Nevada Policy Research Institute
analysis

Wasting Time and Money

Why So Many Nevada Students Are Not Ready for College

by J. E. Stone, William L. Brown and Richard P. Phelps*

Executive Summary

Like most states, Nevada strains financially to provide publicly funded education. Over 50 percent of the state budget is spent on education.

Yet a major proportion of its high school graduates are not ready for college.

Nevada professors who work with these students agree that the state's public schools need to put a greater emphasis on basic skills and study habits. Silver State students are finding themselves in remedial courses because they lack skills and study habits that should have been learned in elementary school. The evidence strongly suggests they were promoted from grade to grade despite a lack of achievement and, apparently, even a lack of effort.

The problem of poorly prepared students entering college is growing, as far more students are now going to college. In recent years, approximately half of Nevada's high school graduates entered college. Last year nearly 10,000 of them were enrolled in remedial courses. In too many cases, they needed help with knowledge and skills that should have been learned in the third or fourth grade.

By any reasonable standard these students were not ready to finish high school—much less enter college.

Efforts to improve readiness for college have been underway for years. For the most part, the focus has been on ensuring that students who are planning to attend college take the necessary high school courses. However, the problem is that many 8th and 9th grade students are not prepared for college prep courses.

Better guidance and higher standards at the high school level may illuminate the problem, but they will not correct it.

The areas of concern identified by our instructors have their origins in the earliest grades of school, where ultimately, the issue will have to be addressed. Thirty-nine percent of Nevada's 4th graders are “below basic” in math, 46 percent are “below basic” in reading.

At the heart of Nevada's problem is the issue of teaching philosophy. Generally, teachers—especially elementary teachers—are taught to think of teaching and learning as a process that follows student interests and inclinations—whether or not it leads to the achievement of curricular objectives. These teachers are trained to design learning experiences that optimize student interest and enthusiasm, not particular learning results.

The consequence is that many students simply acquire a patchwork of knowledge and skills—often with significant gaps and weaknesses. Similarly, many never learn that dabbling in schoolwork is not enough—that success requires meeting challenges and overcoming them.

Schooling that permits students to advance without meeting standards or applying themselves is like medical treatment when the patient won’t cooperate:

It is mostly a wasted effort.

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Nevada Policy Research Institute

The Nevada Policy Research Institute is an independent research and educational organization dedicated to improving the quality of life for all residents of the Silver State through sound free-market solutions to state and local policy questions. The Institute assists policy makers, scholars, business people, the media and the public by providing non-partisan analysis of Nevada issues and by broadening the debate on questions that for many years have been dominated by the belief government intervention should be the automatic solution.

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INTRODUCTION

American education faces a dilemma: Everyone believes that a college education is essential to career success but large numbers of high school graduates are simply not prepared.

According to recent estimates, only 61 percent of Nevada 9th graders graduate from high school and only 22 percent of this group are fully prepared for college.[1] In other words, fewer than 1 in 5 of Nevada's high school students are fully prepared to enter a four-year college.

Parents worry about the quality of K-12 education nationally but few recognize that there may be a problem with the quality and rigor of their local schools. College professors, by contrast, face the issue daily; but their perspective is rarely communicated to parents, policymakers or K-12 educators.[2] This study is an attempt to close that gap.

The issue of poorly prepared students entering college first gained visibility in the early 1980s, and has increasingly been the subject of reform proposals by policymakers and educators.

Among high school graduates who enter public colleges and universities, nearly one-third take remedial courses in reading, writing, or mathematics. Thirty-eight percent of Nevada high school graduates who enter a University and Community College System of Nevada (UCCSN) institution take at least one remedial course—an increase from 26 percent since 1999.[3] The largest share of postsecondary remediation is provided by community colleges. Forty-one percent of recent graduates entering Nevada's community colleges need remedial help.[4]

Although the issue is somewhat obscured by terminology—remedial students are sometimes called "developmental"—it is an important indicator of public school quality. Whichever term is applied, the fact is that students enrolled in remedial courses are learning skills and content that they should have mastered in elementary or secondary school.[5]

The purpose of this study was to see what the professors who teach Nevada's remedial students have to say about the problem and to link their views with other research on the subject. They are the educators with the most direct knowledge of student strengths and weaknesses.

We asked four basic questions:

1. What student characteristics are essential to college success?
2. Are Nevada's K-12 reforms working?
3. What should Nevada's mathematics and English teachers emphasize or

Fewer than 1 in 5 of Nevada's high school students are fully prepared to enter a four-year college.

'School reforms are useless if students are inattentive or asleep, as is so frequently true today.'

de-emphasize?

4. Are K-12 content standards needed?

The professors' responses contain an important message: To succeed in college—even in remedial courses—students need a solid grounding in basic skills and a willingness to pay attention and study. Many students lack both.

Not only were our professors especially clear about the need for student willingness to study, their assessment agrees entirely with a national sample of college professors surveyed by Public Agenda: Nearly 70 percent say the students who drop out of college may lack necessary skills, but they mainly lack motivation and direction.[6]

A recent report by sociologist James Rosenbaum of Northwestern University suggests that this same pattern of weak motivation and lack of serious purpose undermines elementary and secondary school reforms:

> Reformers have proposed all kinds of innovative curricula for improving the quality of instruction. However, school reforms are useless if students are inattentive or asleep, as is so frequently true today. Reforms will not be effective unless students are motivated and motivation requires that students see some incentive to pay attention and exert effort.[7]

Rosenbaum further suggests that low-achieving high school students do little schoolwork and yet expect to attend college because well-meaning educators choose to spare their self-esteem instead of confronting them with college and job market realities. Because the gap between their level of achievement and the college-bound curriculum is so severe, he suggests that the problem must be addressed in the early years of elementary school, not the last few years of high school.

Rosenbaum's assessment is somewhat at odds with current proposals to improve college preparedness. Most focus on a more rigorous high school curriculum and better alignment of courses with college entrance standards.[8] While these proposals address legitimate issues, they fail to confront the more fundamental problems of basic skills and willingness to study.

Lack of study and lack of basic skills leads to lack of achievement, and this is evident in Nevada and across the country. The U. S. Department of Education's National Assessment of Educational Progress (NAEP) reports four levels of student achievement. From high to low they are "advanced," "proficient" (the mastery expected of students who are performing at grade level), "basic" and "below basic." Basic is the minimum level of mastery and below basic refers to students who have significant deficiencies.

According to the NAEP, only a minority of 12th grade students nationwide reach the "proficient" or "advanced" levels of achievement. The most recent numbers for reading are 40 percent, for writing, 24 percent and for mathematics, 17 percent.[9]

Of particular relevance to the present study, however, are the large numbers of 12th graders who are "below basic": 23 percent in reading, 26 percent in writing and 35 percent in mathematics.[10] These are students who have not mastered high school material. Yet, because progressively greater percentages of students entering college (as high as 70 percent according to some reports), it is inevitable that many find themselves in remedial courses.[11]

NAEP data for 12th graders is not available on a state-by-state basis, but the results of the high school exit exams given in Nevada last year suggest that the above-cited national averages are applicable. Sixty-eight percent failed mathematics and 41 percent failed reading.[12] Yet, these students will be permitted to attend Nevada's public colleges and universities.[13]

Reforms such as changes in high

school course requirements, clearer guidelines from colleges and better guidance for 8th and 9th grade students may reduce the number of students who fail to take college preparatory courses. They will not, however, address the much more difficult problem of students who are unable or unwilling to take college prep courses.

Addressing Nevada's Deeper Problem

The knowledge and skills that our professors considered essential are for the most part taught in the primary grades, and they serve as the foundation for all subsequent learning. The real problem is that too many students have not mastered these basics before they enter high school.

Nevada *is* taking steps to address these issues at the elementary and middle school levels; but until these changes gain traction, changes in high school requirements and college entrance standards are likely to prove superficial and ineffective.

According to the National Assessment of Educational Progress (NAEP), approximately 40 percent of Nevada's 8th graders are "below basic" in mathematics and reading. Twenty-five percent are below basic in writing. These are students with deficiencies that should have been corrected in middle school.[14]

Approximately the same percentages are below basic in the 4th grade—meaning that many of these same students had serious deficiencies when they entered middle school.[15]

Only 20 percent (approximately) of Nevada's 4th and 8th grade students meet or exceed the NAEP's "proficient" standard in these three basic subjects. In other words, of the students entering the 5th and 9th grades, only two out of 10 are fully prepared to begin the school year.

If Nevada's college remediation problem is going to be resolved, the first three to six years of schooling must produce better results—for all students. Although some students enter school with deficiencies stemming from social, economic and other factors, the role and the historic promise of public education has not been to live with such differences but to overcome them. As discussed below, more-effective interventions are available; but for reasons of educational philosophy, they are little used.[16]

In summary, these weaknesses in Nevada's public schooling are longstanding and well documented. Over time, they have percolated to the college level. A product of schooling failures in the elementary and middle school, they cannot be corrected by adjustments in high school curricula or college entrance requirements alone. The students who end up in college remedial courses lack skills and work habits that should have been learned before they entered high school. Not only do these deficiencies play a substantial role in the college remediation problem, they make all levels of schooling less effective, less efficient and more costly.

Approximately 40 percent of Nevada's 8th graders are 'below basic' in mathematics and reading.

The Nevada Survey

Professors who teach remedial courses are unique among professional observers of student preparedness. Better than any outside observers, they have the opportunity to notice student strengths and weaknesses and to pinpoint the role of these factors in success or failure. The purpose of this report is to describe their opinions and recommendations and to discuss them in the context of research and policy.

