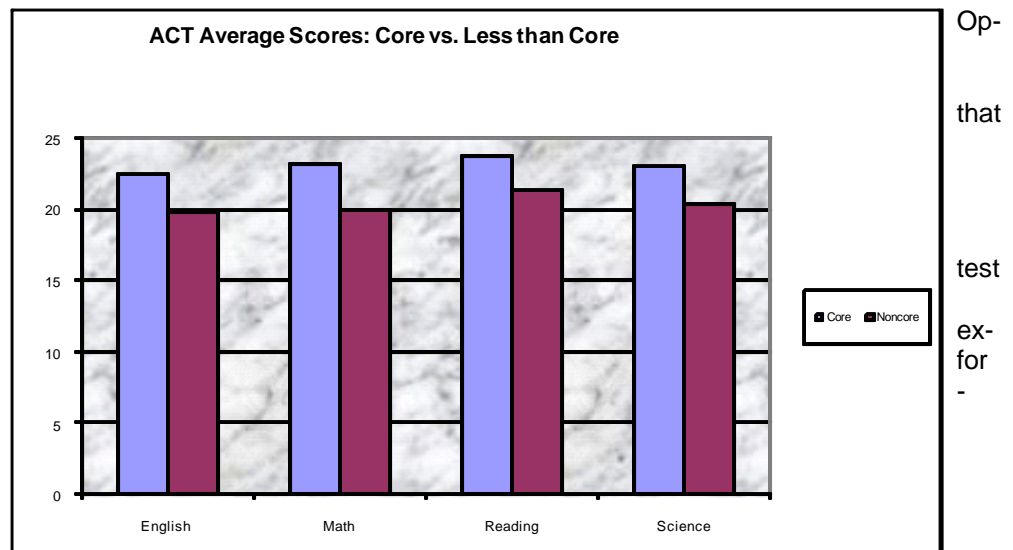
# ACT Data Shows Importance of Rigorous Courses

In Montana's graduating class of 2008, 6,286 students took the ACT, representing 56.1% of Montana's graduates. The composite score (English, mathematics, reading, and science) was 22.0 overall, compared to 21.9 in 2007. The national average was 21.1. Students who took core courses (4 years English, 3 or more years math, 3 years social sciences, 3 or more years science) averaged 23.2; and those with less than core averaged 20.5.

The average for English was 21.3; for math 21.8; for reading 22.7; and for science, 21.8. The Optional Writing Test was taken by 3,800 students, whose average score was 7.2 on the Essay and 21.2 for the English/Writing Combined Score. ACT's predictive analyses indicate that 26% of the class met all four college-readiness benchmarks (a 75% chance of earning a C or higher in a credit-bearing course), with 75% of the students ready for college composition; 49% ready for college algebra; 33% ready for college biology; and 62% ready for college social sciences. From another perspective—considering scores used for admissions as college-readiness benchmarks:

## What Percentage of Students Are Ready for College?

- 70% of the test takers met the MSU-N and UM-W admission standard of 20 (composite);
- 52% met the MSU, MSU-B, UM, and MT Tech admission standard of 22 (composite);
- 49% met the Math Proficiency Standard for placement into college-level math;
- 78% of the 3,800 students who took the Optional Writing Test earned Combined English/Writing scores that met or exceeded the standard for placement into college-level composition (18); and
- 62% of these 3,800 takers earned Writing Subscores that met or exceeded the standard for placement into college level composition (7).



## How Did American Indian Students Score?

Montana's largest minority is the American Indian population. The 325 American Indian students who took the ACT earned an average composite score of 17.7, down .4 from 2007; though the 37% who took core courses earned an average of 19.3 (17.5 without core). The number of American Indian students taking core has declined since 2000, when 50% took core or more. (Among Caucasian students, 58% took core or more in 2008 and in 2000.) American Indian averages were 16.1 in English; 17.8 in math; 18.2 in reading; and 18.3 in science. Reasons behind the decline in rigorous course-taking patterns among these students must be studied.

