



*Prepared for:*

The Nevada System of Higher Education,  
Office of the Chancellor

## **E-Learning at NSHE: Preliminary Snapshot**

**January 15, 2013**

## **Final Report**

**RICHARD N. KATZ & ASSOCIATES**

Richard N. Katz & Associates, Inc. is a consulting and advisory firm dedicated to supporting institutions of higher learning and corporations that support higher education.

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## E-Learning at NSHE: Preliminary Snapshot

### Introduction

NSHE, the Nevada System of Higher Education (formerly the University and Community College System of Nevada) was formed in 1968 to oversee all state-supported higher education in Nevada. Today this system comprises eight institutions: four community colleges, one baccalaureate college, two doctoral universities, and the Desert Research Institute (DRI), a post-graduate research institute. In fall 2011, student headcount totaled 105,976 system-wide. Nevada residents comprised 87.1 percent of the student body.<sup>1</sup> Nevada's higher education landscape is a study in contrasts. Most NSHE institutions cluster in the Reno and Las Vegas metropolitan areas; among them is the nation's third largest community college. Another community college serves a rural area the size of Wisconsin. NSHE institution missions span from community access to university research to specialized applied research.

### Hard Times in Nevada

The past several years have been especially hard on the State of Nevada and NSHE. First, the global recession hit Nevada hard; the GDP of the State Of Nevada declined from \$133.1 billion to \$126.2 in 2010, recovering in 2011 to \$130.3 billion<sup>2</sup>. Gross gaming industry revenues suffered similarly. Second, state budget shortfalls prompted funding cuts for NSHE over the past several years. State appropriation cuts approximating 40 percent left NSHE with hard choices: eliminating degree programs, reducing pay, implementing furloughs of faculty and staff, eliminating faculty and staff positions, and limiting course offerings. Third, the state funding cuts could only impede NSHE's efforts to enhance Nevadans' participation in public postsecondary education, and the success (persistence, retention, graduation) of its students.<sup>3,4,5</sup> Last, it is likely that out-migration from Nevada in the wake of recession accounts for a decline in NSHE enrollments overall during this period. Public higher education enrollments generally rise during downturns as unemployed and under employed citizens return to school for re-skilling.

Fast forward to today: The recession has bottomed out. Nevada leaders are now looking ahead, hoping to rejuvenate the economy by attracting new industries to the State. These new industries would diversify an economy disproportionately dependent on gaming and mining. They would also put the accent on knowledge work and knowledge workers. Such industries would mean jobs, and jobs that

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<sup>1</sup> Quick Facts, Nevada System of Higher Education, [http://system.nevada.edu/tasks/sites/Nshe/assets/File/Data%20Dashboard/enrollment/NSHE\\_Quick\\_Facts\\_-\\_Semester\\_Report\\_Data\\_Fall\\_2011.pdf](http://system.nevada.edu/tasks/sites/Nshe/assets/File/Data%20Dashboard/enrollment/NSHE_Quick_Facts_-_Semester_Report_Data_Fall_2011.pdf)

<sup>2</sup> Lee Business School Center for Business & Economic Research, "Nevada Economic Data,": University of Nevada, Las Vegas, <http://cber.unlv.edu/NVEconData.html>

<sup>3</sup> 38 percent of Nevada high school students continued their educations at NSHE institutions in 2010. Nevada College Continuation Rate, Nevada System of Higher Education, <http://system.nevada.edu/Nshe/index.cfm/linkservid/F8F8970B-D19D-9A41-8ABA3FBDE9795CA9/showMeta/0/>

<sup>4</sup> 2009-2010 graduate rates for universities (44.1%), four-year college (16.9%), and community colleges (13.2%) Graduation Rates, Nevada System of Higher Education, <http://system.nevada.edu/Nshe/index.cfm/linkservid/F8FF1D7B-A775-1AB9-72775E8F7F03F1C8/showMeta/0/>

<sup>5</sup> 2008-2009 persistence rates universities (82.6%), four-year college (76.6%), and community colleges (65.7%) Persistence Rates, Nevada System of Higher Education, <http://system.nevada.edu/Nshe/index.cfm?LinkServID=F90214AB-B27C-36CD-025A09440BFFF72E>

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require well-educated people to fill them. The NSHE challenge is addressing how to build that workforce with diminished economic resources and a challenged set of student demographics.

The NSHE's and Nevada's daunting economic realities are being simultaneously mitigated and exacerbated by the maturation of e-learning. Today, education is no longer confined to the classroom, but has moved online to environments that include text, video, audio, animation and virtual environments. E-learning can be self-paced, where students review static material and recorded lectures posted to class web sites, or online and interactive, where students and faculty discuss and engage on topics via tools like internet web sites, audio or video conferencing, discussions boards, email, and simulations. Most recently, the e-learning landscape of higher education has been changed by the rapid emergence and journalistic success of MOOCs – massive open, online courses that feature online lectures delivered by some of the world's most eminent scholars from institutions like Stanford, California, Princeton, Michigan, and others.

E-learning has had a colorful history in U.S. higher education. York University's David Noble warned of the emergence of digital diploma mills, arguing that university teachers would lose control over what they taught, the purposes of their teaching, and the content of their courses. Noble argued that institutions, not individuals would now lay claim to intellectual property rights in course designs and would marginalize the teaching faculty. These fears persist among many educators, slowing the adoption of e-learning at many institutions. At the same time, students have embraced e-learning both in the form of blended learning – course work that blends online and face-to-face components – and in the form of fully online, web-based courses. Between fall 2002 and fall 2010, the number of online enrollments (at least one course) in degree-granting U.S. postsecondary institutions nearly quadrupled from 1.6 million, to 6.14 million enrollments. In the same period, overall postsecondary enrollments grew by only 18 percent from 16.6 million students to 19.6 million.<sup>6</sup> Moreover, substantial research starting in 2001 seems to confirm that – other things being equal – there is no significant statistical difference in learning outcomes associated with differing modes of instructional delivery.<sup>7</sup>

### **E-learning has clearly come of age.**

The opportunities, challenges and threats to NSHE's colleges and universities and even for the DRI are amplified by the emergence and evolution of e-learning. For over 15 years, NSHE colleges and universities pursued ambitious, if uncoordinated, e-learning strategies to serve the state's rapidly growing population, to offer the on-the-go student around-the-clock education, and to reach those who live in the state's extensive low-density rural areas. In 2009, the last year for which system wide figures have been published, 31,186 NSHE students enrolled in at least one e-learning course.<sup>8</sup> Within NSHE

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<sup>6</sup> I. Allen and J. Seaman, *Going the Distance: Online Education in the United States, 2011*, page 10. (Sloan Consortium), at [http://sloanconsortium.org/publications/survey/going\\_distance\\_2011](http://sloanconsortium.org/publications/survey/going_distance_2011)

<sup>7</sup> Thomas Russell, *The No Significant Difference Phenomenon* (2001, IDECC, fifth edition), see <http://www.nosignificantdifference.org/>

<sup>8</sup> NSHE Distance Education Directors, "NSHE 2009-2010 Distance Education Report," Nevada System of Higher Education, September 2010, [system.nevada.edu/tasks/sites/Nshe/assets/File/Academics/reports/2009-2010-DE-Report.pdf](http://system.nevada.edu/tasks/sites/Nshe/assets/File/Academics/reports/2009-2010-DE-Report.pdf)

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today, e-learning is a mainstream educational resource, with NSHE colleges and universities offering thousands<sup>9</sup> of courses and programs each semester.

E-learning activities resided chiefly at the individual institutions. In recent years, the NSHE System Office has gently: (1) promoted collaboration; (2) maintained policies to protect online learners and to promote online standards; and (3) implemented common course numbering to facilitate course and program articulation, and transfer of credits across NSHE colleges and universities. In the past year, an informal consortium within NSHE has come into play to encourage cross-institutional e-learning. This consortium is working to leverage a shared adoption of the Canvas learning management system (LMS) and the Quality Matters™ course assessment program. These shared services and common standards will make it easier for NSHE students to discover, enroll in, and transfer credits from courses offered across the System.

These informal moves suggest the rudiments of an NSHE-wide vision of e-learning, the existence of a collaborative ‘fabric’ among NSHE member colleges and universities, and the emergence of an important shared and standardized operational e-learning delivery capability. These moves also suggest that the time may be right for the development of new NSHE-wide investments, policies, and practices to support and accelerate the grass-roots collaborative efforts initiated to date.

These historical trends along with the possibility of an emergent new vision of e-learning at NSHE and shared operational e-learning capabilities converge at an important time. Today, Nevada leaders are completing work on a new formula for funding education at NSHE colleges and universities. The new funding formula will eliminate historical funding preferences for e-learning courses – preferences designed to promote educational access for rural Nevadans. The new formula will also allow NSHE colleges and universities to retain tuition received from out-of-state students. These funding changes create both opportunities and challenges for NSHE components and specifically for e-learning within NSHE.

Against this backdrop, Chancellor Daniel Klaich engaged Richard N. Katz and Associates (RNKA) in late summer 2012 to study and evaluate NSHE’s e-learning practices, to identify opportunities, and to present recommendations for consideration. The consulting firm’s charge was to:

- review the current state of e-learning at NSHE and investigate what faculty, students, administrators, and staff think about NSHE’s e-learning practices and directions;
- describe and evaluate in the NSHE context the dominant models and collaborative approaches that have been taken in public university systems and statewide organizations and their key success and risk factors;
- identify alternative online education strategies and understand the benefits and risks for each of those strategies;
- review the market and organizational viability of alternatives;
- assess the funding/revenue generation potential associated with preferred alternatives;

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<sup>9</sup> Based on comments and estimates shared at campus interviews.

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- identify the barriers to adopting preferred alternatives; and
- discuss realistic timelines for implementing preferred options.

This Report presents the preliminary results of the firm's initial phase of reviewing current e-learning practices and discovering what faculty, students, administrators, and executives think about institutional and system e-learning directions. RNKA teams conducted interviews with all NSHE entities in September 2012: College of Southern Nevada, Desert Research Institute, Great Basin College, Nevada State College, Truckee Meadows Community College, University of Nevada, Las Vegas, University of Nevada, Reno, and Western Nevada College. Site visits were supplemented by consultations with NSHE administrators, the e-Learning Steering Committee, the NSHE Faculty Senate Chairs, and the Nevada Student Alliance, a body made up of the student body president from each of the NSHE institutions.

The president at each participating NSHE location appointed a liaison to plan and coordinate the interview process with the consultants. These liaisons were responsible for recruiting faculty, students, and administrators to be interviewed about the initiative and for developing the site visit agenda. Most interviews were held with smaller groups of participants (e.g., college deans, faculty, students, administrators), while some were one-on-one (for example, with presidents or provosts). Most sessions lasted between 45 and 60 minutes, and most – when permitted – were recorded for accuracy. Quotes obtained through this process are released in RNKA Reports only with the approval of the affected individual. Statements of fact by individuals are verified as a condition of publication.

The questions asked during the interviews were developed by RNKA, and were standardized across all NSHE locations. Notwithstanding this standardization, each session took its own course and rarely followed a script. This was especially true in the group sessions as participants played off the others' comments. Topics covered include: learning outcomes, course quality, intellectual property, faculty and student readiness, workload implications, articulation agreements, accreditation standards, evaluation and accountability criteria, student support services, instructional design support, discipline and pedagogical appropriateness, technology requirements, faculty incentives, private competitors, and emergent e-learning options like Massive Open Online Courses (MOOCs).