During the spring of 2003, the professors who teach developmental English and

mathematics courses in the University and Community College System of Nevada were invited to respond to a 55-item survey. By following a hyperlink in an e-mail message, respondents were sent to a web page displaying a questionnaire appropriate to their subject. Responses were automatically recorded. Individuals were able to complete the entire process in approximately 10 minutes.

Technical notes and methodology are reported in Appendix B.

In the following, we highlight the principal findings, comment on noteworthy patterns of response and examine implications.

WHAT NEVADA'S PROFESSORS HAD TO SAY

What Qualities Are Essential for College Success?

Finding: ***A solid foundation in basic skills is important, but so are good study habits and a willingness to make a concerted effort.***

From the survey:

> Elementary and secondary schools can impart different qualities to their students. Which qualities do you think are least essential and which are most essential for the success of your students?

Student qualities essential for college success

Figure 1a. Knowledge and Skills Essential to Success in College Mathematics

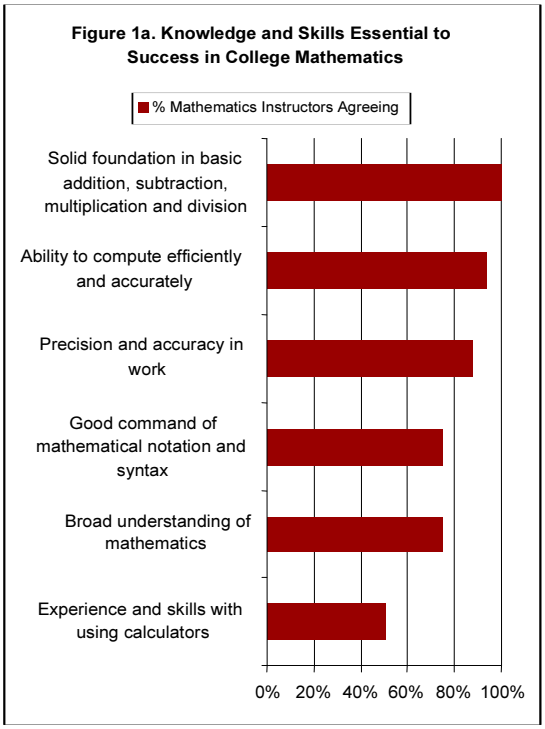
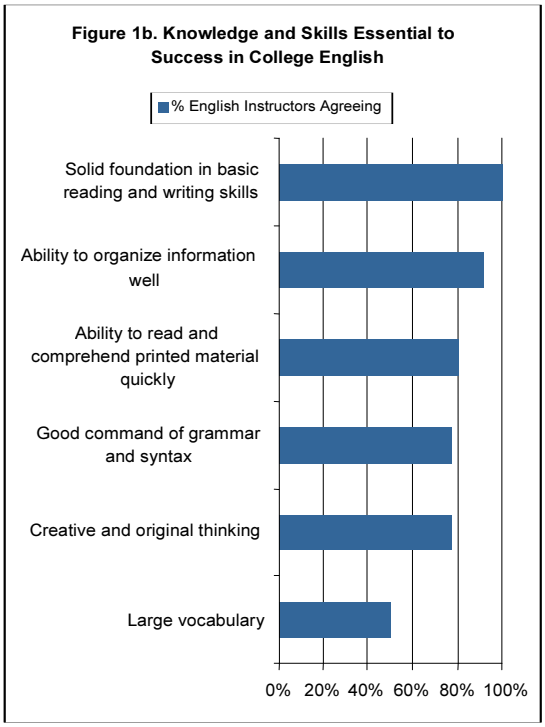


Figure 1b. Knowledge and Skills Essential to Success in College English



Perhaps the clearest finding of this survey was the importance placed by professors on student willingness to study.

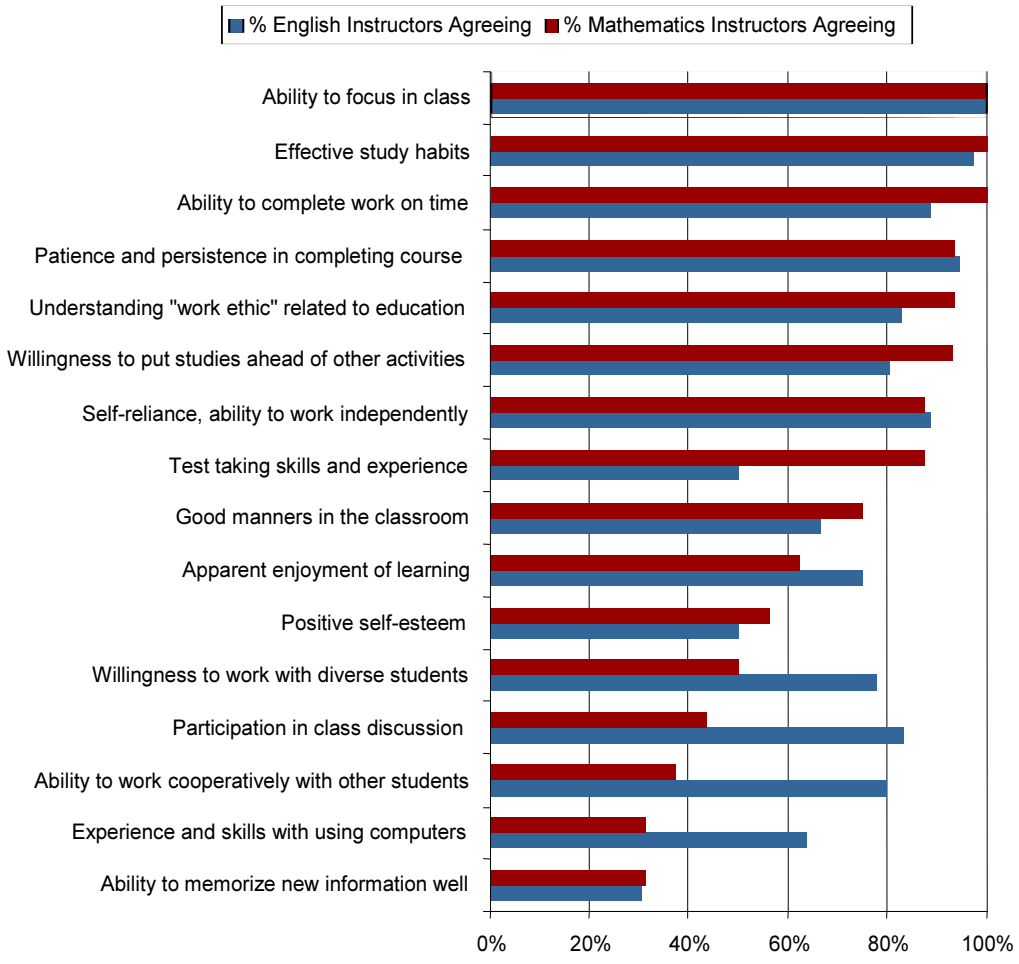
The data indicate that professors of both mathematics and English viewed a solid grounding in the basics of their disciplines as the key to college-level success.

Leading the list for mathematics were computation skills—ones performed accurately, precisely and efficiently. All of these competencies require practice and experience in working problems—activities that are little emphasized in K-12 instruction.

In English, fluency in reading, writing and organizing information topped the list. Again, these are skills that require practice.

By comparison, qualities that elementary and secondary schools typically consider essential—e.g., cooperative study activities, self-esteem enhancement and work with diverse students—were of substantially lesser importance (see Figure 2 below).[17]

Figure 2. Study Skills and Habits Essential to College Success



There were some surprises. For example, only half of the English professors considered a large vocabulary to be important and only half of the mathematics professors thought that experience and skills with calculators were important.

The latter finding may shed light on a current controversy about recommended K-12 teaching practices. Contrary to the opinion of our professors, the mathematics instruction standards issued by the National Council for Teachers of Mathematics (NCTM) urge the use of calculators even at the elementary level—an approach that critics believe produces poor fluency in arithmetic and increased dependence on calculators.[18]

Perhaps the clearest finding of this survey was the importance placed by professors on student willingness to study. With majorities of 80-100 percent, professors of both mathematics and English identified the following habits as essential to the success of students:

- Ability to complete work on time
- Ability to focus in class
- Effective study habits
- Understanding the "work ethic" as it pertains to education
- Patience and persistence in completing course requirements
- Willingness to put studies ahead of other activities
- Self-reliance & the ability to work independently

These findings present a clear message: If K-12 educators want to better prepare students for college, they must not only teach the academic basics, they need to stress habits such as paying attention, completing assignments and persisting in the face of difficulty—classroom virtues that many consider old fashioned and out of date.[19]

There were certain preferences unique to the two groups of professors.

Mathematics professors placed less emphasis on:

- Willingness to work with diverse students
- Participation in class discussion
- Ability to work cooperatively with other students
- Experience and skills in using computers

English professors, by contrast, placed less emphasis on "test taking skills and experience."

Neither math nor English professors judged the ability to memorize essential.

The differences between the two groups appear related to differences in the content of the two disciplines. The subject of English is inherently more social. Sending and receiving written communications is a form of intellectual and social interaction. Mathematics, by contrast—even at the level of applied problem solving—does not necessarily entail or imply interaction between persons.

Our professors' responses regarding the use of computers also appear to have been subject-matter driven. Computers are often used for word processing by college "writing labs." Basic mathematics instruction, however, generally avoids the use of computers because they are too easily substituted for needed practice in computation.