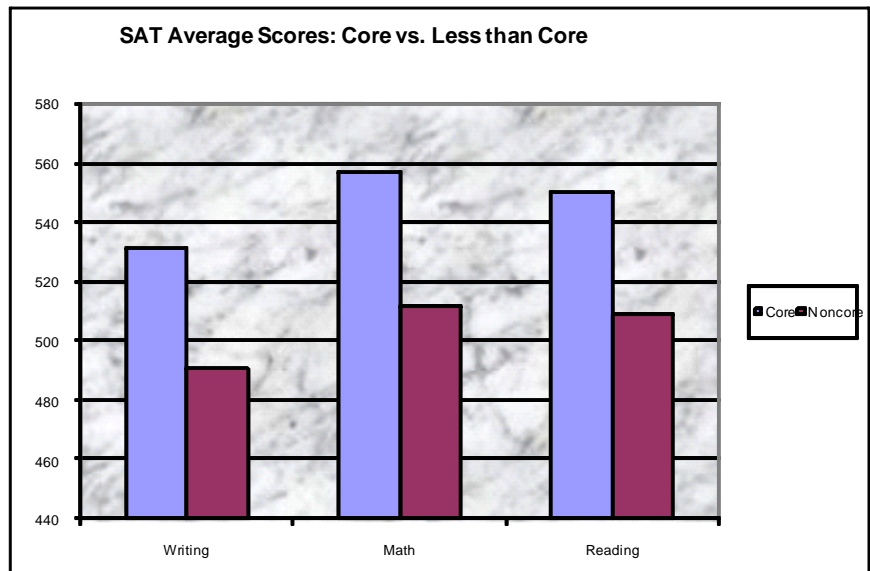
## How do Scores Relate to Career Interests?

The Montana Department of Labor projects management, education, community services, health care, and computer specialties as the highest growth career fields. Based on the career information that ACT collects, student interest matches the demand in the field of education and exceeds the demand in health. We expect 18% of the annual job openings in management, but only 6% of the students are interested in those fields. In terms of readiness, only 21% of the students interested in health care meet the benchmark for college readiness in science. Students interested in computer specialties demonstrate the highest college readiness scores.

## SAT Confirms Importance of Rigorous Core

The College Board's SAT Reasoning Test was taken by 2,648 students. That is a 7.8% decrease in SAT test-takers from 2007.

The mean score for Critical Reading was 541 (3 points higher than 2007) and for Writing, 522 (down 1 point from 2007). In Mathematics, the mean score was 548, as compared to 543 in 2007 and 539 in 2004. Montana students who have taken core (4 yrs English, 3 yrs math, 3 yrs social sciences, 3 yrs science) or more averaged 550 in Critical Reading; 533 in Writing; and 557 in mathematics. Nationally, the Critical Reading mean was 504; Writing was 488; and Mathematics was 533. By comparison, the 2007 national means were 504 in Critical Reading, 489 in Writing, and 533 in Mathematics.



Montana students with less than core preparation scored 509 in Critical

Reading, 491 in Writing, and 512 in Mathematics. Core is defined by SAT (and ACT) as 4 years English, 3 or more years math, 3 years social sciences, and 3 or more years science.

### What Percentage of Students Are Ready for College?

Considering scores used for admissions:

- 74.7% of the test takers met the MSU-N and UM-W admission standard of 1440;
- 61.4% met the MSU, MSU-B, UM, and MT Tech admission standard of 1540;
- 63.8% met the Math Proficiency Standard (520) for placement into college-level math
- 81.1% earned Writing scores that met the standard for placement into college-level composition (440); and
- 71% earned Essay scores that met or exceeded the standard for placement into college-level composition (7).

### How Did American Indian Students Score?

Montana's 40 American Indian students who took the SAT (down from 53 in 2007) earned an average Critical Reading score of 596, down 7 points from 2007; a Writing score of 463, down 8 points; and Mathematics score of 477, down 18 points from 2007. With fewer students taking the SAT, one might expect higher average scores. It is hoped that these declines will reverse themselves with the class of 2009.

### What Courses Predict Success?

As with ACT, College Board reports course-taking patterns, indicating that calculus, pre-calculus, physics, European history, German, and Latin, as well as multiple years of music performance correlate with the highest scores.

Like ACT, this data shows the highest percentage of students selecting "health professions" as their intended college major, yet with scores below the state average.

## The College Board's Subject Area, College Prep, and AP Exams

### SAT II

226 Montana students took 585 SAT II Subject Area tests, often required by highly-selective universities. Subjects taken most were Math, Literature, and U.S. History.