All respondents were asked what they liked about online instruction, and did not like; what works, and what does not work, and why. They were asked to reflect on the NSHE role (if any) in the process, and how system policies, rules, and procedures might be reformed to promote the development and delivery of online instruction. They were asked about academic traditions and culture in course development and approval as well as faculty incentives. In some cases, the interviewees identified best practices in e-learning.

More than 375 individuals were interviewed or otherwise consulted in the course of preparing this report. The students involved included a high percentage that had taken at least one online course, both at the undergraduate and graduate levels. Participating faculty members were mostly on the tenure track. Virtually all of the major disciplinary categories were represented (liberal arts, humanities, business, social and natural sciences, professional fields, education, engineering, performing arts, etc),

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and included faculty who had taught online courses for many years and those who had never taught online. Finally, the administrative sample included a broad cross-section of NSHE and institutional leaders and technologists including presidents, provosts, college deans, CIOs, and distance learning directors, among others. The names and titles of those interviewed are contained in Appendix A.

Much of this report summarizes the raw data from the campus interviews: the NSHE community's opinions about e-learning, e-learning opportunities, requirements for an e-learning platform, and other challenges. No attempt is made to draw campus comparisons, though the report does highlight campus examples to illustrate exemplary practices. Rather, the unit of analysis is the system as a whole and its major stakeholders: faculty, students, and administrators.

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### Reflections about E-learning

Faculty, students, and administrators joined in lively conversations about e-learning, sharing their experiences and concerns, which this section summarizes.

#### Faculty Perspectives

Most faculty participants taught online courses; and most conceded its established role in today's higher education institution. "People 'friend' online, work online, and socialize online. – and they should be able to go to school online," according to a faculty member. More than one faculty member described e-learning as "a given and we just need to offer it in a quality way." Others felt NSHE would be doing its students a disservice "if we don't jump onboard with e-learning, especially since we serve nontraditional students and they need the online environment for their personal needs."

#### Online Teaching Evolution

Few faculty members described themselves as jumping whole heartedly into e-learning. Most took a more gradual approach. Some described their first attempts as "a little scary" and disconcerting, but these practitioners adapted over time. One faculty member learned by doing:

*I had never seen an online course, and I had no idea what I was doing. I naively designed a course that I would want to take, ended up winning an online teaching award. Going in naively and not knowing what I was doing opened up a whole new world and creative process. I am online's biggest fan and I am still learning. The creative process online has been one of the greatest things that I have experienced."*

Most of those who were interviewed, on the other hand, floundered until they got some help with pedagogical design. **The theme that the shift from classroom and face-to-face-based teaching to e-learning is neither easy, nor intuitive, nor natural is an important one. Substantial student data regarding variability in e-learning teaching quality (and conversely faculty data about lack of student e-learning preparedness) reinforce the finding that at NSHE and everywhere, e-learning teaching and learning are skills that cannot be taken for granted.**

Most experienced instructors interviewed felt that teaching online wasn't better or worse than teaching in the classroom; it's just different. One faculty member explained, "I have taught traditional and online courses. Each does different things and gets different reactions." Whatever the mode of delivery, the goal was still the same – student learning. "From my perspective whether it is face to face, hybrid, or online - all [students] still need consistency and coherence," stated another. A couple of faculty members observed that if a student likes her instructor's in-person teaching style, she will try one of his online courses – and vice versa.

#### Courses and Programs

Participants taught courses in many different areas in the arts and sciences, business, and communications. But faculty members felt some subject areas were more or less out of bounds for the e-learning environment – e.g., engineering, advanced math and sciences, applied technologies – due to the difficulty in transmitting complex concepts, the need for hands-on experience, or accreditation

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requirements. A faculty member quipped, “It is hard to replicate the experience of handling a cadaver online.” In these cases, faculty members may turn to hybrid courses where weekend/week-long blocks of hands-on training and lab requirements supplement online lectures and web-based activities. For example, one mining program holds all instruction online except for a monthly lab day. Despite the hybrid alternatives, more than one faculty member worried that their classroom-based courses might somehow be shoehorned into a totally online environment.

A hot discussion topic was virtual labs and simulators; as for example, whether or not chemistry and biology virtual labs or labs-in-a-box can substitute effectively for the actual lab experience. Many felt not. “We truly believe there’s a value to hands-on labs. We’ve attempted [virtual labs and simulations for online science courses] and were unhappy with the results.” One computer technology faculty member uses simulators and emulators to enhance his class, “but my students who practice in class vs. those who uses the simulator perform differently in the hands-on exam. So I see the value in online but there is an element that I don’t think can or should be removed from the classroom.” A welding instructor had mixed feelings about using a simulator. “It isn’t true to real life. It has as a role for demo purposes in the classroom, but we’re never going to replace the sparks and the heat of real-life experiences.”

A few faculty members managed to work around the limitations. One Health Sciences faculty member uses virtual environments like Second Life to give students experience in settings not available in rural settings. One Geology department created a virtual lab to study rock and minerals. One professor has his students submit snapshots during a computer technology lab.

### The Teaching Experience

In the past, instructors posted reading materials and tests on course web sites and pronounced it an online course, but not anymore. As one faculty said, “Students are tired of PowerPoint presentations.” And faculty members have moved beyond “the old traditional correspondence model.” Instead, they are trying new things. “I find that I spend a lot of time and energy developing content, doing lab exercises and lectures and bringing all the pieces together” An example:

*One Law faculty member engages students through means other than webinars. She “Skypes” in guest speakers live from around the globe to converse about specific topics. She requires students to sign up for a Twitter professional account and to find and connect with five industry leaders on the first day of class to discuss and follow current events. Students have connected with assemblymen and state senators, thereby bringing alive law policy ethics. Some student meet, and eventually intern, based on some of the connections that they have made in the course.*

Faculty experiment with course design in order to connect better with their students. They’ll try “flipping” lectures (having students review recorded lectures online at home and then working problems in the classroom, rather than the other way around), group activities, and mandatory daily posting – anything to establish relationships with their students. And several who teach both online and in-class report deeper rapport with their online students. A faculty member explained, “It has an amazing

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impact. I don't get these deep personalities coming through in class as I do online." Even the shy student who never raises his hand in the class may write a several-paragraph response on a discussion board. One faculty member went so far as to say that "Socialization to e-learning is key to successful completion. We've fostered that, creating an environment in every course where students stick with us." **The issue of course completion, too, is thematically critical. NSHE data is clear that rates of e-learning course completion lag those of traditional classroom-based courses by 10 percent. In the context of a new funding model that prefers completions to enrollments for funding purposes, this imbalance will need to be addressed.**

### Time Commitment

The price for all this engagement is time. Many commented on the tremendous time commitment to design and teach an online course. "Those who don't have firsthand experience don't realize how much work is involved," stated a faculty member. "To do something that is really good and shareable is four times longer and is really intensive," explained another. A part time faculty member estimated his earnings to be the equivalent of \$4/hour because online teaching takes so long. **The inter-relationships of time and effort, teaching and learning quality, student learning outcomes, cost, and student and faculty experience in the e-learning context is a critical one for NSHE discussion.**

Faculty members told us that students access their online courses at all hours and need and expect responses to questions on the same basis. Conferring with a student during her 9:00 pm dinner break or in the middle of a weekend afternoon is not unusual, and answering emails and text messages is time-consuming at any time of day. Student needs for access to faculty feedback can translate into a long teaching day. One faculty member observed, "I receive significantly more questions online than I do in a face-to-face class, and many students want an immediate response. That's what makes it a 24-hour job." A couple of faculty members suggested clearly listing office hours and email response times on the course syllabus to set properly students' expectations. Interestingly, one faculty member reported that students now expect 24x7 access to classroom instructors who used the LMS only to post grades and quizzes.

### Support Issues

Most faculty members are not naturally adept with the computers, software, network, and the other technology tools associated with an online classroom. Experienced classroom teachers also find that the online environment demands new skills and teaching tactics. "I fired myself when I tried to teach online" recalled a faculty member. "I thought my students would chat up a storm and they didn't." The message we heard was clear: Faculty need financial support, workload relief, instructional design support, and tech support to help them with their online endeavors. And after several years of budget cuts, they questioned institutions' long-term ability to help them. One faculty member expressed his concerns by saying that "there is a lot of retrenchment, and we wonder how we can get through it. We see faculty, staff, tutorial services, testing centers, and library hours cut, and many faculty and staff want to do the best with students in this environment... the fear is this is all going to go away." **Again, the combined forces of: (1) growing student demand for e-learning course access; (2) higher rates of student**

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attrition in e-learning courses; and (3) shifting funding incentives elevate the issue of support and online services for NSHE.

### Students

Online students come from all walks of life, but faculty members felt they could spot and profile the potentially successful ones. “[Successful e-learners] tend to be driven: they need a course, paid for it and will keep engaged. They can pace themselves through the material, and are somewhat tech savvy.”

**Course completion is closely related to engagement.** A faculty member observed that “you can tell within the first few weeks who will stick with the class by how often they log into the course and respond to questions. I go out of my way to keep in touch with students by telling them what to expect as the course progresses. I use all kinds of strategies to engage students with the class.” Many faculty who had experimented with them said that tools like student self-assessments to gauge preparedness for online study, online study skills courses, and initiatives to contact students based on warning signs like failing to log into the course could substantially improve retention rates and help students be more realistic about their readiness to study online. The impressions offered by NSHE faculty members reinforce the emerging view that student success is something that can be mathematically modeled, predicted, and managed. **Learning analytics, electronic alerts when at-risk students are identified and intensified professional counseling interventions will also be important elements of the future NSHE e-learning landscape.**

### Non-online Faculty

The prospect of teaching online didn’t enamor everyone. One described his department’s mixed attitude. “Some are against online degrees and online classes, claiming they will not become the University of Phoenix. I think my colleagues would tell students to go to Phoenix, instead of here, for online education.” Another spoke of his personal dislike. “I do not teach online and I don’t believe it at all. I have no idea who is on the other end, they could be monkeys. I have students who admitted to me that for \$500, they will take classes for another student. I do not like it, but it is the reality.”

Lack of engagement or personal touch prompted concern. Some felt online education cannot truly replicate in-class debates and discussions. “Student interaction in the classroom creates a synergy that enhances the educational experience, not just knowledge but hopefully wisdom as well.” Others missed the visual cues that an in-class lecture provides. “To flourish there needs to be that in-the-flesh, face-to-face, voice-to-voice observation so I can see if the student understands. It is harder to do online or doesn’t occur online.”

Others felt students just don’t perform as well academically. “I have seen data that suggests that online’s success depends on the type of student and the nature of the course. We have had a lot more success with in-person than online. Newer students who are less familiar with college struggle more,” said one faculty member. And some believe that e-learning may hinder personal development. “A certain psychological maturity is needed for intellectual maturity, and I am not sure how that can happen online,” stated another. **One interviewee suggested a very practical and cost-effective intervention: require all first year students to complete a one-credit preparedness course on e-**

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learning, comparable to what many college and university libraries offer on “how to use a research library.”

