Effective Online Teacher Preparation: Lessons Learned

Cindy Ann Dell
Assistant Professor, College of Education
Montana State University-Billings
Billings, MT USA
cdell@msubillings.edu

Sharon F. Hobbs
Professor, College of Education
Montana State University-Billings
Billings, MT USA
shobbs@msubillins.edu

Kenneth Miller
Professor, College of Education
Montana State University-Billings
Billings, MT USA
kmiller@msubillings.edu

Abstract

States with large rural populations must find new ways to prepare and retain highly qualified teachers who want to teach in rural schools. Research on rural education indicates that pre-service teachers who already have ties to rural communities are more likely to want to teach in rural schools. Online teacher preparation programs are one way to meet the need for highly qualified rural teachers.   This paper identifies obstacles one teacher preparation program encountered in developing such a program and suggestions for solutions. Successful online teacher preparation programs must address issues of student isolation, the difficulty of committing resources and staffing to ongoing online courses, a campus infrastructure that may lack flexibility for meeting online student needs, and the challenge in providing students with diverse field experiences in their rural communities.

Keywords: Online Program Design, Cohorts, Teacher Preparation, Rural Access, Highly Qualified Teachers.

Introduction

Historically, preparing future public school teachers has included some combination of academic and methods courses taken from experienced professors in a classroom setting combined with field experiences in K-12 schools. Although teacher preparation programs have varied in content and procedures, the modes of delivery have remained remarkably unchanged since the first normal school was opened in 1839. A teacher preparation program meant attending a college or university for several years, regardless of the inconvenience of leaving home and community, to temporarily relocate to the site of the university. Over the past decade, however, the emergence of viable technology to support online learning has created opportunities for people to take a wide variety of college courses without leaving home.

The Sloan Consortium (2003) indicates that during the 2002-2003 academic year, some 81% of all universities offered at least one online course or blended course (combining both face-to-face and online instruction), with 97% of public institutions offering such courses. In addition, this same study shows 49% of public institutions offering online degree programs where all or most of the coursework is

completed online. By fall of 2006, close to 3.5 million students took at least one class online. While growth in higher education enrollments is around 1.5%, the growth in online enrollments is at 9.7%, with almost 20% of students in the United States taking at least one online course (Allen & Seaman, 2007).

Taking the next step to developing online teacher preparation programs, as opposed to offering a few online courses, presents challenges that university educators will need to address. Since developing an online teacher preparation program is so new, however, there are few models and little direction.

Developing effective and student-friendly online teacher education programs is particularly important to states with large rural populations that are challenged to produce a sufficient number of "highly qualified" teachers, according to the mandate of No Child Left Behind. Collins (1999) argues that low salaries combined with geographical, social, and professional isolation make it difficult for rural schools to attract and retain qualified teachers. Research on rural education indicates that pre-service teachers who already have ties to rural communities are more likely to want to teach in rural schools (Collins, 1999; Reeves, 2003). Ideally, then, colleges of education should encourage and/or recruit students from rural areas to become teachers. Many traditional-aged students, however, want to become teachers so that they can move away from their rural roots, applying for teaching positions in more populated areas with better pay. A more promising pool of potential teachers is adults who live in rural areas and whose lives are deeply connected to their communities. Their community ties, however, make it difficult for these adults to leave their families, jobs, and communities to attend a university that may be hundreds of miles from their homes. An online teacher preparation program allows them to stay in their local communities while preparing to teach in their local schools.

Montana and Wyoming are two states with a large land mass and sparse population. In fact, the population density in most parts of these two states is fewer than five persons per square mile. That means that the problem of staffing rural schools with highly qualified teachers is particularly acute in states such as Montana and Wyoming. A significant proportion of rural traditional-aged students move to more populated states for student teaching and their entry into the profession. Those who do take teaching positions in rural communities often leave soon after initial employment.

Although most reports on teaching positions list an oversupply of elementary teachers in the U.S., rural states in the west are having problems finding and retaining teachers. To address the need to prepare highly qualified teachers who want to teach in rural schools, faculty at one western university decided to increase access to teacher preparation program to prospective teachers living in rural Montana and Wyoming by developing an online route to the degree and licensure in elementary education. Since the university had already developed a highly successful support structure for online courses, they proposed to offer this new program entirely online. Students would take a two-year sequenced series of online courses while working with mentor teachers each semester in their local schools.