### PSAT/NMSQT

5,832 Montana sophomores and juniors took the PSAT; 4,873 of whom will graduate in 2009. National Merit Scholarships are awarded based on PSAT scores. The mean Math score for juniors was 49.9, compared to a 48.2 nationally; Critical Reading's mean score was 48.2, compared a 46.8 national mean; and the Writing Skills average was 46.7, compared to 45.9 nationally.

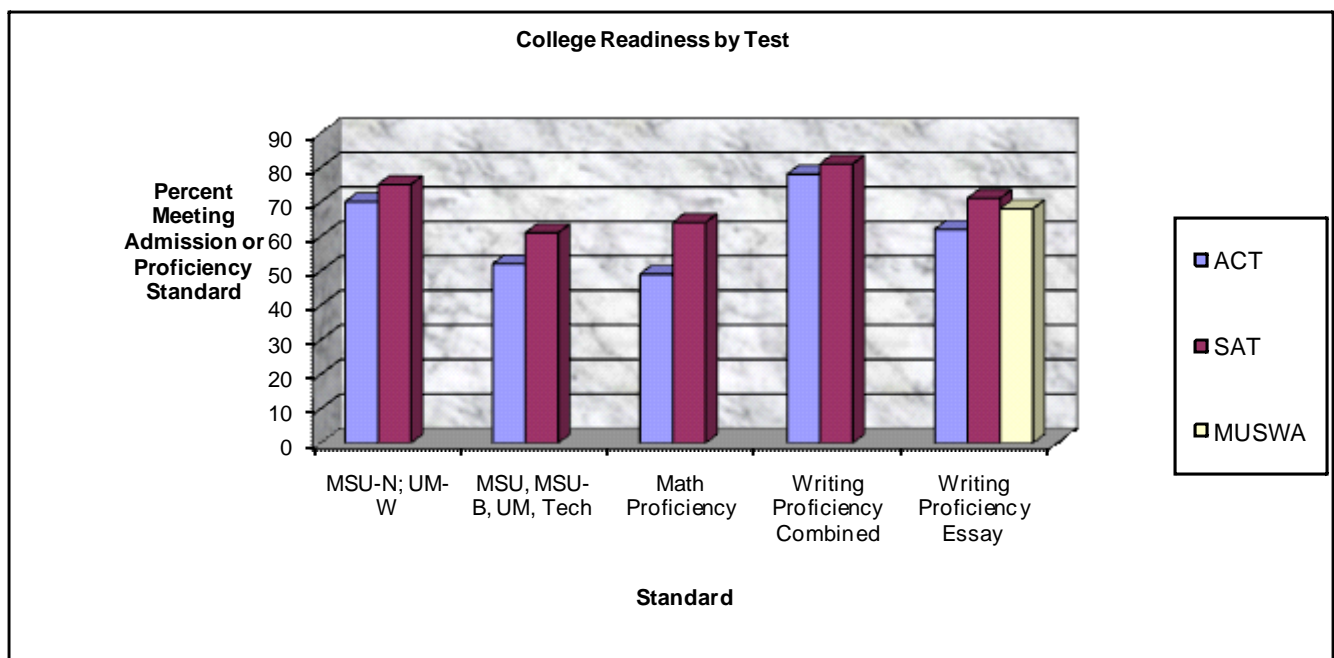
### AP (Advanced Placement)

2,623 Montana students took 4,048 AP exams, of which 2,585 had scores of 3 or above, meaning scores may be used to waive or earn credit for college courses. The number of test-takers was up (6.2%), and the number of scores of 3 or above increased 5.5% since 2007. 42 American Indian students took AP tests (an increase of 23.5% from 2007) and 20 of those students earned scores of 3 or above.

977 English Literature and Composition tests (69% with scores of 3 or above); 496 English Language and Composition tests (69% with scores of 3 or above); 576 US History tests (58% with scores of 3 or above); 400 Biology tests (43% with scores of 3 or above), and 393 Calculus AB tests (58% with scores of 3 or above) made up 70% of the tests taken. The number of biology tests was 107 more in 2008 than in 2007. Others remained about the same.

## College Readiness Is Measured by Benchmarks, Not Averages

Despite relatively high SAT and ACT average scores, students must meet admissions requirements individually. Depending on the measure used, between 49% – 81% of the students tested **College Ready**. When 50% of the students test college-ready, up to 50% of the students could need developmental courses. Students who score below the General Admission Standards (first two sets of bars) may be admitted based on their GPA or class rank. Students who score below the proficiency levels in math or writing may work to improve their skills in high school, take another placement test, or enroll in developmental courses.