### Thoughts on NSHE Initiative

The prospect of a system-level e-learning initiative drew mixed reactions. Some felt it was an opportunity for improvement. “I am glad that the Chancellor is looking at online education because in my opinion there are things that should be done differently. Student preparation before starting online courses should be addressed. Instructor preparation is important; I have seen some disastrous online courses over the years. It needs to be looked at. Technology support is lacking.” Others, however, expressed concerns about loss of academic freedom, faculty curricular control, and “politicizing e-learning as a way to deliver more on the cheap.” **Whether pro or con, faculty stressed the need for their involvement and buy-in in any system-level initiative.**

### Student Perspectives

The students interviewed represented the full range of the NSHE student community: full time and part time; 2-year college, 4-year college, and university; a mix of majors; graduate students and undergraduates. Most had taken online courses.

### Reasons for Taking e-learning Courses

Many students told us that their primary reason for taking an online course was straightforward – convenience. These students want and need to fit their education into a busy schedule. One student said, “I work unusual hours and I didn’t want to spend hours at night in a classroom. I dedicated my weekends to the program, but kept my evenings free with the family. It was the only way possible for me to earn my degree.” Some offered other reasons: to avoid hours-long campus commutes – especially in hazardous weather – and thus reducing gas bills; or to study around the inevitable work scheduling conflicts. For a disabled student, online education enabled her to take classes in her adapted at-home learning environment. “With an online class I can copy/paste and drop lectures into my text reader and I’m not distracted by noise,” she said. “I can review material as many times as I need to without distracting others. The Canvas LMS tools – video, closed-captioning, and recording e-mails – level the playing field.” Some students use e-learning to manage the cost of their education. Several University of Nevada – Reno students interviewed take lower-division courses at Truckee Meadows Community College for this reason. Still others use e-learning to gain access to well-known professors on other campuses. Many have taken courses outside of NSHE – one for example, at UC Berkeley – while others are taking MOOC courses on the advice of their graduate advisors as a means of meeting the prerequisite requirements for advanced University courses. The reasons that motivate students to take e-learning courses are varied and deeply held. **Students increasingly see themselves as free agents who wish to use NSHE as a platform for obtaining the courses and programs they want and need when they need them, where they can be found, and at a price the students can pay. This self-image was nearly universally held among the students interviewed by our team and needs to be taken into account as NSHE develops a system-wide vision and plan for e-learning,**

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### Instructor and Student Use of Technology and Tools

When talking about what makes online courses successful, students emphasized the need for instructors to combine teaching and subject matter expertise with technological proficiency. **“An online class’s effectiveness is based on how familiar the instructor is with the technology and if they know how to work it,”** said one student. Students described an array of course experiences that spanned a technology spectrum:

*‘Read and post’ courses, where students read material and commented in threaded discussions.*

*“Through audio, podcasts, or video blogs I was able to access the content, learn the objectives, take the quizzes online, and participate in online discussions using Wimba. For some online classes I go to Extended Studies to take proctored mid-term or final exams.”*

*“An important component of my online courses was the weekly LiveNet audio & video Q&A chats. It kept me grounded. You can ask any questions you want. I didn’t get to know the students as well as in a face-to-face situation, but there was always good discussion and a little humor. I get to know the people about as much as you can with an hour long phone call.”*

*“The online French web site interprets what the teacher is saying. Since I am not in a class room, if I don’t understand something, I don’t feel like I am weighing the class time down. You have to know the correct answer before you can move on. You use a microphone and talk to the computer. If you don’t pronounce the word right it stops you.”*

*“I have completed a lot of online math classes. It makes it a lot easier because if I don’t understand a concept, I can look at [the lecture] over and over again. In class, if the professor teaches something I don’t understand, I can’t ask him to go over it again. You are embarrassed and he doesn’t have the time. [Online] helps me to review the course material as much as I need to.”*

**Student feedback reinforces vividly their general agreement that when technologies are applied appropriately to teaching and learning – in lecture capture and playback, or in drill-test-advance situations – and used well, technology-mediation is preferred. In problem solving and discussion intensive teaching and learning contexts, most of the students interviewed prefer face to face interactions, without technology mediation. As personalized learning technologies become an increasingly available element in the e-learning environment, the need to take a strategic and holistic view of when to apply different modes of instruction will rise in importance.**

Class engagement arose frequently in the student discussions as well. Students were often critical about other students who procrastinate or remain unengaged online. “Discussion increases accountability for students,” stated a student. “The students who respond to discussion within the first 24 hours are those you can count on to help you. Those who wait ask more questions.” “Some teachers require mandatory posts, which is efficient and useful,” said another. “Some students still don’t post because they don’t have time to post, or don’t care about their grade. You get to know the active students pretty well – it depends on how the instructor sets it up.” Students who described themselves as introverted and shy

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commented on the ability to work through material at their own pace and said they felt more comfortable expressing themselves in an online environment.

**Student comments emphasized the importance of instructor's engagement as well. "An online class's effectiveness is based on how much time and energy the teacher puts into it," said a student. "Whether online or in-person, it is up to the teacher to create an environment," stated another. "In some classes, I know every student's name and a lot about them. In other classes, nobody knew each other's name the entire semester. What a loss of educational experience!"**

The students interviewed reported experiencing varying levels of instructor responsiveness in the online courses. Mirroring the observations of faculty interviewees, several students commented on their instructor's unresponsiveness to questions about assignments, exam preparation, and posting grades. One student said, "The students felt they are not getting enough feedback in their online course, causing them to go to the learning center." Another complained, "When I asked my instructor some questions, she didn't give the answers and emailing took her a while."

Conversely, others recalled positive experiences with their instructors. "I haven't had an instance where an instructor blew me off. I'm currently taking four online courses. I get speedy responses. It's personalized; they read through your post. I don't feel a disconnect with my instructors online," exclaimed a student. "I logged in late to a course and got a call from the campus asking if everything was working OK," recalled another.

Students offered suggestions to enhance engagement and communication. One recommended mandatory office hours via instant messaging, Skype, or IAV. Another called for explicit instructions on how to fulfill course requirements.

### **Student Preparedness**

Students interviewed understood that online education is unsuitable for some students. "I think it depends on what kind of learner you are. I have friends that love online classes and excel at them. I need in-person discussion."

Others felt recent high school and returning students aren't disciplined at managing their time, and may fall through cracks in an online class. One said, "In the online environment, it is up to each student to track due dates. Some are more geared to that than others. Some of my friends never had an idea; didn't keep a calendar." Indeed they identified self-discipline as a key success trait. "It takes time for everyone to build self-discipline and if you want e-learning to be routine for the future generation, there will have to be discussions and debates about how to develop a social discourse and discipline so students don't go off track," stated a student. A few proposed a student orientation to ensure potential students truly understand the requirements to judge their suitability for an online course.

The issue of technological readiness surfaced occasionally. "I have a computer background so I find it easier [to take an online class], but I know some people who have some difficulty."

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### Learning Mobility

We all know that undergraduate students have become increasingly peripatetic. One-third of all students switch institutions at least once before earning a degree, according to a report issued in February 2012 by the National Student Clearinghouse Research Center.<sup>10</sup> According to Jeff Selingo, **“because of technology, students have more choices than ever on how and where to get their education. They apply to more colleges than ever, and now seem less “brand loyal” once they get to a campus. If they’re unhappy, are struggling academically, or can’t afford tuition for their sophomore year, they’re leaving.”**<sup>11</sup>

Taking courses at multiple institutions is common among today’s students and is made easier by the availability of online courses and programs. Even students that we interviewed who are dedicated to a particular home institution told us that they looked to other institutions to help them assemble more convenient schedules or to provide needed courses that are full or unavailable at their home campus. “Students may go to physical classes on their campus, but they supplement their education with online courses elsewhere,” said one student. “We might have one class in a subject [at my campus], but there are 12 classes available at another institution. It is a great opportunity for me. I wanted to take a class this semester and it wasn’t offered right now, I can take it at another college; get the credit and have it applied.” **Our interviews strongly suggest that students would welcome the lowering of barriers to online study at other NSHE institutions.**

Students among our interviewees are also looking beyond NSHE borders, taking courses at non-NSHE institutions, and even dipping their toes into free massive open online courses (MOOCs). Student body presidents interviewed reported:

*“I’ve taken classes through the London School of Economics, UC Berkeley (UCB), and Johns Hopkins. I did not receive or transfer academic credits. The UCB course allowed me to get a waiver of prerequisites. I am currently taking a Coursera (MOOC) course, which is beyond the capacity of anyone at my institution to teach. Quality and consistency have been variable based upon experience of instructor teaching in that manner. Some got better as they gained experience in teaching that way. I would say that the first two courses I took that weren’t Coursera - I paid a lot of money for them and I would have felt bad if I didn’t finish them. The third one was a Coursera course, suggested to me by my advisor. That makes me more accountable knowing that he will ask me about it.”*

*“I took a free course at the University of Bristol. A quiz tested my knowledge of statistics, which generated a customized syllabus for you. It has been great. The questions see how familiar you are and then based on your answer, it tells me what areas to focus on, and points me to the available material for study.”* This is a form of what educational technologists call “adaptive” or “personalized” learning. *“Dreamwise, I would take a class online from an expert in my field who is located in Japan or from Niels*

<sup>10</sup> National Student Clearinghouse Research Center, “Transfer and Mobility: A National View of Pre-Degree Student Movement in Postsecondary Institutions.” (Bloomington: Indiana University), February 2012.

<sup>11</sup> Jeff Selingo, “The Student Swirl,” in Next: Jeff Selingo’s Insights on Rethinking Higher Education, Chronicle of Higher Education, at <http://chronicle.com/blogs/next/2012/03/08/the-student-swirl/>

## E-Learning at NSHE: Preliminary Snapshot

*Bohr in Europe. TED online has good speakers that not only offer good information, but change how I see the world. The class doesn't have to be in Nevada or US; if the killer class is in Peru, I want it."*

**When students cross learning frontiers online, they want their course credits or completion certifications to count towards their degrees.** One student complained that "articulation is a huge issue! Not even out of state, but in-state transfer of credits from CSN to UNLV. Being able to transfer credits is difficult for some students." "We want to be able to [take] offer[ings] across institutions, across the globe," said another. "It should count. We [need to] have curriculum review."

One student body president was so frustrated with the impediments to cross registration and credit transfer within NSHE reported giving up, in favor of enrolling in courses outside of NSHE.

### Non-Online Students

NSHE students interviewed made it clear that they thought e-learning is not suitable for all academic endeavors or for all students. "I don't believe you can do certain degrees online. There are some classes that need to be in person, like biology. I would take a hybrid course in biology." Another believed, "I think some students need the in-class experience, so you can't eliminate in-class opportunities." Others felt traditional classroom-based courses offer more access and interaction with professors and classmates. A student recalled, "I have taken online courses. I was a straight A student and I received my first B's. I found that I really needed the in classroom experience. I like the interaction with my peers. The professor and I develop relationships. It is more like a community."