A grant funded by the U.S. Education Department provided resources for professional development for faculty new to online delivery, for online course development, and to develop a sustainable and viable model for online delivery of teacher education programs for pre-service teachers living in rural areas. With support from the Technology Innovations Challenge Grant (TICG), four faculty members from the College of Education worked collaboratively to design a program and process for online teacher preparation, one of the first such programs in the country offered entirely online. After several months of focused advertising, the first cohort was started spring 2002 with 21 graduate students. The second cohort graduated 12 undergraduate students in fall 2004. The third cohort graduated 12 undergraduate students in spring 2006, and a fourth graduating 19 new teachers in 2007.

Recent Research on Online Teacher Preparation Programs

During the past 15 years, we have seen an explosion in books, journals, articles, and web sites addressing distance education and online learning. Most universities and colleges now offer at least some of their courses via the Internet. Research in publications such as the *MERLOT Journal of Online Teaching and Learning*, the *Journal of Asynchronous Learning Networks*, the *American Journal of Distance Education*, or the *Online Journal of Distance Learning Administration* have centered on the technological, pedagogical and administrative challenges of developing and assessing online courses in higher education. The Sloan-C View (Sloan Consortium, 2008), a publication from The Sloan Consortium, is typical of the research available. This site includes articles by a variety of experts

addressing several categories including teaching and learning effectiveness, cost effectiveness, the right to access, and assessment.

Knowing how to develop and deliver online classes effectively is certainly important, but the challenges of online course delivery are multiplied when the aim is to offer a coherent program of study online rather than simply offering a selection of open-enrollment courses. To take a program to prospective teachers who lack access to a teacher preparation program requires attention to the needs of students who may be isolated from others sharing their interests and/or who may have been out of school for some years and lack confidence in their ability to do well in their studies, especially online. Although there is abundant research and resources on best practices for online delivery (Ausburn, 2004; Bernard, Abrami, Lou, Borokhovski, Wade, Fiset, & Huang, 2004; Johnson, 2007; McElrath & McDowell, 2008; Pelz, 2004) the literature provides little research that can assist faculty members and online administrators in teacher preparation programs to understand and address the many unique challenges that come from offering and administering a teacher preparation program online. This paper looks at lessons learned from one project (Miller & Knuth, 2004) along with significant qualitative data from a six- year study of online cohort development (Dell & Hobbs, 2006). Experience with online program design and administration makes an important contribution to a body of literature that is still in its infancy.

Assumptions

- Because the literature on online teaching provides little guidance in designing an online program, the developers used their own knowledge of online instruction and working with non-traditional students to design the first cohort. A series of assumptions, both practical and theoretical, shaped the first cohort program and influenced the way subsequent cohorts were structured.

- The developers decided to direct the first cohort to graduate students only. This eliminated the potential problems with student deficiencies in general education courses or with minor areas of study, allowing the focus to be directed on delivering teacher education classes online. Subsequent cohorts included undergraduate students.

- Since graduate students interested in initial licensure in both elementary and secondary applied for admission to the program, the developers structured the program to meet the needs of students seeking either elementary or secondary licensure.

- To create a manageable undergraduate online program, the developers focused on the teacher education courses required after admission to the Teacher Education program. That meant students needed to have met their general education and pre-professional requirements before being admitted to the cohort program. Many of the undergraduate students had completed a two-year associate's degree prior to application to the cohort program.

- The developers believed it would be important for the students to go through the program together; students were accepted as a cohort and took all of their courses together.

- Because the developers were committed to building connections between theory and practice, each student would spend time each semester with a mentor teacher in a local school. This was far more field experience than students in the campus teacher preparation programs received.

- Initially, the developers envisioned having clusters of students in specific areas of the two states. To provide continuity and a local contact person, the developers designated three individuals as site coordinators who lived in rural areas where most of the students were located. They were provided training in the technology supporting online instruction and to develop their understanding of the program and requirements. The responsibilities of the site coordinators were to assist online students with technology, place them in schools for field experience, and supervise those experiences.

- The developers made an effort to visit all the students in the cohort at least once during their two years in the program, but time and distance made this difficult. In one case a superb site coordinator regularly met with a cadre of 10 students to alleviate concerns, connect regarding

field experiences, and create community within the group. In other cases, the site coordinators never met with students, and since there were only one or two students being served by a site coordinator, the sense of isolation was more profound for those who could not meet with faculty from the university.