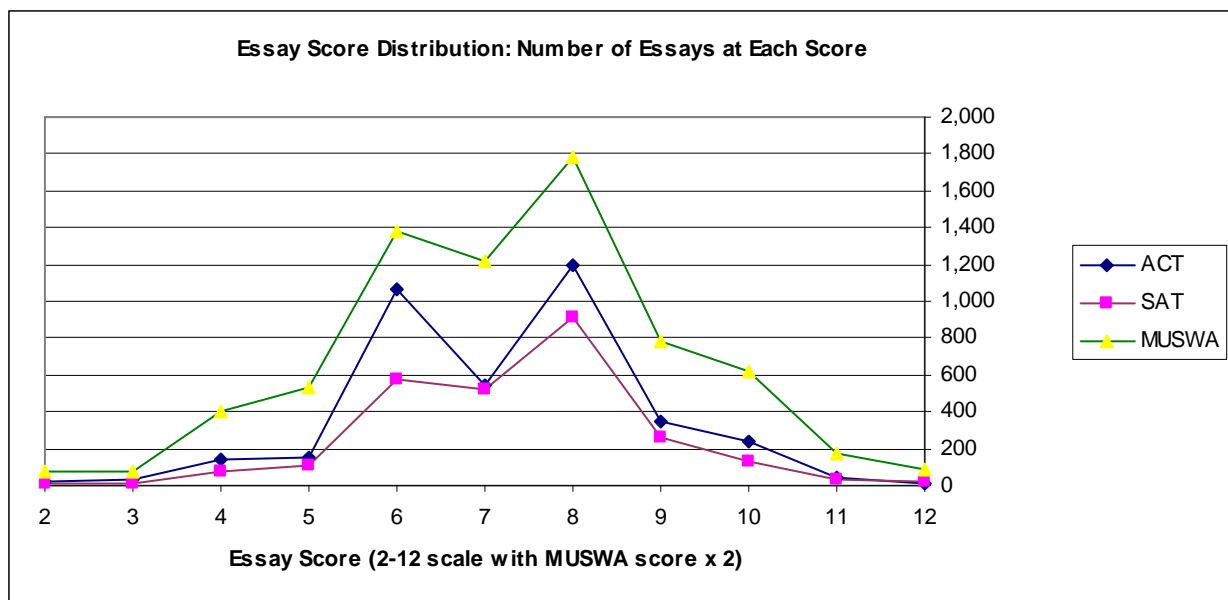
## Montana University System Writing Assessment

In 2001 and with assistance from ACT, Montana began exploring the possibility of administering a test of writing proficiency that used prompts (topics the students address) written by Montana teachers, that was administered in classrooms using the mode (computers or handwritten) most familiar to students, and that would be scored collaboratively by K-12 teachers and college instructors. Since its inception, when 75 schools volunteered to participate, 3,362 students tested, and 100 teachers and professors scored, the MUSWA has grown to a voluntary test and series of professional development activities that is embraced by the majority of Montana’s high schools (130). The MUSWA emphasizes Improving Teacher Quality in order to improve students’ chances of becoming adequately prepared for college writing.

In Montana’s graduating class of 2008, 6,608 students took the MUSWA as juniors in 2007 and 492 took the MUSWA as seniors. The average score of those juniors was 3.5 and the average score of those seniors (who were re-taking the test to improve their scores) was 3.6. Students who indicated that they plan to continue their educations at a college or university in Montana had an average score of 3.7 in 2008 and 3.5 in 2007. For both years, 81% of the students plan to go to college.

- In the class of 2008, among those students who tested as juniors, 63% earned MUSWA scores that met or exceeded the standard for placement into college-level composition (3.5).
- In the class of 2008, among those students who tested as seniors, 61% earned MUSWA scores that met or exceeded the standard for placement into college-level composition (3.5).
- For the 2008 test, among students planning to go to college, 68% earned scores that met or exceeded the standard for placement into college-level composition (3.5).
- Among the 438 American Indian students who took the MUSWA, 40.3% met or exceeded the standard for placement into college-level composition (3.5).