## Administrator Perspectives

NSHE institution administrators recognize that the futures of e-learning and NSHE are intertwined, but the question on presidents, provosts, and other administrators' minds is how to incorporate e-learning most effectively. Most of the senior administrators interviewed value e-learning, but share the desire to situate e-learning strategy in the broader context of course or program mission and learning objectives. Most see e-learning as one leg of education delivery's stool:

*"What we have never done is really look at specific learning objectives and that's the basis for addressing the delivery question. I would like to see some type of strategy with more of a mission focus and then incorporate those technologies."*

*"Make sure online is not seen as panacea. It is a valuable tool and approach, but look at it with a critical eye and make sure we are getting out of it what we think. What does online education mean?"*

*"I think the future of higher education is about choice. We can give a choice of online but not the exclusive way of delivery. To be competitive we have to look at being flexible."*

### Capacity Management

Most administrators interviewed recognize the popularity of online courses. At community colleges and universities alike, they voiced sentiments like: "Put up an online course and it is not filled?--that's nonsensical." **"We do not have under-enrolled online courses. They fill up very quickly; generally**

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**faster than face-to-face classes. The students are voting and they want those online classes.”** And for some, online courses supplement limited physical classroom capacity. “Without online courses, we would not be able to meet the student demand because we don’t have enough physical campus space. We are spread out – in strip malls, conference centers, high schools – wherever we can get space.” Administrators acknowledged online courses’ capacity to fit into non-traditional students’ busy schedules, though **one stated that the majority of his institution’s online students were “their own students sitting in the dorms.”**

Online courses have become integral components of many departments’ offerings. In addition, administrators may use online courses to alleviate bottlenecks when subject matter allows, and as an expedient way to add more sections to popular courses. One administrator explained, “During registration I track my enrollment daily, I see which classes fill the fastest to tell me where the demand is. If needed, I locate a new part time instructor and I give them 2-3 classes.” However, a few department chairs feel they have reached full capacity for popular courses, even with online offerings, because they can’t find enough teachers. “We don’t have the capacity. We are completely maxed out. There is no way for me to inload this. I am filling every class I can and I am doing online as an overload.”

**Capacity management has significant quality implications.** While NSHE college and university administrators interviewed generally agreed that they had the technical capacity to accommodate enrollment demand through e-learning offerings, **the obstacle was in the availability of qualified adjunct faculty. Many conceded that adjuncts added in real time often suffered from either or both poor knowledge of the course, or poor knowledge of online instruction.** Students, of course, pay the price for the shortcomings of adjunct faculty sourced “on the fly.” That said, the existence of course bottlenecks, especially in so-called gateway courses was represented as a primary cause of student attrition and failure to graduate. Addressing the supply of ready-to-roll adjunct faculty is a likely priority for NSHE in the e-learning context.

### Academic Quality, Student Success, and Faculty Issues

NSHE administrators naturally looked beyond e-learning’s convenience to its academic implications, or as one administrator wondered: “Are we giving the online student the same type of learning experience as the in-class student? Or are they getting a 2<sup>nd</sup> rate experience?” Another stated, “We want to think about our e-learning and integrate that into the undergraduate education in terms of quality, not quantity; outcome, not enrollment.” Course quality concerns arose. “I understand some faculty members do great things [online], but also there are some appalling things.” Concerns were especially evident where there was heavy reliance on part-time instructors whose opportunities and incentives for mastering the online environment did not match those of full-time faculty, and where sections were hastily added to meet high student demand. Some administrators interviewed also wanted the reliable assessment of prescribed student learning outcomes in online classes. These concerns were not universally held. In fact, administrators interviewed at both Great Basin College and Nevada State College took evident pride in their comparatively high completion rates in e-learning courses. **Again, de-constructing and assessing the root causes of student e-learning success or failure and from this, deriving interventions must remain a critical priority for NSHE.**

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Interviewees also recognized the faculty's concerns about e-learning's impact on traditional higher education. As one administrator explained,

*"If nothing else comes of this, I hope the faculty will realize that there is a new way. There is still a purpose for faculty, but it has just changed and modified due to disruptive technology... E-pedagogies are different, and that is frightening. It is a new way of doing things. You will not be out of job. There is a fear of MOOC's, a fear of many things."*

**And with academic change comes the need to address faculty-related implications – incentives and disincentives; workload issues and course load – as well as to elicit faculty's excitement, engagement, and buy-in.**

### Student Issues

While acknowledging the popularity of online courses, administrators warned that some students' enthusiasm for online study may arise from the misperception that it is easier, or from overestimating their own preparedness. Some thought that first-year students were particularly at risk. "We're trying to achieve a balance between what students want vs. what their capabilities are. Younger students like online but they're not necessarily capable of succeeding online," stated an administrator.

Another issue is mobility. Some administrators were philosophical about it: "Everything in our world affects education. Shopping is so much an identity these days that it is unsurprising that students shop for the best scholars in their fields," said one. "If a student is sitting on campus taking one online class, they are likely taking classes from elsewhere too. You may not know it," said another. Some administrators minimized its impact on NSHE institutions, but others disagreed, pointing to "free agent" students who jump between NSHE institutions to find the course that fits with their schedule to fulfill requirements. One senior administrator explained, "In the Las Vegas and Reno areas, there is a combination of social geography, institutions' locations, framework, and the policies that makes everyone basically co-enrolled. For example in southern Nevada, you now have five different sites at three different types of institutions." "UNR and UNLV students will take courses at TMCC or CSN because it is cheaper."

One administrator called it a buyer's market: "Our students realize they have choices and they are well-versed in distance education. When I get complaints from students about our online course, they refer to their experiences at Kaplan and Capella: their courses have structure and the instructor answers the student within a certain period." Another has already felt the competitive pressures. "A few years ago we discovered some of our early childhood education students were taking online courses from another institution, and we realized we needed to offer them."

### NSHE Initiative

Administrators expressed mixed opinions about any NSHE-driven online initiative. Some questioned the initiative's purpose altogether. "Can't we already take [another NSHE institution's] online courses and transfer in to ours?" Some questioned the need. "We don't see our system as broken. We have a nice integration with our schools and our departments at our institution. We are not cannibalizing our in-seat

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courses with online because some students do not have access. We are proud of our online offerings and how we manage it.” One university administrator felt the online initiative contradicted their residentially-oriented institutional mission, and wondered how to resolve the disparate credit hour cost structures between the community colleges and universities.

After several years of budget cuts, questions arose about funding and resources. “We should embrace e-learning, but we must guard against unfunded mandates. If I have one concern about e-learning it is that NSHE might not have the political will it needs to move it forward system-wide.” Others equated any system initiative to outsourcing. “I get the feeling the private companies are into Stepford teaching: no instructor originality or personalization. I think if NSHE wants to have that kind of system then it should turn it over to private companies. If they want people who value academic integrity and interest, they shouldn’t.” Others worried about the loss of local institutional control and academic freedom. “To a certain extent the lowest common denominator is the best, which means [online] should be supported at the departmental level at the individual institutions. Inherently almost any course can be done beautifully online if you have unlimited resources and huge amounts of technology on the delivery and student end. We have neither. It boils down to individual departments looking at how best to police their courses and keep the quality up.”

Some believed a system-level initiative could serve the student better. “Our concern is helping students learning, whatever is available to them and how we make students effective learners in that environment. Learning is more important than anything else. I don’t care what the system is I just want to make sure it’s well structured.” Others wanted more details. “It depends on very much what the system would like us to do and what resources would be available for us to pursue. Do we add to the existing faculty load or bring in new people. What is available for more money for existing faculty?”

## E-Learning at NSHE: Preliminary Snapshot

### E-learning Opportunities

Conversations with the NSHE community underscored the prevalence of e-learning in its 2-year and 4-year institutions. Administrators, faculty, and students identified e-learning's current and potential role in raising Nevada's degree completion rate, supporting economic redevelopment efforts, or broadening its education market.

### Degree Completion

Administrators and faculty told us about several programs where e-learning helps to channel students down their educational path, funneling high school and GED graduates directly to NSHE institutions, as well as helping students transition from NSHE community colleges to four-year institutions.

### High School Connections

In 2010, fewer than 40% of Nevada's recent high school graduates enrolled in an NSHE institution, and only a little over half enrolled in any college or university at all.<sup>12</sup> This compares with 66% nationally.<sup>13</sup> NSHE institutions are working with high schools around the state to improve both participation rates – for example, through dual enrollment programs that get high school students started on a college pathway early by earning college credit while in high school. E-learning permits NSHE to deliver a wider range of dual enrollment courses, and to reach more student populations, than would otherwise be possible.

One administrator told us about his institution's collaboration with the Clark County High School District, where 70% of Nevada's high school population resides.<sup>14</sup> The district's Virtual High School students can take individual classes or their entire program online, and the district wants to expand its online presence, moving 100,000 students – about one-third of the total – into blended and online classes by 2015.<sup>15</sup> In addition, the district has expressed interest in adopting the Canvas LMS, the same one adopted by NSHE community colleges. If adopted, it could create a seamless academic technical pathway from Clark County High Schools to NSHE Canvas institutions, allowing better coordination of high school curriculum and programs and better preparation of high school students. NSHE and the school district could co-develop Virtual High School curriculum paths and similarly looking course templates, and use Canvas's analytics to identify student problem areas early, directing seniors' final push to prepare for college and hopefully avoiding the need for remediation.

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<sup>12</sup> NSHE Office of Academic and Student Affairs, "Nevada Continuation Rate," Nevada System of Higher Education, July 14, 2011, <http://system.nevada.edu/Nshe/index.cfm/linkservid/E8127772-BDB6-362E-62B36B74C4937428/showMeta/0/>.

<sup>13</sup> Participation rate as defined by enrollment in college as of October of each year for individuals ages 16 to 24 who completed high school during the preceding 12 months. See National Center for Education Statistics at [http://nces.ed.gov/programs/digest/d07/tables/dt07\\_191.asp](http://nces.ed.gov/programs/digest/d07/tables/dt07_191.asp)

<sup>14</sup> Nevada Annual Report of Accountability, "Clark County School District Demographic Profile, 2011-2012," <http://www.nevadareportcard.com/>.

<sup>15</sup> Jones, Dwight, "A Look Ahead Phase II: Progress Made and the Next Mile," Clark County School District, September 27, 2012, P.29

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Another opportunity cited was intense summer boot camps aimed at reducing the need for remedial math or English courses in college. Online programs offer one curricular option. UNLV's Expect Success Summer Bridge Program, a pilot program to help students place out of remedial math through tutoring, used Knewton Math Readiness, an online course that helps students get up to speed on college-level math. One administrator observed, "It flips the notion of remediation. Instead of patching holes in a road you've already been down, you are starting to pave the road on which you are headed."

### GED Programs

GED programs represent a third path to postsecondary study. CSN's self-supported GED program takes a multi-faceted approach, including Work Keys assessments and online study segments to prepare the student for college. One administrator said, "We try to be a complementary process to the college. We identify skills gaps, and remediate them so the students are confident and prepped to take a college-level class. We want to ensure that the GED grad does not have to go into remedial classes."

### 2 Year – 4 Year Connections

E-learning can also help guide students not just to, but through NSHE institutions. For example, administrators and faculty members suggested expanding online courses to help smooth the transitional seams in 2+2 or 3+1 models where students take their lower division classes at a community college and then finish their upper division studies at a four-year institution.

Simply making more courses available is not, however, a solution in itself. A key point emerging from our conversations is that curricular planning and improved advising are necessary to keep students from plugging scheduling holes with e-learning (and other) courses that don't actually advance their course of study. NSHE's reverse transfer program, which helps students blend discrete credit hours into an associate degree, makes one natural complement to a full, well-coordinated portfolio of online study options.<sup>16 17</sup> A four-year school administrator suggested that NSHE could "create a path from the community college to the four-year institutions that combine e-learning and reverse transfers. We know the students come to the community college; we know they need the second year biology course; we know they don't take it. One of the things we could do well with e-learning is when we get the students to think of themselves as 4-year degree students, and review all the courses they may need, particularly the intermediate-level course."