- Because the developers were concerned that students taking all of their courses online would feel isolated and disconnected from the program, they instituted a *Linking Seminar* each semester – a one credit online course that served as the place where students could discuss what was happening in their field experiences and other online classes, ask questions, get feedback and advising, and find support from other members of their cohort. The Linking Seminars were also essential in developing students' knowledge and skills in classroom management and cooperative learning.

- Because the students were not on campus, the developers assumed responsibility enrolling students in the courses they needed each semester, assisting with advising, registration, and providing advocacy for students struggling with the difficulties associated with payment, books, mandatory immunizations, and financial aid.

Problems and Solutions

As the first cohort got underway, the developers quickly realized that some of their assumptions were accurate and some either created unanticipated problems or failed to address important issues unique to an online program.

Problem One: Serving Two Masters—Elementary and Secondary Education.

The decision to include graduate students working toward both elementary and secondary licensure was especially problematic. Although opening the online program to both groups did increase the number of students ready and willing to commit to this new and as yet untried experiment in teacher preparation, the developers had not given sufficient consideration to the programmatic needs of secondary students who did not have an undergraduate major that would be accepted by the state for licensure. Several of the secondary students still needed a number of content courses that would allow them to complete their majors, but the developers had no way to offer these courses as part of the program since they were housed in the College of Arts and Sciences where few courses were available online. Because of that, students were forced to find the content courses they needed from local community colleges or online through other universities.   Students seeking elementary licensure experienced far fewer such difficulties, since only teacher education courses could be developed and delivered.

First Lesson Learned: Identify What You Can Control

The frustration in trying to meet the needs of students seeking secondary licensure led to reconsideration whether the needs of both groups could be met. Subsequent cohorts were limited to elementary licensure only, thus streamlining the process and eliminating some of the thorniest problems encountered during the first cohort.

Since students seeking secondary licensure develop pedagogical knowledge and skills while building knowledge in the content major, those students' needs could not be met through the online program. In addition, undergraduate elementary licensure posed a similar problem; campus students could choose from a variety of minors that would also require a broad array of additional online courses if the program was to serve students in their home communities. For elementary cohorts then, the decision was made to limit the minor to one option: special education. It was believed that the combination of elementary licensure with a minor in special education would benefit the teacher candidates as well as the rural schools in which they would teach. Since some of the required courses were already available online from special education faculty, this was the best choice from the perspective of College of Education faculty as well.

Problem Two: Isolation for Online-Only Students

A second assumption that the developers were forced to rethink as the first cohort progressed was their commitment to offering all courses online. Their initial reasoning was to maximize the number of students who could benefit from an online program since it would not require them to leave their home communities. But the problem of isolation was far more acute than the developers had anticipated (Miller & Knuth, 2004; Dell & Hobbs, 2006). One of the students in the graduate cohort captures the ambivalence felt by many of the students in a comment posted in a threaded discussion: "This is a wonderful program because it lets us get the education we desire without leaving home. However, the down-side is the sense of isolation." Another student described herself as "hanging in cyberspace." The students found it difficult to build relationships with people, including students and faculty, whom they had never met. The faculty was forced to depend too heavily on assessments of the students' work in schools from mentor teachers who lacked familiarity with the institutional programs and standards.

Offering all courses online, including all methods instruction, was also problematic. Math, science, and social studies methods translated very effectively to the online format, but methods courses in P.E., music, art, language arts, and reading needed opportunities for demonstrations and interactions that could not easily be duplicated online.   Faculty members teaching these methods courses voiced serious concerns that students could not develop the pedagogical expertise expected in online courses alone and were reluctant to teach their classes online.

Second Lesson Learned: Summers on Campus

The compromise was to require students, beginning with the second cohort, to come to campus for a five-week summer session for two consecutive summers. Since the second cohort began in spring 2002, the new cohort students came to campus for their first summer session early in the program. Most of the participants in the second cohort were nontraditional students, and all but two were women, so the five-week stay in the campus dorms was an opportunity to make new friends and focus all of their attention on their studies, something most of them were unable to do during the academic year. They also got to know the faculty who would be teaching online courses. In addition, the methods courses that faculty members believed were better suited to face-to-face instruction were scheduled for the summer session only.