### Essay Scores from ACT, SAT, and MUSWA Reveal Similar Distribution



The graph above shows the number of students in the Class of 2008 who earned essay scores using the ACT Optional essay, the SAT essay, or the MUSWA. All three tests use a 6-point scale, but ACT and SAT add the two scores together for a final scale of 2-12 points. Here, the MUSWA scores have been doubled to match the ACT/SAT reported scores. Each whole number reflects perfect agreement between two scorers, whereas the odd numbers reflect adjacent scores. A score of 7 marks the threshold between non-proficient and proficient essays. This distribution shows that the three tests are aligned score, showing similar scoring patterns.

## Montana University System Writing Assessment: An Investment in Collaboration

The Montana University System Writing Assessment is a cost-effective way to provide students with feedback about how well they will be prepared for college writing and to assist the colleges and universities with placement information. The Office of the Commissioner of Higher Education employs a Director of Academic Initiatives, who splits her time among issues related to Writing Policies and the MUSWA, Mathematics Proficiency, Developmental Education, Title II Improving Teacher Quality, the ACT State Council, and other projects such as Transferability and Kindergarten-to-College.

State funds that support the MUSWA include an operating budget for printing and mailing, workshop travel, and a contract with Apperson Data Management, which maintains the testing website, reads scantrons, and reports scores.

In addition, because the MUSWA improves teacher quality through intensive professional development, creating learning communities among

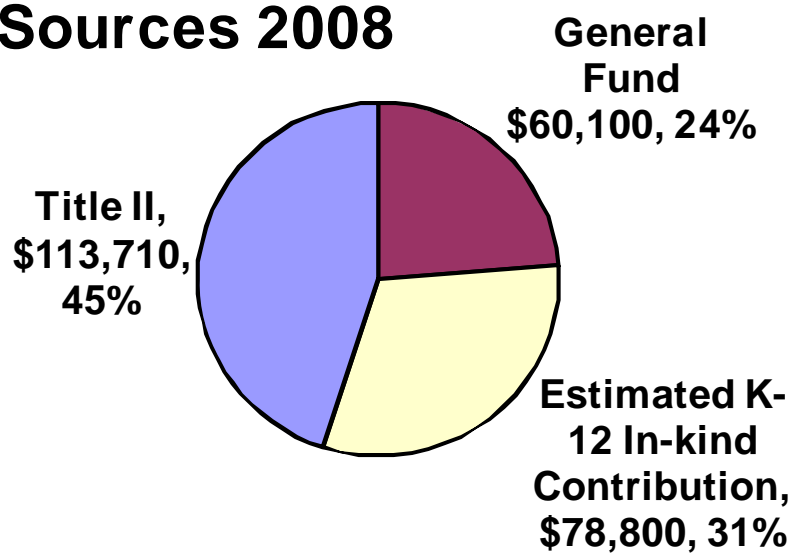
schools and campuses, the Writing Assessment Workshops are partially funded through Title II: Improving Teacher Quality grants. As encouraged by Title II guidelines, Montana has followed a "training of trainers" model, producing over sixty trainers in Montana who fulfill leadership roles in the preparation of training materials and mentor hundreds of teachers as they examine student work and discuss instructional practice. Some trainer expenses (such as substitute teachers) are covered through Title II grants.

Title II has also funded a grant to develop a sixth grade writing assessment and provide professional development in writing instruction and assessment for elementary teachers. WIN (Writing Intervention Now) is a partnership of the Montana Small Schools Alliance, The University of Montana Missoula, the University of Montana Western, and several high-need schools in Southwest Montana. The project will provide a model

for groups of small schools to use assessment development and scoring to improve writing.

Finally, the participating schools bear the costs of providing substitute teachers for scorers and for travel and lodging costs if needed. Because Writing Assessment Workshops are more often held in Montana's cities, the larger schools are less likely to incur these travel costs. For example, a high school with 400 test takers would be expected to send ten teachers to a Writing Assessment Workshop, at a cost of two sub days at about \$85, for a total of \$1700 or \$4.25 per test. On the other hand, a small school with only 20 tests may send one teacher, paying two sub days of \$170, plus travel and lodging at perhaps \$300, for a total cost of \$470, or \$23.50 per test. However, these small schools, in particular, find the professional development and networking with colleagues invaluable.

### Funding Sources 2008



This graph includes all operating costs and .5 FTE for Academic Initiatives; Title II Improving Teacher Quality grants to campuses for onsite facilitators, training costs and college credits; and an estimate for the cost to K-12 schools for substitute teachers and teacher travel.