[Classroom teachers] need to stress habits ... that many consider old fashioned and out of date.

Are Reforms Working?

Finding: ***So far, the reforms of recent years have had little effect on student preparation. Students remain unprepared for either college or the workplace.***

From the survey:

> We know that these are complicated issues and that many of the following views on elementary and secondary education will vary from institution to institution. When responding, please think in general terms and indicate the extent to which you agree with each statement.

Figure 3a. Are K-12 Mathematics Reforms Working?

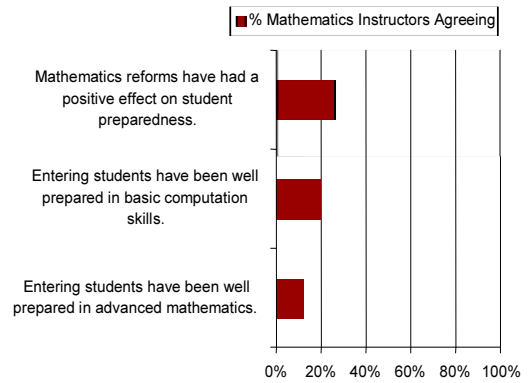
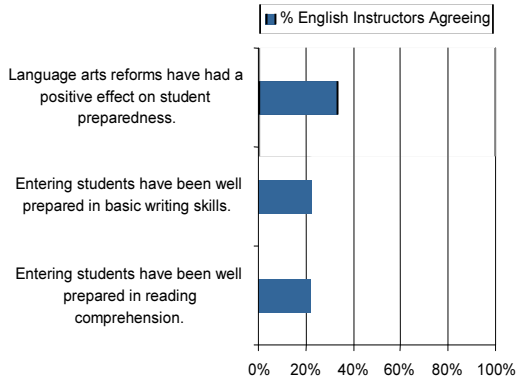


Figure 3b. Are K -12 English Reforms Working?



Remedial instruction appears to be effective—at least for those students who successfully complete their remedial coursework.

These findings speak to an important reality about K-12 reform. If reforms are working, the results should be evident to professors and employers. As of the date of this survey, however, our professors remain unimpressed.

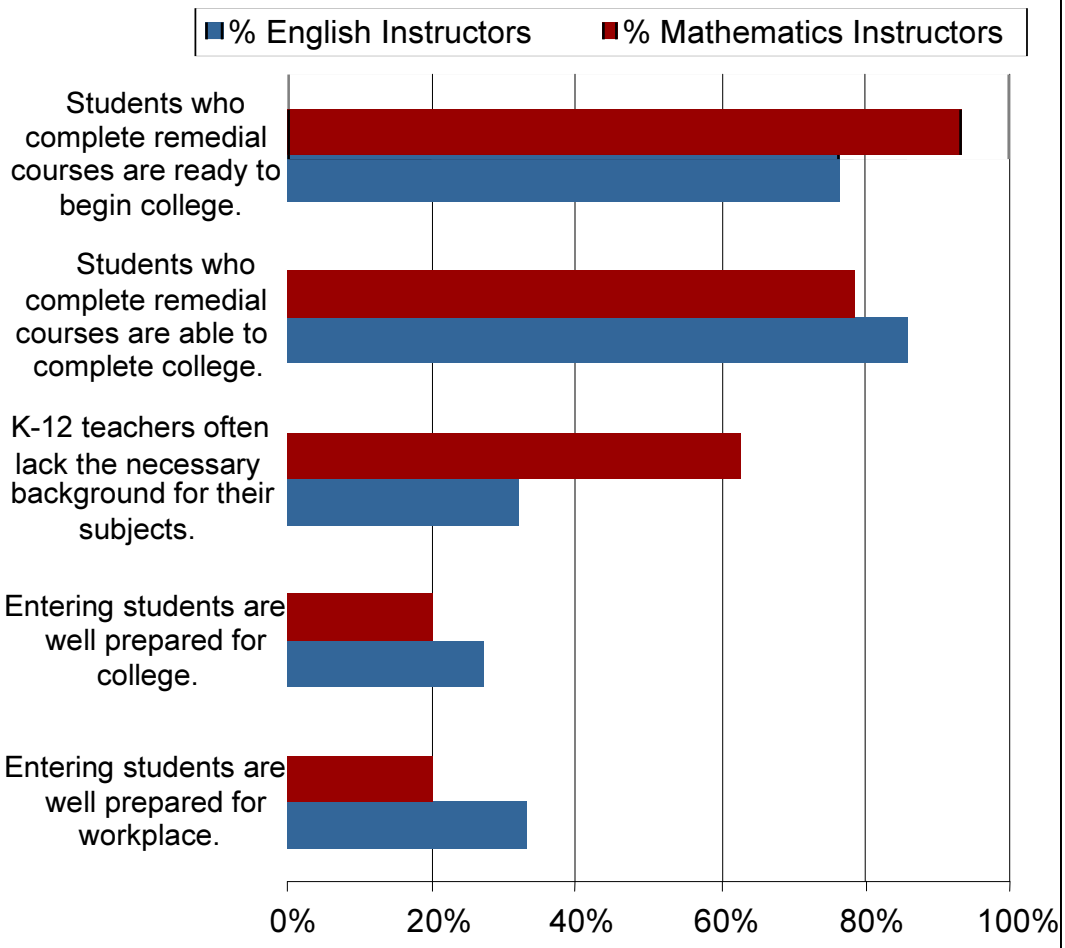
In truth, Nevada's most recent reforms[20] have not been in place long enough to produce a change in remediation rates or professors' opinions. However, both indicators warrant continued attention. Similar reforms in other states have left professors, employers and taxpayers disappointed—even after the reforms have been in place for years.[21]

Indeed, despite optimistic progress reports from schools and education agencies, none of the states that have implemented standards and accountability measures have reported substantial gains in student achievement. Standard setting and accountability are a necessary condition of reform but not sufficient—an issue addressed below.

There may be a bright spot in this less-than-encouraging assessment. Despite poorly prepared students and K-12 reforms that have yet to make a difference, remedial instruction appears to be effective—at least for those students who successfully complete their remedial coursework. According to our professors, students who succeed in their remedial studies appear ready for beginning college-level work and have the same chance for graduation as other entering students.[22]

This finding suggests that one widely used explanation of the growing need for remedial instruction may be inaccurate and misleading. Increased ethnic and socioeconomic diversity among entering college students is frequently cited as the condition

Figure 4. Is Remedial Instruction Working?



primarily responsible for the growing numbers of students needing remedial instruction. While diversity undoubtedly has a statistical relationship to the problem, the present data suggests that the underlying issue is one of inadequate expectations for student knowledge, skill and effort at the K-12 level. Significant numbers of students who were unsuccessful in high school enter remedial courses, overcome their deficiencies and complete a degree.[23]

Other findings in this report point to the same conclusion. According to our professors, many students appear unprepared for either college or the workplace—again suggesting that they were awarded a high school diploma even though they had not met knowledge and skill minimums and even though they had not made a concerted effort to learn.

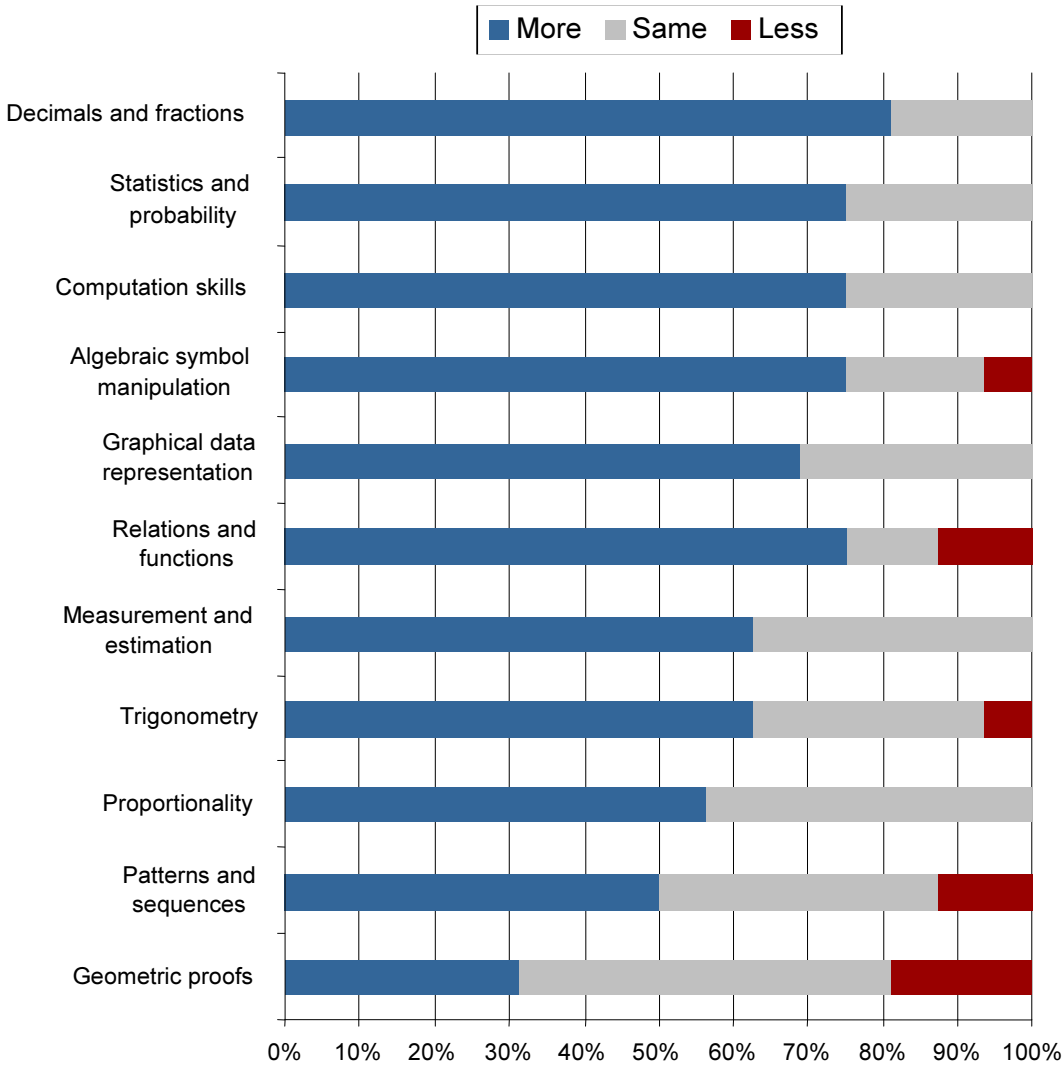
What Should K-12 Mathematics and English Teachers Emphasize or De-emphasize?