An unexpected benefit of the two summer sessions was the emergence of a strong sense of community among the students. Cohort members reported later that the summer session was the most important aspect of the cohort program.   They overwhelmingly supported the experience, even though it was a hardship on many of them and their families. The following are some of their responses to a question regarding what made them feel part of a learning community (Dell & Hobbs, 2006):

- I feel that the effectiveness of the professors involved in the online cohort program has largely contributed as well as the members of my cohort. The many opportunities to share my ideas and lessons with my colleagues in the program have proven very effective in my learning as well. I also believe that the time spent on campus during the summer sessions also provided me with more opportunities to learn from those in my cohort group as well.

- Having the chance to meet each other the summer of our first on campus classes and from then on we have had a bond that will last a life time!

- The first time we all spent the summer [on campus] is when the majority of the bonding occurred. We all were in similar situations, leaving families, jobs, etc., and coming [on campus] for 5 weeks to live in dorms and go to class. Since we were all in such similar situations, and spent so much time together in all our classes, this helped us bond. We have a wonderful group and people include each other.

- The second summer [on campus] brought us even closer with our previous experiences. We have designed a t-shirt with all our names on it, and this contributed to our bonding, even though it was created because of our closeness. I feel close to the members of my cohort and feel that I could call or write to any of them for ideas, support, or help with problems.

- Summer school was the most important bonding agent for our group. I feel that our cohort truly became a "class" after spending time together face to face.

Reducing the isolation that many students feel from online learning through face-to face-contact was, therefore, essential to student success and faculty endorsement of students. Requiring summers on campus increased essential relationships among students and between students and faculty, leading to improved learning and confidence (Dell & Hobbs, 2006).

The opportunities to get to know the online pre-service teachers during summers led the faculty to reconsider the need to find site coordinators located in the areas where the students lived. Initially it was critical to have liaisons between the university and the rural schools where students would do their ongoing field work. The developers came to recognize, however, that the site coordinators' lack of familiarity with the expectations created obstacles. As supportive relationships with the cohort students were developed, faculty members most closely connected with the cohort program provided the connections that site coordinators were unable to provide. Without site coordinators to do initial troubleshooting, however, the cohort faculty was responsible for identifying and resolving all of the problems that the online students experienced, which led to the realization of Problem Three.

Problem Three: The Crumbling Infrastructure

One of the most surprising and perplexing problem was not anticipated. The campus infrastructure (Advising, Admissions, Registrar, Business Office, and Financial Aid) had little experience with students who were not on campus to handle all of the myriad details required of university students. Changing the way these offices worked with online students took many long meetings over several months. One example of the kind of problem encountered was the university's requirement that students born after December 31, 1956 must show proof of immunization administered after December 31, 1976. Although this requirement was appropriate for students on campus, it was irrelevant for students in the first online cohort who were never physically present on the campus. Making this argument was not easy, and as a result, cohort students experienced many problems in negotiating the requirements because the university's infrastructure was based on the assumption that all students had access to campus offices in person. As a result, faculty members working with the online cohort shouldered the responsibility for working through all of these problems.

Third Lesson Learned: Changing the On-Campus Paradigm to fit Online Learners

The third lesson learned was that to create an online program, faculty must be proactive with regard to the campus infrastructure. Being an online student is much more complicated and frustrating than being a campus student since online students do not have immediate access to essential services, such as financial aid, registration, advising and the business office. Phone calls and email messages could not take the place of talking directly with support staff to resolve problems, to get answers to questions, or even to get necessary paperwork. It took many months of conversation with campus support staff before they could see that business with online students must be handled differently. Communication between the cohort program coordinators and these point persons was essential, so that students may be served as well as those on campus.

The problems that emerged because of the university's lack of experience with online cohorts, as opposed to campus-based students who chose to take a few online courses, were eventually resolved, or at least reduced, by designating one person in each of the student support offices to work with online students. This made it much easier for students to know whom to contact to get answers and to resolve problems; students connected with one person who was familiar with the program, the students, and the questions that online students were likely to ask. The new structure also eliminated faculty responsibility to act as primary liaisons between students and support offices.

What Worked?

Not only did the developers learn about what did not work, but there were things were done well and contributed greatly to the success of the cohort programs.