## Writing Scores Improve Over Time

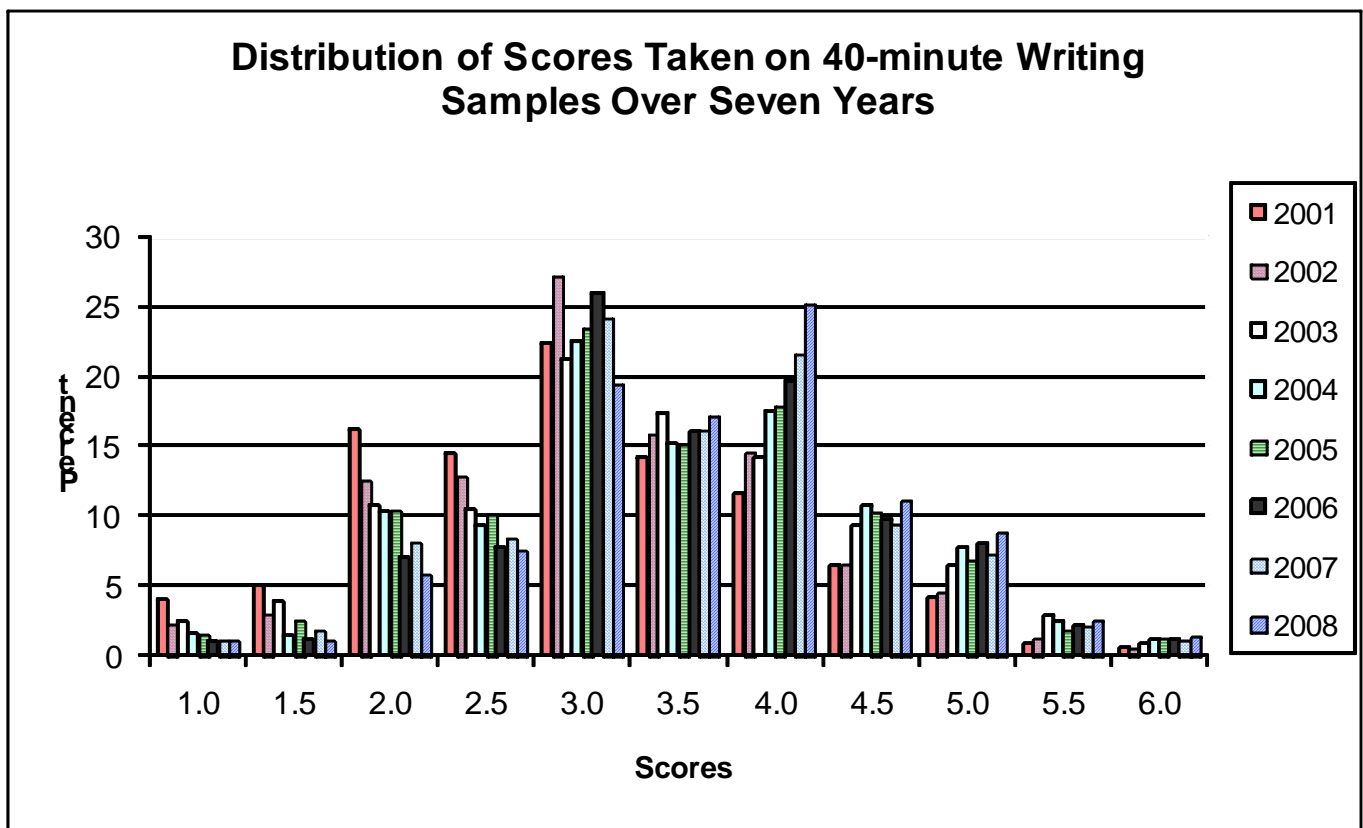
In 2008, the percentage of students earning scores of 5.5 and 6 increased by nearly one percentage point over 2007. The graph below shows that the percentage of students with those highest scores has trended upwards since the MUSWA was first administered in 2001. The number of students scoring at the “novice levels” of 2 and below has declined even more dramatically.

The scoring rubric defines a score of “4” as proficient, and “3” and nearing proficiency. The “4” is described in this way: *These papers state and support a position on the issue defined in the prompt with some elaboration or relevant explanation. Organization is generally clear. Sentences are usually well controlled, expression of ideas is usually clear, and word choice is appropriate for the topic. A competency with language is apparent, even though there may be some errors in grammar, usage, and mechanics.*

Essays with scores of 3.5 display enough attributes of “proficiency” in order to place students into college-level composition at the two-year and four-year campuses of the Montana University System. In 2008, 65.6% of all students taking the MUSWA (which includes students who plan to go on the MUS as well as those who do not) earned scores of 3.5 or above compared to 57% in 2007 and 42.7% in 2002.