Finding: ***Teachers should emphasize academic content and exercises and put less emphasis on test-taking.***

From the survey:

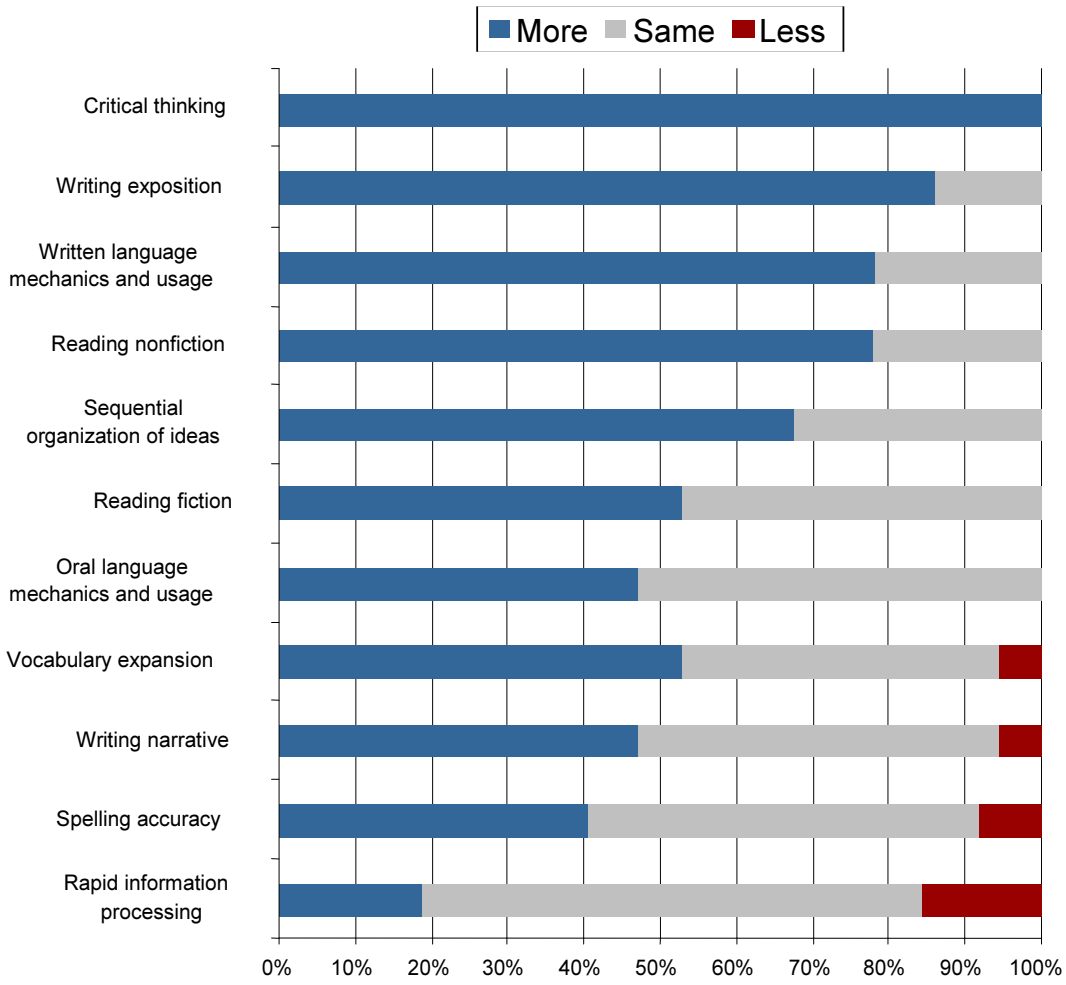
> If you were to advise elementary and secondary school teachers about how to best prepare their students for college-level mathematics, would you recommend more, less, or about the same emphasis on the following topics, skills and tools?

Figure 5. Topics and Skills Mathematics Instructors Say Teachers Should Emphasize or De-emphasize



A majority of mathematics professors were clear about the need for greater emphasis on academic content—especially that which is traditionally taught at the elementary level, i.e., decimals, fractions and computation skills. Secondary level content such as algebra, trigonometry and statistics were also regarded as needing greater emphasis. As a generalization, our professors indicated that more attention to academic content is needed across the board.

Figure 6. Topics and Skills English Instructors Say Teachers Should Emphasize or De-emphasize



English professors were virtually unanimous in their call for an emphasis on critical thinking. They were nearly as decisive in calling for a greater emphasis on reading and writing, particularly mechanics and usage.

The skills taught in elementary and secondary language arts serve to communicate ideas. Both skills and ideas are fundamental to effective thinking and writing. Considered in light of the percentages of 4th, 8th, and 12th graders who are "below basic," the above data suggests that remedial students lack critical thinking skills

The data suggests that remedial students lack critical thinking skills because they lack ... the tools of written language ....

because they lack both the tools of written language and the knowledge, understanding and ideas that those tools might be used to communicate.

This finding is especially noteworthy in light of the emphasis teachers have given interactive and cooperative classroom activities in recent decades. Classroom activities involving student interaction have been advertised as an especially effective means of promoting critical thinking skills. In contrast, critics have argued that cooperative group activities are useless in the absence of a sound foundation of knowledge and ideas.[24]

Whatever the precise cause, it is clear that English professors believe students need work in this area.

Both math and English professors called for greater emphasis on homework and less reliance on multiple-choice examinations. On most other items, they had mixed preferences or indicated that teachers should continue to give the activity about the same degree of emphasis.

On one item, the two groups differed sharply. English professors (55 percent) urged a greater emphasis on portfolios and alternative assessments while mathematics professors (62 percent) urged the opposite. As is the case with regard to other differences between our mathematics and English professors, this difference in opinion appears to stem from differences in the skills and content that comprise the two disciplines.

Figure 7a. Activities and Assignments Mathematics Instructors Say Should Be Emphasized or De-emphasized

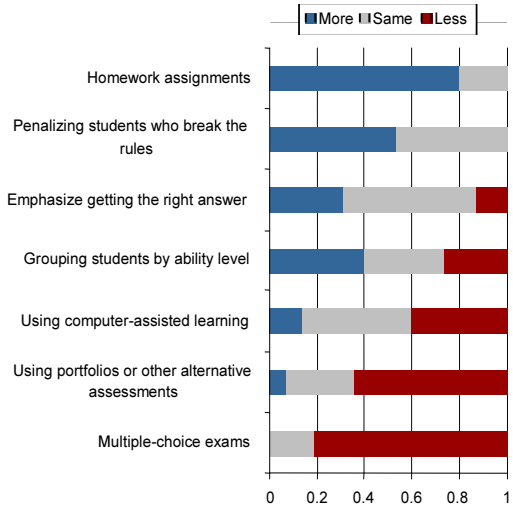
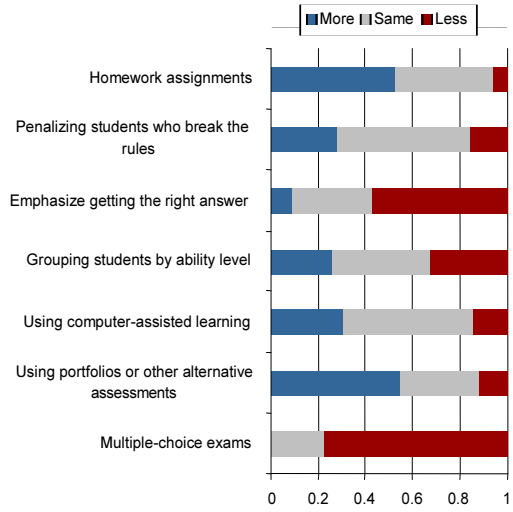


Figure 7b. Activities and Assignments English Instructors Say Should Be Emphasized or De-emphasized



Are K-12 Academic Content Standards Needed?

Finding: ***Professors agree that mathematics and English each have a core of knowledge and skills that all students entering college need to know. And with the possible exception of the fundamentals in English, many Nevada high school graduates are unprepared even at a basic level.***

From the survey:

> Here are some statements about elementary and secondary education in Nevada. To what extent do you agree or disagree with each statement?

Figure 8a. Are Content Standards Needed in Mathematics?