Linking Seminars

The Linking Seminars began as the point of connection for students and the university. Included in the seminars were assignments related to discipline and classroom management, and linked back to classes they were taking. In addition, students were able to discuss programmatic requirements, frustrations, field experiences, advising and make social connections with faculty and each other. Students responded positively to the Linking Seminar as a place to converse with others in the cohort, to ask questions whenever they arise, and to share their experiences in classes and in their local schools with their peers. The Linking Seminar provided continuity, so that the students experienced a coherent program where theory and practice were interwoven, rather than a series of autonomous courses.

Another change that evolved from the many difficulties students experienced student support offices was the recognition that advising would need to be handled differently for online students, even after the online program was expanded to include summer sessions. The Linking Seminar seemed like the ideal site to conduct advising. In subsequent cohorts, one faculty member took on the responsibility of the one-credit Linking Seminar each semester, serving as the advisor for all of the members of the cohort. Announcements, registration, portfolio requirements, and question and answer sessions became regular features of the seminar. Instead of countless e-mails to a faculty advisor, all of the questions were answered in the Linking Seminar so that all of the students had access to all of the information and answers to questions. The Linking Seminar, then, has become the place where students go to get up-to-date information on the program, to ask questions, to discuss upcoming courses, and to resolve issues that arise from the online format of the program.

Ongoing Field Experiences

The belief that online instruction must be paired with ongoing opportunities to work with mentor teachers in classrooms has held firm. Effective teachers cannot be adequately prepared through simply doing their work on a computer. Teaching is a social profession, and learning to teach is a social activity. Although activities and social interaction were built into in all the online classes, a field experience was required each semester for the four-semester program. In contrast, campus students were required to complete a practicum during their sophomore year and a more extended field experience during their junior year before student teaching. However, on-campus students did not work in the schools every semester. Monitored through the Linking Seminars, cohort students became actively involved in classrooms every semester. At times, these field experiences were also part of other online class requirements. As students moved through the program, the responsibilities of field experience increased in conjunction with their acquired expertise. The final semester prior to student teaching was designed as the pre-student teaching experience in which students engage in a minimum of 65 hours, teaching at least 5 lessons, videotaping and reflecting upon their effectiveness. Students evaluated their impact on student learning and reflected upon their lessons each time they teach, as they prepared for student teaching. Students in several cohorts reported that they felt secure entering student teaching because they had continuous interaction in classrooms, and with students, parents, and teachers (Dell & Hobbs, 2006). The field requirement continues to be a cornerstone of the cohort programs.

Conclusions

The Online Cohort Program at a small state university in the west has become a viable alternative to the traditional campus-based teacher preparation program, making it possible for many prospective teachers living in rural areas to become highly qualified teachers. Through research, reflection, and trial and error, the faculty designed an effective approach to online teacher preparation. Student teaching evaluations as well as faculty observations and student grades confirm that the online students were as well prepared to teach as the on-campus students (Miller & Knuth, 2004). However, there was an important aspect of the program that should also be addressed. Since many of the students enrolled in online cohorts have lived all their lives in homogenous rural areas in the West, many of them have had little personal experience with diversity. The population of most rural communities in Montana and Wyoming is overwhelmingly Anglo; the number of students with disabilities in schools in these areas may be quite small. When prospective teachers come to the university for teacher preparation, they have opportunities to work in schools with significant cultural and economic diversity. When cohort students' field work takes place in schools within their local communities, they may lack opportunities to develop

skills to meet the needs of children and parents whose backgrounds are significantly different from their own, an aspect of the program the faculty will continue to develop.

In conclusion, the development, implementation and maintenance of online cohort programs for elementary teacher preparation, at both the undergraduate and graduate levels, are an important and essential service that universities can provide to students and schools in remote rural areas. An online teacher preparation program supports communities in their attempts to grow and hire their own highly qualified teachers. It is essential that such programs ensure the quality of their programs, and that students have access to the same high quality education as those in a more traditional setting. Universities in the early stages of developing online teacher preparation programs would be well advised to consider the lessons learned through this pioneering process:

- An online teacher preparation program requires extensive coordination among faculty and administration in developing and offering the courses required for licensure. The program developers of the online cohorts maintained program sustainability by limiting the program to students seeking elementary licensure only, as well as streamlining the program by accepting students only after their initial general education and pre-professional courses were completed and by limiting the minor option to special education.