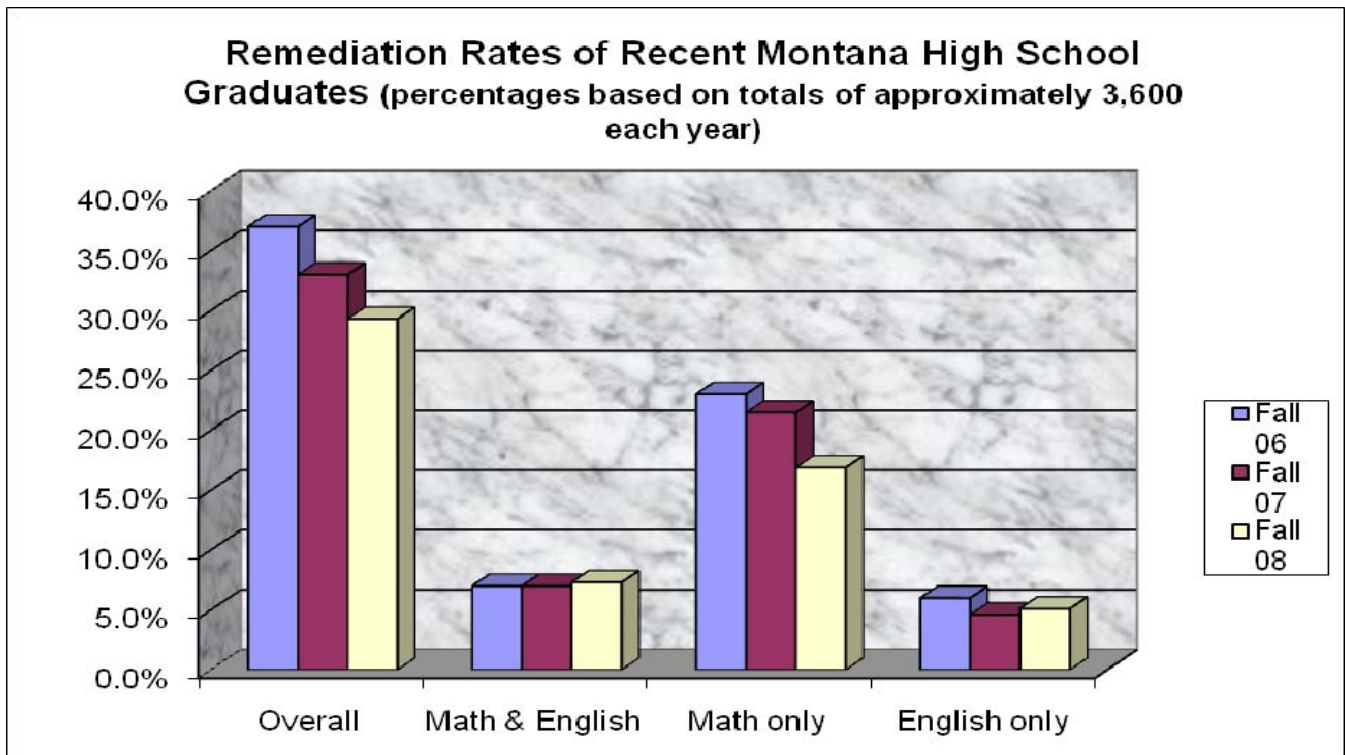
These percentages over time are based on more students with each ensuing year. In 2001, 3,365 students took the MUSWA. In 2008, scores were reported for 7,100 students. In 2009, the MUS expects to test 9,300 students.

Those teachers who have participated in scoring workshops throughout the past eight years are convinced that student writing is improving in all respects. These scores attest to those improvements, but also the 30-40 Trainers who annually assemble training materials for scoring workshops by selecting new sample essays now struggle to find essays that illustrate the scores of 1 and 2 and no longer worry about finding the upper-level “anchor” papers.