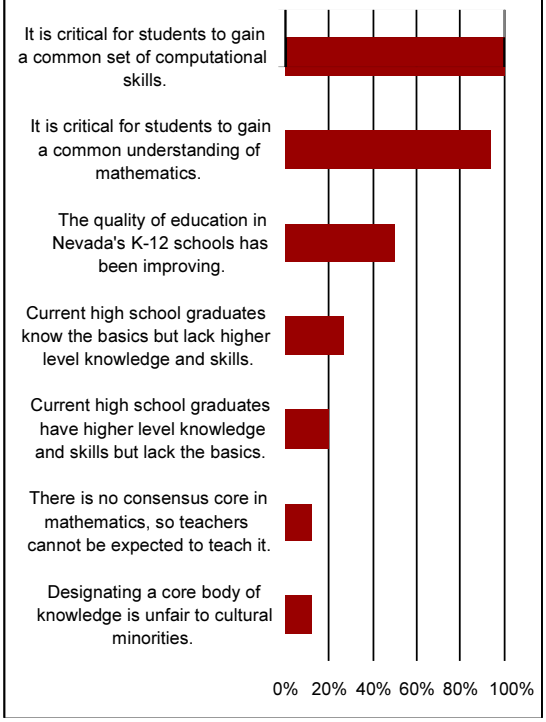
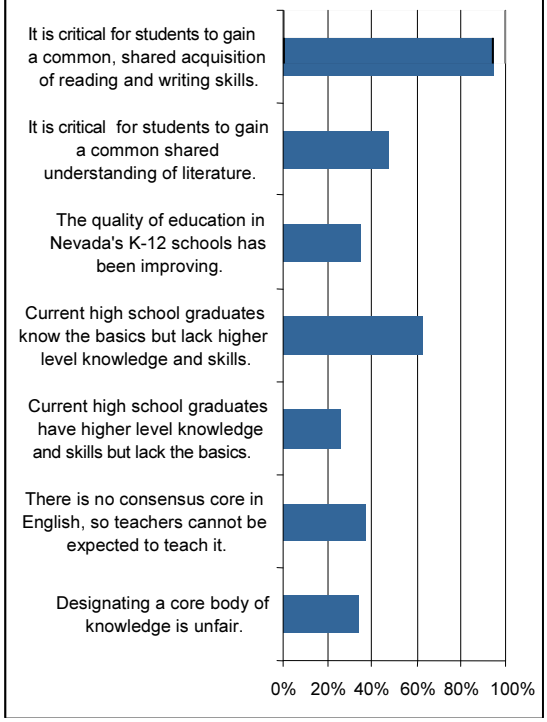


Figure 8b. Are Content Standards Needed in English?



The K-12 content standards established by Nevada and other states have been critized by some educational theorists as a tool whereby majority cultural expectations are imposed on cultural minorities.[25] Instead, they argue that schooling should affirm rather than challenge the diverse understandings and concepts that students bring to the educational setting.

A similar multiculturalist perspective is widely accepted among teacher educators.[26] It argues that all cultures are equally worthy and thus none are deserving of "privileged" treatment within the school curriculum. For example, from this viewpoint, standard English expression cannot be justified as any more correct or important than non-standard varieties such as the controversial "Ebonics."

In contrast to these multiculturalist views, our professors agreed that students need to learn the knowledge and skills that

There is little danger that standards and accountability will make matters worse.

comprise the core of their respective disciplines and that it is not somehow culturally unfair to expect them to do so.

At least with regard to their disciplines, our professors appear to value content standards and expect the K-12 curriculum to be culturally prescriptive. However, it is noteworthy that English professors were about equally divided as to whether or not it is critical for students to have a "common, shared understanding of literature." Their sentiments may reflect the multicultural curricular trend.

Standards are also criticized on the grounds that the accountability schemes that accompany them force teachers to narrow the curriculum and to slight the higher-order intellectual outcomes that are said to be brought about by "best practice" teaching.

In particular, highstakes multiple-choice tests are alleged to be incapable of detecting improved thinking skills, encouraging teachers therefore to focus exclusively on memorization of facts. All of these points are hotly disputed by testing experts.[27]

With the exception of English professors (58 percent agreed that recent graduates do know the basics), our professors found their students to be weak in both the basics and higher-order skills, and currently they see no trend toward improvement. Thus, it seems fair to conclude that the critics' apprehensions are, at the least, misplaced. Apparently there is little danger that the imposition of standards and accountability will make matters worse.

ANALYSIS

Most people believe that college success primarily depends on student ability. To the contrary, our professors emphasized mastery of the basics and a willingness to pay attention and study. Unfortunately, all too many entering students lack these qualities.

Data from the National Assessment of Educational Progress (NAEP) suggest why these concerns topped their list: First and foremost, far too many American high school seniors are not ready for the 12th grade, much less prepared for college. They lack knowledge and skills that should have been learned by the 8th or even the 4th grade.

If, as noted above, 35 percent of 12th graders are "below basic" in mathematics alone, the total percentage deficient in either mathematics or reading (23 percent) or writing (26 percent) is substantially higher. It could easily exceed 50 percent—depending on the degree of overlap among the three groups.[28]

NAEP data for 12th grade students are available only as a national average; however, there are state-by-state data for grades 4 and 8, and Nevada is in the bottom quartile on those indicators. Thus, it is reasonable to infer that the percentage of Nevada 12th graders needing additional study in one or more subjects may be even higher.[29] Clearly, the evidence from Nevada's recently implemented high school exit examinations agrees. Sixty-eight percent of Nevada's seniors failed mathematics alone.[30]

With over 50 percent of Nevada's high school graduates now enrolling in college (up 171 percent from 1992), it is not surprising that our professors were primarily concerned about basic skills.[31]

There are state-by-state data for grades 4 and 8, and Nevada is in the bottom quartile on those indicators.

The Effort and Study Habits Problem

Several facts converge to suggest that elementary and secondary schools are failing to teach something even more basic than reading, writing and arithmetic. Substantial numbers of students are coming to college without basic skills, without basic knowledge and without sound study habits; yet many are eventually overcoming these deficiencies and earning a degree. Plainly, they have a capacity to learn that was not put to use in their earlier years of schooling.

Research on the study habits of K-12 students supports this assessment. In a large-scale study extending from the late 1980s through the early 1990s, Temple

Peer culture discourages [students] from making a serious effort and schools do little to counteract it.

University researcher Laurence Steinberg found the most important difference between low- and high-achieving students to be the amount of time and effort devoted to study.[32] In general, successful students were hard workers and the unsuccessful ones were bored and disengaged, meeting only the lowest expectations and minimum requirements. There were ethnic and socioeconomic differences, but he found time, effort and engagement in studies to be the overriding factors.

As to why so many students are disengaged, Steinberg observed that the peer culture discourages them from making a serious effort and schools do little to counteract it. Instead, schools attempt to accommodate student apathy—an approach that results in a continual reduction of expectations to the lowest common denominator:

> I take issue with the usual response [to the problem of unmotivated students]: that because today's students are somehow different from their predecessors, schools must find ways of responding, adapting, or catering to this changed clientele ....
>
> Changing our schools to respond to a less interested, less motivated, less focused student populace does little to address the basic underlying problem—the lack of student engagement.[33]

Steinberg suggests that K-12 schools fail to motivate and to teach a work ethic precisely because they "hesitate to give students bad grades, hold them back, or fail to graduate them." The result is that students "believe, with some accuracy, that there are no real consequences of doing poorly in school...," and many students "choose the path of least resistance."[34]

Steinberg's verdict: "We have lost the ability to motivate students to work hard."[35]

Tommy Tomlinson—a researcher who contributed to the Nation at Risk report—identifies the same factor in his explanation of why educational reform has failed:

> After twenty-five years of trying to fix things, it is perhaps time to face a few facts of human nature: setting higher standards and expectations is one thing; persuading students to try harder is another. Educational reforms that do not change the study habits and behavior of students are unlikely to improve achievement.[36]

Why Schools Fail to Engage Students and Teach the Basics

To many observers, the failure of students to gain basic skills and good study habits is primarily a social and family issue. They blame a lack of parental encouragement and disruptive homes, families and neighborhoods.

To those familiar with educational fads and fashions, however, unengaged students are the predictable outcome of a teaching style that has been idealized by educators for decades.

Historically called child-centered or student-centered instruction (versus subject-centered or teacher-directed), it is today called learner-centered instruction and it has become de rigueur among elementary school teachers.[37]

Learner-centered instruction is an approach to teaching that works best with students who are already inclined to pay attention, behave themselves and work hard. Contrary to its image as a teaching style fitted to learner strengths and weaknesses, it neglects students who need structure and adult guidance. Virtually every student preparation issue identified by this survey is linked directly or indirectly to the mismatch between this style of instruction and the goal of improved student achievement.[38]

Since the early 1900s, K-12 educators have increasingly accepted the notion that their highest duty is not to ensure academic achievement, but to protect children from the stress and threat of failure posed by overly demanding curricular standards.[39] Especially over the last 30 years, colleges of education have taught teachers that the immediate "needs" of children take precedence over curricular objectives.

When education professors use the term "learner-centered," they are referring to a kind of teaching that aims to optimize student interest and motivation, not the attainment of the objectives prescribed by the curriculum.[40] The contrast between the learner-centered approach and the traditional teacher-directed, achievement-oriented approach is subtle but critically important. As the late Jeanne Chall of Harvard described it, "what is foreground for one model is background for the other."[41]

Instead of leading students through activities designed to reach a prescribed learning outcome, learner-centered teachers are encouraged to let student interests and enthusiasms guide the course of instruction. If a student seems uninterested or unmotivated, the learner-centered teacher is obliged to respect the student's inclinations even if it means disengaging from the objective at hand.