<sup>16</sup> "Students who transfer from NSHE's community colleges to a NSHE four-year institution before completing an associate degree have the option of reverse transferring or applying credits earned at the state college or university toward an associate degree at their former community college." See "Regents Encourage Students to Utilize Reverse Transfer," NSHE Press Release, Sept 9, 2011,

<http://archive.constantcontact.com/fs030/1100950573924/archive/1107547703188.html>.

<sup>17</sup> On a periodic basis the System Office or four-year institution will provide to the community colleges a list of students previously enrolled who earned at least 15 credits at the respective community college and have recently transferred to a university or state college and accumulated at least 60 college-level credits who may be eligible for an associate degree in order to facilitate conversations between the institutions on reverse transfer." Board of Regents, "Meeting Minutes," NSHE, Sept. 9, 2011 <http://system.nevada.edu/Nshe/index.cfm/administration/board-of-regents/meeting-minutes/09092011/?keywords=reverse%20transfer&tag=&searchSectionID=>

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### Statewide General Education Curriculum

NSHE's general education requirements include 3-6 credits of English, 3 credits of mathematics, 6 credits of natural science, 9 credits of social sciences and humanities/fine arts.<sup>18</sup> NSHE institutions are encouraged to exchange ideas in the development and improvement of specific courses to meet NSHE requirements, particularly to increase the likelihood of transfer student success; however, each institution is responsible for determining the character of its own program.<sup>19</sup> Building upon this sentiment, **one senior administrator suggested the NSHE institutions co-sanction a statewide general education curriculum to facilitate transfer and articulation of students' general education credits. He broadened his vision with the suggestion that institutions work together on block scheduling or accelerated programs to expedite degree completion. "We could create a 60 credit general education AA transfer degree, consisting of 40 general education credits plus 20 credit hours of electives to help move students from a two-year to a four-year institution."**

### Bottlenecks

Online courses can help alleviate some course schedule bottlenecks. As courses fill up, department chairs or deans can add online sections as needed, especially if master courses exist which part time faculty can customize. Extended education can also help with higher-enrollment (35-40 student) courses employing a lead instructor-plus-assistants model where the assistants manage the discussion boards. "There is tremendous demand, and under supply for bottleneck courses," stated one administrator. "If every campus did that, we could really attack the problem. The faculty member and adjunct earn more. Usually the department chair signals her interest in the program; uninterested departments go elsewhere. The class can be offered after department offerings fill up to avoid cannibalization. It is a mode of online delivery that we can do within current university pricing scheme plus a \$34 distance education fee. Members of the faculty like it; only voluntary students enroll; and completion rates are as good or better."

Some sciences bottlenecks are more problematic because of lab requirements. Some introductory science courses, like biology, do lend themselves to virtual labs. Some faculty members are more open to virtual biology labs, especially for introductory level courses. Chemistry labs cause more trepidation. "I'm a TA for a lower level biology course this semester. Our class labs consisted mainly of slide identifications, and I don't see why you can't do that online. But mixing dangerous chemicals in a chemistry lab is another issue."

### Low Enrollment Programs

Adequate resourcing for low enrollment programs can be problematic, especially when larger programs are oversubscribed. Administrators and faculty floated the notion of co-offering a course, with institutions collecting enough students to fill a class. But economic aspects often entered the

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<sup>18</sup> Board of Regents Handbook, Nevada System of Higher Education Planning, Program Review, Articulation, and Enrollment Policies, P.19 [http://system.nevada.edu/tasks/sites/Nshe/assets/File/BoardOfRegents/Handbook/T4-CH14\\_-\\_NSHE\\_Planning\\_Program\\_Review\\_Articulation\\_and\\_Enrollment.pdf](http://system.nevada.edu/tasks/sites/Nshe/assets/File/BoardOfRegents/Handbook/T4-CH14_-_NSHE_Planning_Program_Review_Articulation_and_Enrollment.pdf)

<sup>19</sup> Ibid, 19.

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conversation, too: Who gets the credit? Where does money flow? Participants must work out the answers.

### Economic Redevelopment

Nevada felt the recent U.S. economic downturn hard, and the state is only beginning to recover. However, the gaming industry remains in the doldrums; 2011's \$10.7 billion gross gaming revenues still lag below 2006 highs of \$12.8 billion<sup>20</sup>. The state of Nevada realizes that it has to diversify its economic base, and in November 2011 the Brookings Institution released a state economic blueprint, outlining seven areas that hold out plausible potential for economic growth and diversification for the State of Nevada.<sup>21</sup>

- Tourism, Gaming, and Entertainment
- Health and Medical Services
- Business IT Ecosystems
- Clean Energy
- Mining, Materials, and Manufacturing
- Logistics and Operations
- Aerospace and Defense

NSHE's opportunity lies in developing an appropriately trained workforce to fill those jobs. This may require some realignment of academic programs. "We produce a lot of grads in areas that are not what's needed. What we teach is the problem," stated one administrator. "Instead of doubling degrees, [we should] consider the broader goal of doubling the qualified workforce. I think it is important for Nevada to consider making all levels of postsecondary education, especially non-credit CEUs (continuing education units), more attractive to potential employers."

To direct such efforts, NSHE received a grant from the National Governors Association to execute key actions related to postsecondary implementation of the Common Core State Standards<sup>22</sup> to identify necessary policy actions; to develop a communications and engagement plan; to engage multiple stakeholders; and to foster alignment and collaboration across education systems.<sup>23</sup> TMCC's FastTrack Online Degree Program exhibits these attributes. It develops industry and business partners that align with the program's Law Enforcement and Business degrees. They work together to create a supportive student academic environment. The college works with HR departments, proctors exams onsite,

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<sup>20</sup> Ibid, <http://cber.unlv.edu/NVEconData.html>

<sup>21</sup> Metropolitan Policy Program, "Unify, Regionalize, Diversify: An Economic Development Agenda for Nevada," The Brookings Institute, November 14, 2011, <http://www.brookings.edu/research/papers/2011/11/14-nevada-economy>

<sup>22</sup> Common Core State Standards provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them develop the students' knowledge and skills for success in college and careers. Nevada adopted the standards on July 18, 2010. See <http://www.corestandards.org/in-the-states>

<sup>23</sup> National Governor's Association, "States to Focus on the Implementation of the Common Core State Standards," press release, August 6, 2012, [http://www.nga.org/cms/home/news-room/news-releases/page\\_2012/col2-content/states-to-focus-on-the-implement.html](http://www.nga.org/cms/home/news-room/news-releases/page_2012/col2-content/states-to-focus-on-the-implement.html).

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provides onsite access to student services as well as classes during work breaks. According to a TMCC administrator, “The strategy of working out into business market will lead to scholarships and tuition reimbursement. It is a model that will work for us locally, regionally, and statewide. TMCC is mainstreaming the program, marketing the program to potential and former students. We complete honor transfers as much as possible to give them a leg up.” Fast Track Program graduates transfer to NSC to complete their four-year degree online.

Other opportunities include:

### **Expansion of Certificates and Credential Based Programs**

In 2010, NSHE institutions offered 15 online certification programs, in education administration, computing technology, and hotel, restaurant, and casino management.<sup>24</sup> Economic redevelopment opens the doors for programs in other state targeted areas like health and medical sciences and mining. “Employers are looking for credentials for the marketplace,” stated one senior administrator. “Community Colleges have huge responsibility in developing workforce and credential people in competencies, so workforce certificates are very important. The simple way to get a handle on the value and meaning of those kinds of certificates is to offer only those recognized by industry, professional organization, or a certain number of credit hours.” A sample program is Virginia’s College and Career Readiness Initiative.<sup>25</sup>

### **Degree Programs**

In 2010, NSHE institutions offered 57 online programs, with plans to add 18 more by 2012 in such areas as PhD in nursing education; master’s degrees in hospitality administration and justice management; bachelor’s degrees in social sciences, criminal justice, and education.<sup>26</sup> These programs as well as EMBA and mining programs support state redevelopment areas, too.

### **Corporate and Continuing Education.**

Areas like CSN’s Division of Workforce and Economic Development offer non-credit workforce and industry training programs in area like healthcare, occupational health and safety, and business services. The Division works with the appropriate academic department leadership to solicit program design feedback as well as to identify content experts and interested faculty to work on the program. For example, the faculty from CSN’s School of Health Sciences will help build and vet curriculum. A faculty member works on the Division’s OSHA program, which uses a lot of adjuncts for industry training.

Third party content options abound, too. According to one administrator, economic improvements combined with government stimulus money have fueled interest in workforce-related programs, prompting publishers like Pearson to create a workforce division that offers e-learning. ed2go is another continuing education content provider.

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<sup>24</sup> NSHE Distance Education Directors, “NSHE 2009-2010 Distance Education Report”, NSHE, September 2010, p.14, [system.nevada.edu/tasks/sites/Nshe/assets/File/Academics/reports/2009-2010-DE-Report.pdf](http://system.nevada.edu/tasks/sites/Nshe/assets/File/Academics/reports/2009-2010-DE-Report.pdf).

<sup>25</sup> See [http://www.doe.virginia.gov/instruction/college\\_career\\_readiness/#ccri](http://www.doe.virginia.gov/instruction/college_career_readiness/#ccri).

<sup>26</sup> Ibid, NSHE Distance Education Directors, p.14, [system.nevada.edu/tasks/sites/Nshe/assets/File/Academics/reports/2009-2010-DE-Report.pdf](http://system.nevada.edu/tasks/sites/Nshe/assets/File/Academics/reports/2009-2010-DE-Report.pdf).

## E-Learning at NSHE: Preliminary Snapshot

### **Broadening Online Education Markets**

Online education is not tethered to a physical classroom; technology offers ways to connect teachers and students in new learning situations.

#### **Out-of-State**

The state's future funding formula is likely to allow NSHE institutions to retain out-of-state tuition. This creates the ideal conditions for entrepreneurial initiative. Administrators and faculty suggested several ways to capitalize on this opportunity: Market established specialized programs out-of-state like GBC's land surveying/geomatics, instrumentation, and electrical engineering programs and EMBA programs; expand niche professional degrees with broad geographic appeal, as for example a masters in strategic communication or inter-professional health care education; recruitment of students from neighboring states, especially from California institutions, which are turning away students; create online courses and programs taught by world-renown faculty, as for example scientists at DRI's globally respected hydrologic sciences and atmospheric sciences programs. Of course, public, private, and proprietary universities and colleges are all looking to the expeditionary marketing of their online course offerings and thus quality, cost, and differentiation will likely determine the winners and losers in an increasingly intense competitive climate. As funding increasingly shifts to reward completion rates, this too will exert press on NSHE e-learning exporters to focus quality management of online offerings.

#### **Summer Sessions**

Online summer school programs are typically self-supporting and can be very lucrative. Programs can be priced by the degree or the credit hour, and revenues can be split between the department, the extended learning office, and even the faculty, who teach courses on overload. Some identified an opportunity with California Community Colleges, which have severely curtailed summer courses due to state budget woes.

#### **Military**

Many faculty members identified active military personnel as online students. They enrolled while stationed at Nevada's three military bases and continue their studies when transferred elsewhere.

## E-Learning at NSHE: Preliminary Snapshot

### NSHE E-learning Platform

This section explores the concept of a NSHE e-learning platform, and then walks through its components and underlying infrastructures (Access Point, Courses, Students Services, Policies, and Technology), presenting the practices and issues discussed during the campus visits.