- An online program can create a sense of anonymity and isolation. Since many students interested in an online teacher preparation program may be adults who have been out of school for some years, the online environment can challenge their assumptions about their ability to successfully complete college courses and realize their dreams of becoming teachers. Program developers may address this problem of isolation in three ways: by creating cohorts so that students go through the program together; by requiring students to take some of their courses on campus during summers, and by the addition of a Linking Seminar required each semester so that students build social relationships, provide peer support and have immediate access to faculty support and assistance.

- Faculty members involved in developing an online program should be alert to the possibility that their university, particularly student support staff, is not prepared to address the needs and problems experienced by online students. When student support offices identified a point person in each office to work with online program students, many of the obstacles experienced were removed. An additional benefit was that the responsibility for addressing all these problems was shifted from the cohort faculty to the people most able to answer questions and address problems.

- It is perhaps even more important in an online teacher education program that theory and practice be well integrated, so that prospective teachers have multiple and ongoing opportunities to make connections between what they learn in their courses and what they do in their field experiences.

It has been demonstrated that online cohort programs can be of high quality and easy to access, while providing rural schools with successful and qualified teachers. Through planning and attention to excellence, communication, and student needs, the developers have learned valuable lessons in the design and implementation of the online cohort programs that may be of help to other universities interested in moving from occasional courses offered online to a comprehensive online teacher preparation program.

References

Allen, I. E., & Seaman, J. (2007). Online nation: Five years of growth in online learning. Needham, MA: Sloan Center for Online Education. Retrieved August 26, 2008 from https://www.sloanconsortium.org/publications/survey/pdf/online_nation.pdf

Ausburn, L. (2004). Gender and learning strategy differences in nontraditional adult students' design preference in hybrid distance courses. *Journal of Interactive Online Learning, 3 (2*) www.ncolr.org

Bernard, R.M.; Abrami, P.C.; Lou, Y.; Borokhovski, E.; Wade, A, Fiset, M.; & Huang, B. (2004). How does distance education compare with classroom instruction? A meta-analysis of the empirical literature. *Review of Educational Research 74* (3), 379-439.

Bourne, J., & Moore, J. C. (Eds.) (2003). *Elements of quality online education: Practice and Direction.* Needham, MA: The Sloan Consortium. Retrieved June 3, 2005 from http://www.sloan-c.org/publications/books/eqoe4summary.pdf

Collins, T. (1999). *Attracting and retaining teachers in rural areas.* Charleston, WV: ERIC Clearinghouse on Rural and Small Schools.

Dell, C., & Hobbs, S. (2006). Preparing future teachers for rural schools: The role of online cohorts. Unpublished research, Montana State University-Billings.

Driscoll, M. P. (2005). *Psychology for learning and instruction.* Boston**:** Pearson Education.

Johnson, E. S. (2007). Promoting learner-learner interactions through ecological assessments of the online environment. *MERLOT Journal of Online Learning and Teaching 3* (2), 142-154. Retrieved August 28, 2008 from http://jolt.merlot.org/vol3no2/johnson.pdf

McElrath, E. & McDowell, K. (2008). Pedagogical Strategies for Building Community in Graduate Level Distance Education Courses. *MERLOT Journal of Online Learning and Teaching 4 (*1), 117-127, Retrieved August 28, 2008 from http://jolt.merlot.org/vol4no1/mcelrath0308.pdf

Miller, K., & Knuth, R. (2004). *Learning online through ongoing partnerships.* Final report, Technology Innovation Challenge Grants. United States Department of Education.

Palloff, R. M., & Pratt, K. (2005). *Collaborating online: Learning together in community.* San Francisco: Jossey-Bass.

Pelz, B. (2004). Three principles of effective online pedagogy. *Journal of Asynchronous Learning Networks 8* (3), Retrieved June 3, 2005 from http://www.sloan-C.org/publications/jaln/v8n3/v8n3_pelz.asp

Reeves, C. (2003). Implementing the No Child Left Behind Act: Implications for rural schools and districts. North Central Regional Education Laboratory. Retrieved May 20, 2005, from http://www.ncrel.org/policy/pubs/html/implicate/index.html

Sloan Consortium. (2008). *Sloan-C View.* Retrieved November 11, 2008, from Sloan-C View: http://www.sloan-c.org/publications/view/index.asp

U.S. Department of Education (2002). Overview of public elementary and secondary schools and districts: School year 2000-2001 (NCES Statistical Analysis Report). Retrieved May 20, 2005, from http://nces.ed.gov/pubs2002/overview/table8.asp