The learner-centered perspective also influences matters such as grading and the use of incentives.[42] From the learner-centered standpoint, achievement is judged with reference to the individual, not the curricular objective. The use of incentives is proscribed because learner-centered instruction idealizes intrinsic motivation.

Over the last century and especially in recent decades, educational theorists have invented an enormous variety of learner-centered teaching schemes. All, however, have sought to accommodate instruction to differences in student interests, talents, social status, developmental stage, intellectual stage, etc.[43] Recent examples include constructivism, developmentally appropriate instruction and brain-based learning. None have worked as promised. To the contrary, learner-centered teaching has busied teachers with what critics call "edutainment" and steered them away from an emphasis on knowledge and skills.

A fundamental weakness of learner-centered teaching—and one especially relevant to the findings of this survey—is that vital but uninteresting skills are rendered difficult to teach. Children are not naturally attracted to basic skills and thus are not naturally inclined to practice until mastery has been achieved. Adult direction and reinforcement are typically needed over a period of weeks and months.

Making learning fun and interesting is entirely desirable but learner-centered teachers are taught to worry more about avoiding student stress and boredom than the achievement of learning outcomes.

Well-tested teaching methodologies are available, but learner-centered teachers worry that the act of steering the child's attention and effort toward the curricular objectives will result in stress or boredom.[44] So instead of guiding the child through a proven progression of exercises and skills, learner-centered teachers cobble together materials and activities that they hope will reach the desired outcome by capitalizing on the child's immediate enthusiasms.

In effect, learner-centered teachers make the perfect the enemy of the good. In the pursuit of the theoretical ideal, they experiment with teacher-developed creations that sometimes triumph but more often result in educational catastrophe, i.e., learning gaps, poor fluency, and lifetimes of educational failure. One can only imagine the public reaction if the medical profession considered such an approach acceptable.

A fundamental weakness of learner-centered teaching . . . is that vital but uninteresting skills are rendered difficult to teach.

The Human and Economic Cost of Faulty Teaching

Even the expectations that students pay attention and behave themselves are not encouraged by the learner-centered view.

Most students in remedial courses are not there simply because of social or economic disadvantage. Rather, most of them have underlying academic weaknesses in reading, writing and arithmetic—weaknesses that originated in their early school experiences and are mostly the product of faulty teaching.

The gaps and limitations resulting from early learning failures have a cumulative effect. Students fall behind and face ever-greater obstacles to catching up at succeeding grade levels. Educators at each grade are then faced with a dilemma: They must lower standards and socially promote, or face unacceptable failure rates. As more and more students attend college, these issues eventually manifest themselves in college classrooms.[45]

The available evidence suggests that many of the students who end up in remedial courses have never been required to learn the basics or even to make a concerted effort in their studies. For 12 or 13 years, they have been passed along and permitted to waste their time and their publicly funded educational opportunities.

David Goslin, past president of the American Institutes for Research and executive director of the National Research Council's Commission on Behavioral and Social Sciences and Education, argues that the resulting costs are enormous: ". . . the amount of effort on the part of teachers and other school personnel that is wasted because large numbers of students remain unengaged in learning, and the costs [of this lack of engagement] to society are staggering."[46]

"The bottom line is that the United States is getting a very low return on its investments in education, due largely to the lack of engagement of many of our students."[47]

Goslin calls student engagement "*the key to increasing academic achievement and therefore the productivity of the U. S. educational system.* (Italics in the original)"[48]

Learner-centered teaching encourages the kind of waste described by Goslin. Study assignments, performance assessments and even the expectations that students pay attention and behave themselves are not encouraged by the learner-centered view.[49] Many students arrive at college never having learned that success in academic endeavors typically requires a concerted effort. Often they are surprised to find that effort is expected and they blame their failure to earn good grades with ease on poor instruction.[50]

Reform Undermined

Given their pedagogical training, many K-12 teachers would view our professors' advice to focus greater time and effort on academic objectives as wrongheaded and detrimental. The learner-centered ideal encourages teachers to attend to academic content only to an extent commensurate with the immediate gratification of their students. If, for example, converting fractions to decimals becomes boring, then it is time to move to a more engaging activity.

College professors may believe that students need to acquire more discipline-specific content, but learner-centered teachers believe that good teaching practice is founded on a different set of priorities. From their standpoint, students are learning all they should be expected to learn when they learn all they are "ready" (i.e., inclined) to learn.[51]

Educational reforms such as establishing curricular frameworks, improving inservice training and rewarding teacher excellence have little effect on student achievement when educators look at them through a learner-centered frame of refer-

ence. The reason is that reforms interpreted in a way that conforms to learner-centered teaching theory typically undercut rather than support the public's student achievement aims.

For example, when policymakers establish curricular standards in order to clarify what students are expected to achieve, learner-centered educators view them as ideals, not expected outcomes. Standards are thereby seen as flexible and subject to lenient interpretation.

Professional development for teachers is similarly undercut. Contrary to the expectations of policymakers, it frequently serves as a vehicle for informing teachers about the latest variants of learner-centered teaching. Ironically, these innovations are called "best practices" and are disseminated as an antidote to an overemphasis on standards and outcomes.[52]

Finally, teaching awards intended to boost student achievement are rarely given for measured improvements in student achievement. Instead, teachers are recognized for undergoing training and certification by organizations such state education agencies or the National Board for Professional Teaching Standards (NBPTS). The assessments of teacher proficiency used in these programs are usually based on learner-centered ideals, not any demonstrated relationship to student achievement.[53]

Conclusion

The professors who teach remedial courses in Nevada's public colleges and universities were asked to identify student characteristics essential to college success and to offer recommendations that might improve their preparation. Their responses highlighted two key characteristics: Students need solid basic skills and good study habits.

The professors' concerns are consistent with the findings of other studies. The U.S. Department of Education's National Assessment of Educational Progress indicates that it is possible for students to graduate from high school and enter college even though they have met very minimal standards and, indeed, even though they have committed little time and effort to schoolwork. Nevada's high school exit exams show the same thing. Prior to the reforms of the last few years, neither schools nor students in Nevada have been more than minimally accountable for achievement.

Studies of student engagement in schooling are consistent with the professors' concerns about student study habits. Recent studies by ACT have found that many students who plan to attend college choose only the least demanding high school curriculum.[54] Their only goal is to graduate from high school and to enter college—prepared or not. Many enter remedial courses without ever having been challenged to study.

Implicated in both of these issues is the learner-centered style of instruction long popular among elementary school educators. It avoids that which may be boring or burdensome. It refrains from admonishing or exhorting. It teaches escape from challenges, not the effort and self-discipline necessary to overcome them.

Started on the wrong foot and faced with cumulating disadvantages, children are permitted to slide down a path that will limit them for a lifetime. Over the years, the time they spend in classrooms becomes increasingly less beneficial and rewarding—a fact reflected in Nevada's nearly 40 percent high school drop-out rate. It is this all-too-common scenario that squanders the next generation's best learning opportunities and wastes money on a massive scale.

Viewed in these terms, the cost of Nevada's remedial instruction may be merely the tip of an iceberg.

The learner-centered style of instruction . . . teaches escape from challenges, not the effort and self-discipline necessary to overcome them.

APPENDICES

A. Public Awareness of the Issue

Parents who want to be sure about how well their child is being prepared for college would be well advised to look beyond report cards and PTA meetings.

Parents questioned in national surveys typically express doubts about the quality of American public schools. Paradoxically, however, they are usually satisfied with their local schools. If their child is receiving satisfactory grades—as most do—parents may not see the need for remedial help until their child applies to college.[55]

The Phi Delta Kappa/Gallup Poll of the Public's Attitude toward Public Schools has consistently shown that parents believe that their local public schools are doing a good job.[56] Although only 24 percent give the nation's schools an A or a B, this number rises to 47 percent for schools within a community, to 58 percent for local schools and to 71 percent for the school attended by their oldest child. Parents who want to be sure about how well their child is being prepared for college would be well advised to look beyond report cards and PTA meetings.

Parents may not have a clear understanding of school quality, but they do have clear expectations about the outcome. According to Public Agenda, 87 percent of Americans say that a college education is as important as a high school diploma used to be and nearly the same number (86 percent) believes that students will have better career and lifestyle prospects if they go to college.[57] Data from the National Center for Educational Statistics agree: A college education is associated with higher lifetime earnings, improved health and a general state of well-being.[58]

The general public is equally supportive of college attendance; but more than parents, it sees the mismatch between student aspirations and educational reality. Although 78 percent of high school parents want their children to attend college, nearly half of the general public (49 percent) say that there are too many students in college who don't belong there.[59]

Finally, students themselves often seem unaware that readiness for college will require planning and effort. When asked if they planned to go to college, 76 percent said they were "definitely planning" to do so and another 20 percent said they were thinking about it. Overall, 84 percent of students said they were motivated "a lot" by the desire to get into a good college and another 12 percent were motivated "a little" by this desire.[60]

Again, there is a gap between aspirations and reality. A study of the 635,000 high school sophomores (Class of 2002) who took part in the ACT-PLAN assessment[61] found that 83 percent intended to attend college immediately after high school. Of that group, however, 20 percent were not planning to follow a curriculum that would adequately prepare them.

A Worsening Problem

In short, in Nevada as across the nation, a rising tide of popular aspirations is crashing into a very different reality. Grade point averages and diplomas notwithstanding, many recent high school graduates are having to learn material that have been learned years earlier. The process is frustrating, time consuming and expensive—often requiring tutoring, mentoring and specialized remedial learning laboratories.