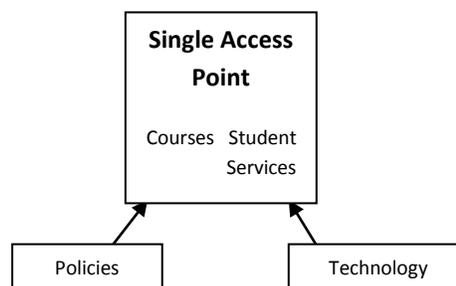
The campus visits revealed that institutions understand the nuts and bolts of their individual e-learning programs, potentially teaching hundreds of online courses each semester, and assisting even more students. From a broader viewpoint, two points are apparent.

The first is that many individual pieces in place could fit together to form a NSHE e-learning platform that students could access from a single access point/portal to peruse an integrated system-wide catalog of online course offerings (see Figure 1 and Table 1). The existing elements that could contribute to an integrated platform include:

- NSHE’s student information system (SIS), which provides a system-level information and process baseline.
- The Canvas LMS, which has been or will soon be adopted by five NSHE institutions. Canvas will provide a similar course look-and-feel for all the students at these institutions. While UNLV and UNR do not share this platform, we believe that a reasonable ongoing investment in reducing the more jarring disparities in these platforms is acceptable and desirable.
- The Quality Matters standard online course assessment rubric, which nearly all NSHE institutions participate in.

The e-learning platform could link to the student’s home institution’s student services, some of which are jointly licensed already. Underlying policy and technology infrastructures ensure a seamless learning experience.

**Figure 1: NSHE E-learning Platform Schematic**



**Table 1: List of Common E-learning Platform Elements (Identified during Campus Interviews)**

## E-Learning at NSHE: Preliminary Snapshot

Common E-learning Platform Elements	Adoption
<b>Technology</b>	
Infrastructure Canvas LMS/Blackboard Learn LMS	Multi-institutional
Student Information System	System
Integrated Course Catalog [Suspended]	System
<b>Student Services</b>	
Transfer Evaluation System	Multi-institutional
Common Admissions Application	Multi-institutional
Smarthinking	Multi-institutional
<b>Content Development and Evaluation</b>	
Quality Matters Course Quality Assessment	Multi-institutional

The second point is the level of collaboration that exists among the institutions. Of particular note is the Distance Learning Directors Group, which coalesced with the multi-institution purchase of the Canvas LMS. One DE administrator observed, “It is important to note how much the distance education directors, at the community college level especially, communicate, talk, and share resources.” The group members share resources, produce the Online Distance Education report, and represent e-learning in NSHE-level affairs. Together, they spearheaded the acquisition and now assist each other with the Canvas/PeopleSoft system integration. They organized the Quality Matters Program and started a consortium so NSHE members can coordinate course peer reviews and resource sharing. The campus visits revealed other collaborative groups that meet regularly to discuss common issues. These included:

- Distance education directors
- IT leaders
- Student information system (SIS) subject matter groups
- Student affairs VPs and chief student affairs officers group
- SIS area groups

An NSHE e-learning portal could support student’s cross-institutional activities, especially those within NSHE. Over time, the ‘connective fabric’ also could be broadened to include other regional and national institutions, such as WICHE. The pieces are there, but “it depends on how we build our courses and how flexible we are with our students. We want students to swirl and dance with the right partners, maybe not the University of Phoenix, but perhaps with Stanford. Ideally we would have good offers and students could come and dance with us,” stated an administrator.

One administrator summed up the situation: “The students are trying to swirl and we make it hard.” Today, a student has a NSHE number that is valid across the entire system, which should enable students to cherry pick courses and transfer credits across the system in accordance to their needs. But

## E-Learning at NSHE: Preliminary Snapshot

students, faculty, and administrators tell a different story involving application, matriculation, articulation, and credit transfer woes. There is a need to consolidate strengths and resources, because as things stand, NSHE under-leverages its cross-campus e-learning activities.

Today's inconvenience will become tomorrow's detriment. Systems have to move toward a unified platform to accommodate students' increasing swirling inclinations. More and more students will expect institutions to accept outside credits. NSHE has the advantage that it already has many of the pieces from which to build its e-learning platform.

### Access Point

The e-learning platform could have a central access point that ties all the student's online resources together. It could be a clearinghouse for all NSHE institutions' online courses, which the student accesses via an integrated online course catalog, and provide a centralized access point to student services.

This is how some administrators viewed the proposed Nevada Virtual College, "[a place] to coordinate services better and provide a centralized approach to ensure students' needs are met, following similar models like Penn State World Campus<sup>27</sup> and Colorado State University's Global Campus,"<sup>28</sup> as one administrator put it. "Students would maintain a home institution and look at a catalog to see if courses at other institutions meet their scheduling needs or have the opportunity to take a course of particular interest." Another administrator said, "I like the idea of a more lightweight solution that was a more one stop shop that made courses easily available to any matriculated student at any of the institutions. If student can't get into a section at his own institution, why not take it online at UNLV or GBC? That would be possible if we all knew what others were doing."

Some saw the e-learning platform as a way to consolidate rural students and to teach them in a cost effective way. "If it is truly online and doesn't have to be surrounded by a huge population, it might be a good opportunity for rural serving institutions to transform themselves since they will lose significant state funding under the pending funding formula."

Some suggested designating a lead institution, perhaps CSN, which may have the leadership, resources, and experience to lead such an effort.

SCS did host a web site that contained an integrated online catalog of online courses, but took it down with the new PeopleSoft SIS implementation.

### Content Creation

Conversations about content covered several different areas: the Quality Matters program, distance education's role, and content issues.

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<sup>27</sup> See <http://www.worldcampus.psu.edu/>

<sup>28</sup> See <http://csuglobal.edu/>

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### Quality Matters

The Fund for the Improvement of Postsecondary Education (FIPSE) sponsored Maryland Online's creation of the Quality Matters<sup>29</sup> online course evaluation rubric. It uses a set of eight general standards and 41 specific standards to evaluate the online and blended course design. The eight general standards include: Course Overview and Introduction; Learning Objectives (Competencies); Assessment and Measurement; Instructional Materials; Learner Interaction and Engagement; Course Technology; Learner Support; and Accessibility. Unique to the Quality Matters Rubric is the concept of alignment. This occurs when critical course components work together to ensure students achieve desired learning outcomes.<sup>30</sup> Institutions pay an annual membership fee to use the Quality Matters rubric. Three certified peer reviewers, including a Master Reviewer, evaluate a course. One reviewer must be a subject matter expert, and at least one reviewer must be external to the institution creating the course.

Seven NSHE institutions adopted Quality Matters to enhance online course quality. At the time of the campus visits, several faculty members across NSHE received their Peer Reviewer or Master Reviewer training. Member institutions had just formed a NSHE consortium to share expenses and to coordinate peer reviews among the campuses.

Faculty member and administrator alike enthused about the program because it provides process and standards to course evaluation, and it is transparent across institutions. In addition, the Quality Matters implementation dovetails with institutions' Canvas migrations. One administrator explained, "We can decide which courses to migrate over to Canvas, and then how to redesign them to meet Quality Matters certification."

Not only do NSHE institutions use it to evaluate courses, WNC folded elements into its faculty online policy. It's a component of TMCC's 2-year program to narrow its e-learning retention gap.

### Distance Education Organization

Course creation is not a solo endeavor for most faculty members; they need assistance with the selection, design, and integration of their course's pedagogical and technology elements. Frequently they turn to their institution's distance education<sup>31</sup> department for assistance. Most distance education departments are beehives of activity; relatively small and are involved in a plethora of activities: instructional course design, training courses and workshops, technical support and on-the-fly assistance. Some manage the institution's LMS, too. As noted earlier, the NSHE distance education directors are an active group, working together on the Canvas LMS and the Quality Matters initiatives.

Faculty and administrators concede that the groups are essential to NSHE's e-learning programs, but budget cuts have hit their areas – some harder than others – during a time when online education has grown by leaps and bounds. Distance education fees make up some of the difference, and DE departments may manage self-supported e-learning programs, too. Still, most institutions eliminated

<sup>29</sup> For more information, see, <http://www.qmprogram.org/>

<sup>30</sup> Quality Matters, "Higher Education Program: Program Rubric," MarylandOnline, <http://www.qmprogram.org/rubric>

<sup>31</sup> Also known as online education or e-learning department

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their Teaching and Learning Centers during the budget cuts, straining Distance Education organizations further. Requests abounded for more resources – space, personnel, and more/updated technology – during the interviews. As one administrator said, “My worry is finding long term funding for these types of services.” In spite of the suboptimal circumstances, the interviews highlighted faculty members’ enthusiastic support for distance education departments, citing the staff’s knowledge, responsiveness, and enthusiasm.

### **Institutionally Developed Content**

At many institutions, online course development has been something of a patchwork. An instructor might decide to create an online course on his own. Some departments built an online course here or there as needed, while others have converted/created courses and programs systematically. Courses could be a faculty member bootstrapping their lectures into an online format, another’s display of technological wizardry, “a ‘shake and bake’ when a newly hired adjunct builds ‘some stuff’ in a couple of weeks before the semester”, or professionally developed. Needless to say, course quality and learning outcome discrepancies emerged over time.

So departments stepped in. One uses WordPress<sup>32</sup> for faculty to build their course web sites. Other departments build common course shells, which individual faculty members then customized. Now some institutions are building upon this concept, creating supercourse and master courses where academic and distance education departments work together to develop courses based upon collaboratively determined learning outcomes. A process summarization:

*A master course is a departmentally developed course. The department starts with the most rigorous and well defined course, and then modifies it based on modality. One version might be face to face, blended, or online. The curriculum and course design are done collaboratively and consensually. Faculty are the experts; the distance education staff are not taking away faculty control, but can help them with those balancing issues. The department uses distance education’s resources to build the course: programmers, film, artists with MFA, instructional designer - all these different interrelated disciplines. The result is a core course that can be taught by different people, including part time faculty and even graduate students. People can put their own imprint on the course but still keep that core of information that fits with the objectives of the department. Extra resources are invested up front to ensure its quality. The online course is consistent with department goals and objectives. Thus, every student who takes history 101 online, does so from a course developed by a team of faculty. The courses are refreshed to keep them current, according to department requirements – adding new material, tools, and activities.*

The program is nascent; the percentage of master courses vs. traditional individual faculty-developed courses is about 10%. But such a model could be replicated, especially for prerequisite courses. A team [multi-institutional or not] could develop master courses for adoption across NSHE. The collaborative methodology addresses the issues of common course content and learning outcomes that can hinder articulation and credit transfer among NSHE institutions.

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<sup>32</sup> See <http://wordpress.org/>

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### Third-Party Content

Some faculty members seemed open to incorporating third-party content in their online courses. “I don’t think we should isolate ourselves from third party content, but it has to be vetted and there must be a mechanism to support the student.” But the prevailing opinion was negative. Some decried the poor quality, describing instances – especially in Math – where the test answers were incorrect. A faculty member explained, “A publisher offered material and I uploaded it once. I ended up fixing it, undoing it, and making it look like it should be. It was simpler to redesign it myself.” Others dislike the concept in general, citing its impact on faculty’s academic freedom to tailor and modify content as needed. “It is about academic freedom to structure, modify, and reuse components, even for a traditional class. We’re concerned that it takes away from the academic side and we’re being pushed into a business model that is not appropriate for higher education,” said a faculty member.