## Remediation

The Montana Legislature has urged joint policy goals and measures by the Board of Regents, Commissioner of Higher Education, Superintendent of Public Instruction, and Board of Public Education. One of the suggested goals and measures is to “reduce the remediation rate of students entering postsecondary education.” Over the past several years, the Board of Regents and Commissioner of Higher Education have targeted specific policies to reduce remediation and collected data to measure the effects of those policies. Results are encouraging, as evidenced by graph below.



The overall remediation rates were 37% in Fall 2006, 33% in 2007, and 29.3% in 2008. The percent of students who needed remediation in both math and writing has been fairly steady, at 7%, 7% and 7.3%. Students who needed remediation in math only was 23% in Fall 2006, 21.5% in 2007, and 16.9% in 2008. Total math remediation rates (combining the math and English with the math only figures) were 30% in 2006; 28.5% in 2007; and 24.2% in 2008.

For English composition, the remediation rates fell from 6% in Fall 2006 to 4.6% in 2007, and edged up to 5.1% in Fall 2008. Total English composition remediation rates were 13% in 2006; 11.6% in 2007; and 12.4% in 2008.

This data may represent a reflection of the effects of the Mathematics and Writing Proficiency Policies (301.15 and 301.16) which set clear goals for students and of the Developmental Education Policy (301.18), which requires consistent placement decisions. Some of the fluctuation may be due to Policy 301.18, which defined those remedial courses more consistently across the system and ensured that students are placed using consistent measures.

# How can we strengthen the Fabric of College Preparedness?

—Jan Clinard

Why focus on the academic areas of mathematics and writing in order to ensure that students are prepared for college? At its most basic level, students who can write a persuasive letter (of the kind required by the MUSWA) and who have grasped basic algebraic thinking will be prepared to enter the workforce and society prepared to communicate and to solve everyday problems.

Although many high school students may not realize it, two-year technical programs require that students complete a general education core of academic courses (sometimes called related instruction) that include college-level mathematics (often college algebra) and writing (perhaps business writing or technical writing). In order to be placed into these courses, students may use one of the admissions exams cited in this report or they may need to take placement exams, such as COMPASS, on campus.

A four-year university degree also requires that students complete a general education core, which includes college-level mathematics and composition. When students have not attained the requisite skills to perform in those classes, they must spend extra time and tuition to take developmental courses that bring them up to the college level. Not only are the mathematics and composition courses difficult for underprepared students, but other courses that require communication and thinking skills suffer when students don't have those basic skills.

Test data confirms the importance of rigorous courses in high school. The Montana Board of Public Education has set minimum graduation standards of 4 years of English, 2 years of mathematics, 2 years of science, 2 years of science, and 2 years of social studies. The Regent's Preparatory Curriculum requires an additional year of math and social studies. Students who graduate from high school with only two years of math can almost count on being placed into developmental mathematics courses, sometimes two to three semesters before they reach college-level at both two- and four-year institutions. The Rigorous Core, with 4 years of math and 3 years of science, will prepare students for college-level math.

**Recommendation: Increase Montana's High School Graduation Requirements to match the Regents' College Preparatory Program.**

As I travel throughout Montana giving workshops to teachers and students on the topic of college readiness, I am surprised that all students and teachers are not knowledgeable about admissions standards, that many do not use their school's college entrance exam scores to guide them in improving their curriculum, and that remediation is misunderstood. To many, entering college prepared seems almost impossible and remediation inevitable.

**Recommendation: Publicize Montana's admission criteria and help counselors and schools use their entrance exam data to improve curriculum and instruction.**

While much emphasis has been placed on dual credit as a way to jump start students into college, many times more students are underprepared (needing remediation) as those who are ready for college even before leaving high school. They pay college tuition to learn skills that they could have learned in high school at no cost. Their needs must be addressed.

**Recommendation: Pursue ways to reach high school students who are headed for remediation through innovations such as online developmental courses with onsite tutors, outreach from campuses to underprepared high school students, and sharing remediation data with high school counselors, teachers, and administrators.**

The Montana University System Writing Assessment has served as an important instrument for communicating about college readiness between high school and college staff members and to high school students. Over 1,600 teachers and college instructors have taken advantage of the professional development offered through MUSWA and nearly 40,000 students have been tested. The commitment of Montana's high schools to Improving Teacher Quality and student achievement has been laudable.

**Recommendation: Celebrate the commitment and collaborative efforts of Montana's high schools to improve student writing. Ensure that legislators, educational agencies and organizations, and the public see the value of using state-based assessments, such as MUSWA, to improve instruction.**