A high percentage of students entering college never complete a degree. Only 36 percent of freshmen nationally complete a bachelor's degree in four years (59 percent

in six years) compared with 40 percent a decade earlier and 47 percent in the late 1960s. At public universities, the four-year completion rate is 28 percent (versus 69 percent at private institutions).

The quality of K-12 preparation is key. Well-prepared students have four- and six-year completion rates of 69 and 83 percent respectively, while the comparable rates for poorly prepared students are 8 and 20 percent.[62]

College-level observers see a serious problem. For example, Ocken and Feinerman—professors of mathematics at City University of New York—point out that poorly prepared students are shut out of many attractive professions:

> Mathematics used in college courses is formulated in a difficult symbolic language. To succeed in those courses, students need twelve years of carefully structured instruction in order to learn the language fluently and to use it to solve hard problems. Those who lack fluency will be shut out of careers [as] ... scientists, engineers, mathematicians, computer scientists, physicians and educators of mathematics ...with the greatest negative consequences for children of immigrants, a group whose entry into the mainstream of American society has historically been facilitated by demonstration of mathematical rather than linguistic competence.[63]

Basic skills in English have fallen to the point that a publisher worries that students are unable to use the dictionary:

> Standards of spelling and grammar among an entire generation of English-speaking university students are now so poor that there is "a degree of crisis" in their written use of the language, the publisher of a new dictionary warned yesterday. Its research revealed that students have only a limited grasp of the most basic rules of spelling, punctuation and meaning, blamed in part on increasing dependence on "automatic tools" such as computer spell checks and unprecedented access to rapid communication using email and the internet ....
> Overall, [students] were unclear about appropriate punctuation, especially the use of commas and failed to understand the basic rules of subject/verb agreement and the difference between "there", "their" and "they're" ....
> Bloomsbury said usage notes in other dictionaries ... assumed "a level of grammatical and syntactic literacy on the undergraduate level that simply does not exist today." [64]

Basic skills in English have fallen to the point that a publisher worries that students are unable to use the dictionary.

B. Methodology

Wasting Time and Money is based on a March 2003 survey of 353 faculty members who teach mathematics or English within the University and Community College System of Nevada. Invitations to an additional 82 faculty members failed to reach their intended recipients because of invalid e-mail addresses.

The institutions included the University of Nevada Las Vegas, University of Nevada Reno, Community College of Southern Nevada, Great Basin College, Truckee Meadows Community College, and Western Nevada Community College.

The survey instrument consisted of 55 items drawn from a pool formulated by experienced instructors. The items were edited and refined on the basis of feedback from developmental education faculty who participated in a pilot study.

A professional web-survey organization—Perseus Development Corporation,

www.perseusdevelopment.com—created and posted the web form through which responses were collected and automatically compiled. Respondents received an e-mail invitation containing a single-use hyperlink to the posted form. Typically, it took less than 10 minutes to complete the survey.

The population was identified through institution web sites, faculty directories, and contacts with department-level personnel. It included full-time, part-time and temporary faculty, and graduate teaching assistants. The pool of addresses was created with the aim of ensuring the broadest possible opportunity for qualified instructors to participate.

Because available administrative records did not permit identification of faculty with recent experience in teaching remedial courses, invitations were sent to all mathematics and English faculty. However, the invitation and the wording of the items made clear that the survey was intended primarily for faculty providing remedial instruction.

As a result, 87 (or 25 percent) of the 353 faculty receiving invitations responded—a rate that exceeds the 20 percent response rate typical for anonymous mail surveys. A subgroup of 16 respondents had not taught a remedial course within the last three years, but analysis of their response patterns showed them to be statistically indistinguishable from those of the instructors targeted by the survey.

Of greater importance with respect to the accuracy of the results, it is reasonable to assume that fewer than half of the 353 invitees were remedial instructors. Thus the true rate of response among qualified respondents may well be 50 percent or higher, thus yielding a margin of error of plus or minus 3 percent.

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C. Biographies and Addresses

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is an educational psychologist specializing in learning and classroom behavior management. A professor and researcher in the College of Education at East Tennessee State University, he has witnessed teacher education from the front lines for 30 years. Stone's principal research interest is teacher effectiveness. His writings have appeared in the Chronicle of Higher Education, Education Week and numerous scholarly journals. Recent essays by Stone are included in Educating Teachers: The Best Minds Speak Out (American Council of Trustees and Alumni, 2002) and Teacher Quality (Hoover Institution Press, 2002).

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is Director of Institutional Research for Lansing Community College, one of Michigan's largest community colleges. He has done extensive research in the areas of developmental and remedial education, and his recent study led to distinguished certification for the Lansing Community College Developmental Reading and Writing Program. The award made by the National Association of Developmental Education (NADE) in 2003 is an honor currently held by only two developmental programs in the nation. Brown's experience includes five years as director of the research department at Minneapolis Public Schools, and over twenty years of experience in K-12 education as a teacher, administrator and researcher. He earned the PhD in Educational Research and Measurement from Michigan State University.

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grew up in St. Louis, Missouri, and earned degrees from Washington, Indiana, and Harvard Universities. He was awarded the PhD from Penn's Wharton School. Phelps taught secondary school mathematics in Burkina Faso (West Africa); worked at the Organisation for Economic Co-operation and Development in Paris, the U.S. General Accounting Office, WESTAT, and Indiana's Education Department. He has published dozens of articles in scholarly journals and currently edits the weekly on-line series, In Defense of Testing, at EducationNews.org.

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Endnotes

1 See Jay P. Greene and Greg Forester, Public High School Graduation and College Readiness Rates in the United States *Education Working Paper No. 3* (Washington, DC: Manhattan Institute for Policy Research, September 2003). Available: http://www.manhattan-institute.org/ewp_03.pdf.

2 See Appendix A for a discussion of the expectations for college held by parents, students and the public versus the realities seen by college-level observers.

3 See University and Community College System of Nevada (UCCSN), *Remedial/Developmental Enrollments, Summer and Fall 1999* (Reno, NV: Author, April 6, 2000) 35. Available: http://www.nevada.edu/admin/remedial.pdf. The most recent version of the UCCSN report (Summer and Fall 2002) is available through the UCCSN Chancellor's office.

4 Ibid, *Summer and Fall 2002*. See also, Erika Yamasaki, Effective policies for remedial education (Los Angles: ERIC Clearinghouse for Community Colleges, 1998). Available: http://www.gseis.ucla.edu/ERIC/digests/dig9806.html.

5 Ibid, 2. Also see Note 1 in William S. Koski & Henry M. Levin, *Replacing Remediation with Acceleration in Higher Education: Preliminary Report on Literature Review and Initial Interviews* (Stanford, CA: National Center for Postsecondary Improvement, 1998). Available: http://www.stanford.edu/group/ncpi/documents/pdfs/4-01_remediation.pdf. Also see Linda Schrock Taylor, "What Do They Think Will Happen?" Online article. Available: http://www.lewrockwell.com/taylor/taylor32.html.

6 Jean Johnson & Ann Duffett, *Where We are Now, 12 Things You Need to Know about Public Opinion and Public Schools* (New York: Public Agenda, 2003), 19. Available: http://www.publicagenda.org/specials/wherewearenow/wherewearenow.htm.

7 James E. Rosenbaum, *Beyond Empty Promises: Policies to Improve Transitions into College and Jobs* (Washington, DC: Office of Vocational and Adult Education, April 2002) 25. Available: http://www.earlycolleges.org/Downloads/EmptyPromisesRosenbaum.pdf.

8 See *Building Nevada's Future* (Reno, NV: University and Community College System of Nevada, April 18, 2002). Available: http://www.nevada.edu/admin/masterplan.pdf. For national policy proposals see: Education Trust, "Ticket to Nowhere" *Thinking K-16, 3*, no. 2 (1999). Available: http://www2.edtrust.org/edtrust/product+catalog/reports+and+publications.htm. Andrea Venezia, Michael W. Kirst, & Anthony L. Antonio, *Betraying the College Dream* (Stanford, CA: Stanford Institute for Higher Education Research, 2003). Available: http://www.stanford.edu/group/bridgeproject/. David T. Conley, *Understanding University Success* (Eugene, OR: Center for Educational Policy Research, 2003). Available: http://www.s4s.org/understanding.php.

9 Twelfth grade achievement levels are reported only as a national average. Available:
mathematics: http://nces.ed.gov/nationsreportcard/pdf/main2000/2001517.pdf,
reading: http://nces.ed.gov/nationsreportcard/pdf/main2002/2003521a.pdf,
writing: http://nces.ed.gov/nationsreportcard/pdf/main2002/2003529.pdf.
Nevada's newly implemented high school proficiency examination also identifies underprepared 12th graders but the criteria and, therefore, the numbers are not directly comparable (see http://www.nevadatestreports.com/NHSP/iReport/index.html.).

10 NAEP's "basic" level of achievement is defined as, "partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade." "Below basic" is all who score below the "basic" level, i.e., those who are not ready for instruc-

tion at grade level. These are 12th graders who may have been socially promoted for years.

11 See National Center for Education Statistics, *Access to Postsecondary Education for the 1992 High School Graduates* (Washington, DC: Author, 1997). Available: http://nces.ed.gov/pubs98/access/.

12 See the results of the fall 2002 administration of Nevada's high school proficiency examination. Available: http://www.nevadatestreports.com/NHSP/iReport/index.html.