### MOOCs

MOOCs sparked interest in discussions, but faculty and administrators expressed a ‘wait and see’ attitude regarding their role in NSHE online education endeavors. One administrator stated, “Talking about MOOCs today is almost like talking about the internet in higher education in 1995. I can’t say it is fad or if it will be here forever. Will it change the way we teach? Absolutely! It should.” Another wondered about its fit with community college students. “MOOCs have great value for a certain target audience. But I am not sure if the MOOC target audience meshes well with community college students, who commonly need, expect, and want help and personal interaction. MOOCs cannot offer that due to its high student class size.” One faculty member offered a different view, “I think ultimately it will be harmful to society as well as to our students who have quality education. MOOCs will flood all job markets with substandard graduates, and business will take them out of a feeling of obligation. It will raise the desirability of our graduates to attain salaried positions.”

Despite academic ambivalence, administrators recognized MOOC’s credit transfer implications; more students who complete MOOCs demand academic recognition and a few institutions now heed their wishes. For example, Colorado State University’s Global Campus will give three transfer credits to students who complete the Udacity course, Introduction to Computer Science: Building a Search Engine<sup>33</sup>. Some did express skepticism. One administrator said, “With our budget cuts, the staff stretched so thin, who is going to do the evaluation? Harvard won’t accept non-student credit. They don’t want to dilute their brand. Do we want to dilute ours?” But another expressed willingness to accept MOOCs, suggesting students test for academic credit for a particular class.

The MOOC phenomenon is still nascent. It is not well understood or well integrated into the online curriculum, but will evolve over time. NSHE should monitor their development closely to determine their place in the system’s e-learning program.

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<sup>33</sup> Tamar Lewin, “Colorado State to Offer Credits for Online Class,” *New York Times*, September 6, 2012, [http://www.nytimes.com/2012/09/07/education/colorado-state-to-offer-credits-for-online-class.html?\\_r=0](http://www.nytimes.com/2012/09/07/education/colorado-state-to-offer-credits-for-online-class.html?_r=0).

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### ADA Compliance

E-learning offers an education venue – sometimes the only venue – for people who are physically unable to attend in-class courses. Online courses must be ADA compliant to provide universal access for everyone, but faculty members may be unaware of these requirements. However Canvas LMS holds a gold medal rating from the National Federation for the Blind and the Quality Matters online course assessment has an ADA component. Discussions highlighted a couple of other alternatives: An articulation agreement across NSHE Offices of Disabilities to ensure ADA compliance with all online courses as well as faculty training and material.

### Accreditation

Some national professional accreditation agencies impact online course development, determining in some cases, a subject matter's appropriateness for online study – as for example, hospitality, engineering, applied technology, sciences. Institutions validate seat time, hands-on training, and testing, which preclude online modalities. Hybrid courses are a popular alternative. One faculty member thought that over time, some professional accreditation boards may be more open to e-learning, especially as up-and-coming students, who may be avid X-box, Wii, and video game players, prove their proficiency in simulated environments.

### Designing for Your Audience

One administrator introduced an interesting concept: considering students' age and situation in course design. "You have a lot of online programs, and people have an issue if they do not see their own faces reflected. The 25 year old doesn't want to learn from the same online program that may thrill the 35 or 45 year old. When we conduct a vendor search, I evaluate the information content, and how quickly [the concepts] come across. My students are going to see themselves represented in the material and in the faces of the videos. All of that is critical."

### Student Services

Academic issues took much of the spotlight during the interviews, but online students need solid services to help ensure their success, too. One administrator explained, "It does not matter whether the student is learning in the traditional or online environment. Whatever we do with the on-campus students, we have to offer it to online students. This is especially true at community colleges where students tend to have more fragile lives and fewer resources at hand. One problem could cause them to drop out of school."

Despite their importance, recent budget cuts have impacted student service areas hard, stretching staff to limit, impeding their ability to help students. One administrator said, "People assume we don't know how to do our jobs or don't want to do our jobs, but we don't have the resources." One senior administrator concurred "The idea that we are going to be able to compete with Cappella and Phoenix is naive. We don't have the wrap-around services that the others have." The recent PeopleSoft SIS implementation complicated the situation. Not only did staff members learn a new system, but some processes are more complex to complete. The shared PeopleSoft SIS instance limits institutions' ability to customize processes, too.

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### General Support Services

Providing support for online students can present unique challenges. For example, at one institution, a late course registration requires instructor and sometimes department chair signature for approval. Online students accomplish this through emails because they are not on campus to gather the signatures. One person processes the online late course registrations. According to one administrator, "she sorted through 400 emails during the first week of the semester, working until midnight to process them before financial aid deadlines." Financial aid officers discussed the implications if students take classes from multiple institutions. Some suggested a blanket consortium agreement between NSHE institutions to facilitate this. Students who enroll non-standard online courses – e.g. five week online courses – present financial aid challenges, too.

Institutions deploy technology as best they can to communicate with online students: chat lines, interactive video (ITV), Skype, and phone. This is especially important to military and ADA online students, who cannot be on campus. While these services are continually improving and enjoy the benefits of Moore's Law-influenced economics, enabling technologies still appear to be either unavailable or unaffordable to some rural Nevadans. This issue is complex and deserves focused study.

There is a general consensus that expansion of support services is a necessity. At least one administrator felt NSHE institutions could learn from the for-profit institutions. "For profits have been engaged in this for a long time and developed some methods that seem to work," said the administrator. "The money that they funnel into support services was amazing. They learned that student services are vital if the student is going to succeed. Students do care that schools provide care when they need assistance. This is going to be a challenge."

### Advising

Administrators and faculty felt that advising should go hand-in-glove with any e-learning initiative. "Many new students are first generation students, with a limited experience with the college environment, and they just take credits, without a specific degree path in mind. The students are supposed to plot a four year course." Despite department and institution efforts, many students self advise because there is insufficient advising staff to handle the student populations at the community colleges. "The model for advisor/student was 1 to 375. Ours is 1 to 8,000," said an administrator. "So they end up with 100 credits, 30 of which are not applicable to a university program." In addition, an advisor could explain the differences between an online and on campus course, and help the student determine which modality best suits them.

Some described their efforts by phone, online, ITV, and some departments strive to meet with even online students in person if possible. LMSs can identify and flag problem students early. One administrator said PeopleSoft could be programmed to flag students who need to take 100 level courses to graduate and to flag prerequisites before a student takes a 200 or 300 level course.

As with general student services, the general consensus was that more could be done. An administrator said, "However you feel about Kaplan and Phoenix, they do this well. If there is a red flag, somebody

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calls the student.” One administrator suggested that counseling could be handled jointly with other NSHE institutions, perhaps outsourcing parts of it due to its labor-intensive, 24x7 nature. Some recommended models to investigate are Houston Community College, Maricopa Group, and Washington State. There is also compelling evidence that private-sector solutions may be available in areas of the counseling domain. One company, Inside Track, works with colleges and universities to improve student and institutional success. Their analytics-based coaching has allegedly resulted in average 15 percent increases in graduation rates and is employed at universities such as Penn State, University of Dayton, Florida State, and Columbia University.

### Test proctoring

The issue of academic integrity surfaced in several conversations.

*“In the last three years a general indifference about academic integrity and plagiarism has emerged. Research means cutting and pasting something online. We have warnings, but students will do it anyway. Sometimes they will not even bother to change the font when pasting into the paper. They don’t realize they are doing something wrong. They are angry because they feel they did their work and received no credit. It is particularly a problem online, because it is so easy to cut and paste.”*

One faculty member recalled how a group of students submitted tests with similar answers within minutes from the same IP address. Another recalled web sites where people offer to take online classes for student. Institutions may have a campus testing center, ProctorU and/or designated third-party proctoring sites, but some faculty members still expressed their unease with these proctoring options.

### Policy

NSHE student swirl among NSHE institutions, but students and faculty articulated a need to create and approve common policies to ensure seamless e-learning experience across campuses. As students’ swirling inclinations grow, NSHE will need to adapt accordingly. Our interviews indicate that even when policies are in place, there seems to be few underlying structures or mechanisms to guide and to enforce their compliance.

### Admissions and Enrollment

The common sentiment implies there is no seamless admission policy currently. According to a senior administrator, a NSHE student has to apply for admission to take a course at another NSHE institution; admission to one’s ‘home’ NSHE institution does not mean automatic admission to another. Students are admitted to another NSHE institution as long as they meet standards. One administrator reports “the only way to make this work is through an informal agreement. VPs call each other.”

Enrollment processing is troublesome as well. One person described the need to open up three different systems – and a graduate student makes it four - to find information on students. “It is very fragmented, with all these silos in the schools. If a student goes to a community college, I want to be able to pull up a transcript when admitting them here [at the university]. We can’t compete with the University of Phoenix unless we do that. Infrastructure is key. Student enrollment and admissions should be seamless throughout the NSHE.”

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### Articulation

Perceived course quality issues impede articulation. As it stands, one faculty member in the math department at one NSHE institution could hold up articulation across other NSHE institutions. “The ideal should work, having the same criteria and outcomes, but Institution A faculty members don’t believe Institution B faculty members teach the course as well, so they are reluctant to accept the course,” explained an administrator. One senior administrator observed that “states where successful transfer and articulation work have statutes in place. Nevada does not; it has good will. So we need an articulation memo of understanding.”

### Credit Transfer

Credit transfer faces the same roadblock. In theory credits should transfer easily; the State mandates that the student who has completed a transfer degree at a two-year college could be accepted at the university or the state college. But again, faculty and administrators – especially at the universities – raised the issue of course quality. An administrator complained, “Our students are their students, but they won’t take our credits.” Another issue is whether the course credits will transfer to the appropriate degree program: “How will Math 120 at one NSHE institution mesh with Math 126 at another institution? Will they mesh as well together as if they took both courses at the same institution? We need to have quality measures and student success measures to decide what we accept as high enough quality.”

As students increasingly seek to register for courses beyond the boundaries of their home institution, these questions will only become more paramount. One senior administrator advised, “The system needs a process for evaluating students’ prior learning, including experiential learning – whether from Canada or a MOOC – so that credit can be given by our institutions.”

### Common Course Numbering

NSHE instituted common course numbers across institutions for courses that have comparable content and common expectations. But again, subjective judgment may preclude acceptance of common courses across NSHE institutions. “The emphasis was on common course *numbering* – not common outcomes,” said one person. “A rural community health course doesn’t look like an urban community health course. You have to be careful about those discrepancies.”

### Common Learning Outcomes

Administrators and faculty believe policy compliance will come about only when the system creates and assesses standardized learning outcomes, where the students must reach the same measures for a certain course no matter where that course is taken. Concerns about online course effectiveness also pique interest in learning outcomes and measures. Several administrators and faculty members called for a system-wide common outcomes framework, and a standardized means to assess them.

Institutions have launched their own learning outcomes and assessment initiatives. Some examples that emerged in conversations:

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- UNLV is implementing a program that integrates five learning outcomes: critical learning, lifelong learning, ethics, cultural awareness, and communications.
- NSC builds out consistent learning outcomes: general education learning outcomes are tied to assignments; every degree program has assessment and learning outcomes.
- TMCC just moved its master course file onto an electronic database which contains every course's objectives, measures, and outcomes.
- UNLV is creating a new web site which will display course analytics.
- Faculty members say the Canvas LMS has good data collection and analytics tools that facilitate learning outcomes assessment.