13 See Center on Education Policy, *State High School Exit Exams Put to the Test* (Washington, DC: Center on Education Policy, August 2003) 111. Available: http://www.ctredpol.org/highschoolexit/1/exitexam4.pdf

14 See Nevada NAEP profile: http://nces.ed.gov/nationsreportcard/states/profile.asp.

15 Ibid.

16 "A Direct Challenge," *Education Week*, (17 March 1999). Available: http://www.edweek.org/ew/ewstory.cfm?slug=27direct.h18.

17 Differences in curricular emphases between high school and college professors have been observed in other studies. In general, professors say that greater attention should be given to the basics. See ACT, *Content Validity Evidence in Support of ACT's Educational Achievement Tests* (Iowa City, IA: Author, 2000). Available: http://www.act.org/news/pdf/study.pdf.

18 The controversy regarding the NCTM standards (http://www.nctm.org/standards/vision.htm) is much broader than the question of how or whether calculators ought to be used in K-12 mathematics classes. Critics question the "constructivist" approach to teaching on which NCTM standards are founded. See http://www.math.nyu.edu/mfdd/braams/nychold/pr-cf-030104.html for a letter from 12 New York-area mathematics department chairs.

19 Numerous reports suggest that while school attendance is mandatory, study appears to be optional. See *The American Freshman: National Norms for Fall 2002*: "High school grade point averages hit record high despite decline in study time." Also see Bess Keller, "Less Than Awesome" *Education Week*, (23 April 2003). Available: http://www.edweek.org/ew/ewstory.cfm?slug=32youth.h22

Also see Gene Bottoms, "'Getting By' Fails to Make the Grade with Employers and Professors" *Update* (Southern Region Education Board, Spring 2002) 4-5. Available: http://www.sreb.org/programs/hstw/publications/newsletters/2002UpdateNewsletter.pdf.

20 Nevada has instituted several result-oriented reforms in the past few years. These include statewide achievement testing in 3rd, 5th and 10th grades (see: http://www.nde.state.nv.us/sca/testing/crt/) and proficiency tests for graduating seniors (see: http://www.nde.state.nv.us/sca/testing/hspe/HSPEReviewGuide.pdf.). Nevada has also adopted academic standards in mathematics, English language arts (March 2001, grades 1-8 and 12) and several other areas. (see http://www.nde.state.nv.us/sca/standards/).

21 *Where We Are Now*, 22.

22 According to the University and Community College System of Nevada, 90% of students taking remedial courses receive "passing grades" (available: http://www.nevada.edu/admin/Remedial.pdf). However, according to the National Center for Education Statistics, "Postsecondary Persistence and Progress" (see : http://nces.ed.gov/pubs2000/2000062_3.pdf), the nature of a student's weakness

has an important bearing on their chance of graduating. If they take only one remedial course, their chance of graduating is the same as students for whom remedial work is not required. However, if a student's weakness is mathematics or (especially) reading, remediation often requires more than one course and is predictive of a substantially lower likelihood of graduation.

23 "Postsecondary Persistence and Progress." Forty-three percent of remedial students who take only one course—other than reading—earn a degree (versus 56% who take no remedial courses).

24 A growing number of critics have argued that critical thinking skills needed for effective writing are frequently "taught" with little effect because teachers have faulty concepts about the role of facts and knowledge in the building of intellectual skills. See E. D. Hirsch, "Where's the Higher-Order Leak? 'At the Bottom'" *Common Knowledge 15*, No. 3 (2002).

25 See, for example: Paulo Freire, *Pedagogy of the Oppressed*, New Revised 20th-Anniversay ed., (New York: Continuum Publishing Co., 1998).

26 See Lance Izumi & K. Gwynne Coburn, *Facing the Classroom Challenge* (San Francisco: Pacific Research Institute for Public Policy, April 2001). Available online: http://www.pacificresearch.org/pub/sab/educat/facing_challenge/challenge.pdf. Also see the National Association for Multicultural Education's definition of multicultural education: http://www.nameorg.org/resolutions/definition.html.

27 Richard P. Phelps, *Kill the Messenger, The War on Standardized Testing* (New Brunswick, NJ: Transaction Publishers, 2003).

28 Using different data and methodology than the present investigation, Greene and Forester (noted above) estimate that only 26 percent of Nevada public high school graduates are minimally prepared to enter a 4-year college.

29 Nevada NAEP profile: http://nces.ed.gov/nationsreportcard/states/profile.asp.

30 In the fall 2002, 68% of seniors failed mathematics and 41% failed reading. Available: http://www.nevadatestreports.com/NHSP/iReport/index.html. Also see: Lynn Olson, "States Debate Exam Policies for Diplomas," *Education Week* (May 14, 2003). Available: http://www.edweek.org/ew/ewstory.cfm?slug=36test.h22.

31 See UCCSN Fact Sheet, "High School-to-College Trends," 2003. Available: http://www.nevada.edu/admin/NV%20HS%20Enrollment.pdf.

32 Laurence Steinberg, *Beyond the Classroom, Why School Reform has Failed and What Parents Can Do* (New York: Simon & Schuster, 1996).

33 Ibid, 61.

34 Ibid, 75.

35 Ibid, 76.

36 Tommy M. Tomlinson, ed., *Motivating Students to Learn* (Berkeley, CA: McCutchan Publishing Corporation, 1993), p.11.

37 Jeanne S. Chall, *The Academic Achievement Challenge* (New York: The Guilford Press, 2000).

38 The exponents of learner-centered instruction are so strongly opposed to measured achievement as the prime objective of instruction that they believe standards-based reform creates a moral dilemma for teachers. See Sandra Mathison and Melissa Freeman, Constraining Elementary Teachers' Work: Dilemmas and Paradoxes Created by State Mandated Testing. *Education Policy Analysis Archives 11*, No. 34 (2003). Available: http://epaa.asu.edu/epaa/v11n34/.

39 Ibid.

40 E. D. Hirsch, *The Schools We Need and Why We Don't Have Them* (New York: Doubleday, 1996).

41 Chall, 31.

42 See Alfie Kohn, *Punished by Rewards* (Boston: Houghton Mifflin, 1993).

43 J. E. Stone, Developmentalism: An Obscure but Pervasive Restriction on Educational Improvement. *Education Policy Analysis Archive 4*, No. 8 (1996). Available: http://epaa.asu.edu/epaa/v4n8.html.

44 "A Direct Challenge," *Education Week.*

45 Professor Allen Bundy argues that community college professors should quit thinking of themselves as professors because their primary mission is to teach basic skills. See: "Basic Skills Problems at Community Colleges, Change, 32, Issue 3 (May/June 2000) 4. Also see Paul Trout, "Remediation and the Dumbing Down of Campus Standards," *The Montana Professor 11*, No. 3 (Fall 2001). Available: http://mtprof.msun.edu/Fall2001/TrtArt.html. Trout reports that professors encounter students with 3rd and 4th grade level reading skills and he believes that the enrollment of such students has eroded college standards. Because colleges permit remedial students to concurrently take regular courses, even graduate and professional schools are now affected.

46 David A. Goslin, *Engaging Minds, Motivation & Learning in America's Schools* (Lanham, MD: Scarecrow Press, Inc., 2003) 120.

47 Ibid, 120-121.

48 Ibid, 4.

49 "Developmentalism," 1996.

50 Murnane and Levy say students lack both academic and "soft skills." Both professors and employers find that recent high school graduates are wholly unaccustomed to requirements such as completing assignments and coming to work on time. See Richard J. Murnane and Frank Levy, *Teaching the New Basic Skills: Principles for Educating Children to Thrive in a Changing Economy* (New York: The Free Press, 1996).

51 "Developmentalism," 1996.

52 See Steven Zemelman, Harvey Daniels, and Arthur Hyde, *Best Practice, New Standards for Teaching and Learning in America's Schools, 2nd ed*. (Portsmouth, NH: Heinemann, 1998).

53 Teachers have complained that the NBPTS assessment is skewed to the point that success requires teachers to agree with propositions that are at odds with their working knowledge of good classroom practice. See Robert Burroughs, Tammy A. Schwartz and Martha Hendricks-Lee, "Communities of Practice and Discourse Communities: Negotiating Boundaries in NBPTS Certification," *Teachers College Record 102, No. 2* (2000) 344-374. Available: http://www.tcrecord.org/Content.asp?ContentID=10449.

54 See Appendix A.

55 Entering freshmen in 2003 have the highest GPAs and the lowest amount of time-spent-on-study found in 37 years. See http://www.abqtrib.com/archives/news03/012703_news_freshmen.shtml. Also see the media announcement of L. J. Sax, A. J. Lindholm, A. W. Astin, W. S. Korn, & K. M. Mahoney, *The American Freshman: National Norms for Fall 2002* (Los Angles: Higher Education Research Institute, 2001). Available: http://www.gseis.ucla.edu/heri/02_press_release.pdf

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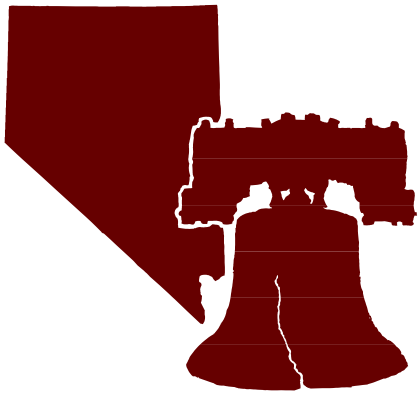

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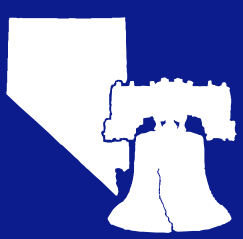

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