The point is that perhaps the system could draw upon institutions' experiences and practices to collaboratively address this issue. Quality Matters course assessment may factor into any initiative, too.

But assessment only works if faculty members understand its importance and participate in the process. One administrator called for faculty education about learning outcomes:

*"My impression is that we are assessing in a vacuum. In a typical course assessment, the faculty chooses one outcome for one of their courses, and they will look for evidence that the student has mastered the outcome, and then modify the course if the student has not. The faculty do not understand the usefulness and purpose of it, and the connections between the program outcomes and the course outcomes. If the course is not working, you don't just stop. You look for another way of getting the results that you are convinced you need to get. We need to make the process meaningful along the different levels, and getting faculty buy-in is a huge priority."*

Another wondered how to facilitate part-time instructors' assessment activities.

## Technology

Conversations focused on learning management systems (LMS) and student information systems, but rural technology needs, access, and future needs surfaced during the discussions, too.

### Learning Management Systems

Originally all NSHE institutions used WebCT's LMS, and when Blackboard purchased WebCT, institutions took various paths. UNLV and UNR transitioned to Blackboard; CSN and TMCC opted for the Angel LMS, at least one institution opted for Moodle. When Blackboard bought Angel, CSN decided to explore other options. It issued an RFP last year, written with consortium pricing, so the price declines as other Nevada institutions join the RFP. It chose Instructure's Canvas LMS<sup>34</sup>, and over time, TMCC, NSC, GBC, and WNC joined the five year contract. Each campus has a separate instance, but campuses "can create commonality and share features to avoid reinventing the wheel."

Everyone endorsed Canvas enthusiastically, as they believe it offers a new generation of LMS. A faculty member stated, "It is like the evolution from MySpace to FaceBook. It is getting to the point where a

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<sup>34</sup> For more information see, <http://www.instructure.com/>

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three-year-old can do it. I can remember when we had to program HTML [into an LMS].” Another said, “It is 21<sup>st</sup> century technology that appeals to both students and faculty and incorporates audio/visual media with the other tools.” During various conversations, faculty members and student praised its ease of adding content, web enhancements, collaborative interface, analytics capabilities, and directly accessible user support, and cloud-based service. A faculty member said, “It has the potential to offer the student multiple ways of learning - text, discuss, learning, interactive learning – as well as personalizing the experience.” One student liked Canvas’s ability to integrate web video and audio into discussions. “This has totally changed how I interact with my classmates. It is only 2 weeks into the semester and we posted audio and video responses. I can hear and see them. Before [with my previous LMS] I would send a message to a classmate, and almost like email, I don't get immediate response.”

As institutions adapt to their Canvas LMSs, and begin to collaborate, it will be important for NSHE to invest in those enhancements that will smooth the transitions between the Canvas system and the Learn system that has been adopted as the LMS at UNLV and UNR.

### Student Information System

All NSHE institutions have adopted Oracle’s PeopleSoft Student Information System (SIS). The five Canvas adopters share the same instance of the SIS. System Computing Services (SCS) manages this instance, with institutions sharing the developer costs. Each university manages its own instance.

Canvas campuses are working to integrate the Canvas and PeopleSoft systems, using a TMCC developed solution adopted by the other four Canvas NSHE institutions. In theory, the SIS co-sharers can data mine information, allowing them to build cross-institution course sections. If a course needs a 30-student enrollment, but only 10 students at 3 campuses want to take the course, they can be combined into a single section. Expanding that capability to the universities instances may be more problematic; issues like data consistency may emerge in siloed instances. Management of the shared instance requires frequent communication to discuss individual institution requirements and system customization. As such, different administrative groups – e.g. financial aid, registration – meet monthly to discuss these issues, and offer another cross-institution communication conduit.

### Rural Technology Needs

One size does not fit all when serving rural Nevada’s education needs. To teach its rural students, GBC deploys numerous ways to reach its students: live classroom, interactive video (IAV), online courses, and hybrid courses. GBC tries to accommodate most modalities of learning, but available options vary in remote locations. One administrator said, “We develop it once, but we have to be able to deliver any of 3 ways.”

Many conversations focused on IAV’s pros and cons. GBC uses a statewide IAV network, owned by SCS, to transmit classes from a classroom to multiple locations around its college’s service area. The network consists of three hubs – Reno, Las Vegas, and Elko. Almost every high school in the entire state is linked to the network. “There is no recharge to SCS for using the IAV,” according to a GBC administrator. “It is a state-line item.” Instructors worry about the lack of alternative to IAV in rural areas. “A lot of our students don’t have Internet service at home, so they like IAV.” A NSHE e-learning platform will have to

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determine the most feasible technological way to best serve rural Nevadans and how to implement that strategy. While IAV is deeply rooted, student enrollments in IAV-enabled courses within GBC have been declining rapidly for more than 5 years, while enrollment in web-based e-learning offerings there have been rising. It is likely that this mode of delivery has become anachronistic and its costs – financially and in terms of student time – have simply become too high to sustain.

### Access

Taking an online course requires a computing device, as well as high speed Internet, and on a 24x7 basis for some. Not everyone has access to these items. According to Nevada Connect, only 65% of rural residents and 36% of low income people have broadband access; 85% and 61% of these groups own computers.<sup>35</sup> In addition, some faculty members say Canvas requires high-speed Internet to deliver all its features. The challenge is to provide access for all.

### Technology Issues

Two technology issues emerged prominently from these interviews. The first is single sign-on. Currently, students at some institutions sign-on multiple times to access the administrative and LMS systems. This issue was a form of shorthand for challenges in system usability. One student body president described the challenge of moving from one LMS to another as akin to “having to learn how to learn over again.” The second issue involves the “bring your own device” (BYOD) phenomenon. Students bring a plethora of devices on campuses, though not necessarily for e-learning. Managing these devices – providing appropriate network access, for example, so students can work on their online courses – present IT support and security issues. They also represent a glimpse into a likely and more complicated future in which the pace of technology change – in the learning arena – is set by students, with faculty and institutional IT providers running to keep up to maintain the security of systems, the authenticity of sources and users, and the privacy of students and their data.

### Future Requirements

Faculty members and administrators drew up a “to do” list to meet emergent technical needs:

- Video platform: As faculty members incorporate more videos into their courses, one person suggested using a common video platform with multi-platform compatibility to facilitate uploading and access. Many universities experimented with “flipped classrooms” are standardizing both video capture technology for lectures and the repository, search, and identity management environments. The emergence of “lecture servers” may be a cornerstone of NSHE’s future learning technology requirements.
- Mobile access: Nationwide, currently 62% of students own smartphones, and 66% use them to access course websites or syllabi; another 64% use them to access course or learning management systems.<sup>36</sup> Though Nevada students’ adoption may differ, a quick look around campus can attest to

<sup>35</sup> “2011 Residential Survey, “Technology Adoption by Group,” Connect Nevada, <http://www.connectnv.org/survey-results/residential>

<sup>36</sup> Anderson, Tyson, “2012 Students and Technology” EDUCAUSE Center for Applied Research (Louisville, CO: Infographic), September, 17, 2012, “<http://net.educause.edu/ir/library/pdf/ERS1208/EIG1208.pdf>”

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students' love affairs with their mobile devices. Today, few faculty members described their use of iPads and Kindles in their classes, but given student mobile use, it is not off the mark to anticipate greater incorporation of mobility into e-learning – especially given e-learning's convenience appeal. Both Blackboard and Canvas LMSs offer mobile platforms, so the building blocks are already in place. NSHE needs to anticipate students' evolving mobile needs for access to classes and student services.

- **Bandwidth:** Running hundreds, if not thousands, of online classes per semester that incorporate high definition video or other high bandwidth resources such as models, visualizations, and simulations, and serving a growing population of online students who need 24x7 access, requires a ubiquitous, robust and reliable network. Our interviews were punctuated often with inklings of network-related issues reinforcing the sound admonition that network capacity must keep up with the demand. Wireless access adds another dimension to the issue, as more students bring multiple devices onto campus, including a laptop and/or tablet plus a smart phone, to access classes and services.

## Associated Issues

Students, faculty, and administrators identified broader cultural and user issues related to e-learning.

### Cultural

NSHE's institutional diversity makes it difficult to balance its institutions' divergent needs. One administrator said, "This has led to, on a given topic, a wide disparity on where the campuses are now, and at the same time, a homogenous view from the system office and the chancellor office because they have a small staff and they are geographically removed." Thus a state-level approach needs to recognize that some NSHE components have unique concerns, and adapt accordingly. Some differentiating facets are easy to identify: the universities and the community colleges/4-year institutions; urban and rural. The challenge is of course distinguishing those needs that truly differentiate from those that may not.

### Leadership

Many initiatives depend upon leadership support for their success, and discussions reveal engaged senior leadership, some of whom are already working together on e-learning-related issues, as for example co-sharing online courses and articulation.

### Governance and Engagement

Several individuals cited the need for a NSHE-level presence to coordinate and foster activities and best practices for the benefit of all. "It is costing us because everyone is trying to solve this internally rather than together," stated an administrator. One suggestion is the creation of a formal, senior-level NSHE administrative position responsible solely for online education. A NSHE-level position seems appropriate to manage any system-level e-learning initiative. Indeed many of the issues discussed in the report

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require communication, collaboration, and compromise among all the institutions to agree to core objectives and outcomes, and how to implement them.

Some starting places already exist: as for example the e-learning project advisory committee, the distance education director consortium. Or perhaps a new group is needed. But outreach and engagement of all the constituencies involved in NSHE's e-learning programs – the faculty, the student services organizations, distance learning organizations, technology, students, and senior administrators – are critical to gain buy-in for a successful implementation. Each area can contribute their first-hand knowledge. Cross-institution representation ensures consideration of the needs and characteristics of all institutions.

“A system wide collaborative approach has advantages. There are a lot of best of breed practices going on that will bubble to the top,” stated one faculty member. One way to unite the NSHE online community is to host a forum – both onsite and online – for faculty, administrators, staff, and students to celebrate the system's achievements and best practices in online education. There could be showcases of innovative online classes; demonstrations of effective student services solutions, and general information sharing. An online venue extends the community.

### Funding

NSHE funding will undergo a significant change. To summarize: The current funding formula used a matrix: low, medium, high, and clinical costs, and lower division, upper division, masters, doctoral courses. This formula designates distance education and rural courses as high cost. The matrix generates student faculty ratios which impacted institutional funding. There was a small institution factor; GBC and WNC had enriched ratios to recognize their dis-economies of scale.

The pending formula moves from an enrollment-based formula to a completion-based formula with a base pool that is funded based on course completions derived from weighted student credit hours according to a cost matrix. Whereas before an English 101 online course taught by a rural institution may receive more funding, the pending formula just recognizes English 101, regardless of delivery modality or location of origin. The new model will shift resources to Southern Nevada campuses, though Nevada's Governor Sandoval has moved budgetarily to offset cuts to rural college campuses in the near term.<sup>37</sup> The new formula is likely to distribute general fund dollars only; institutions are expecting to retain registration fees and non-resident tuition paid unlike the past practice of returning it to the state for reallocation. The elimination of the June 30<sup>th</sup> 'use it or lose it' rule enhances an institution's flexibility and long-term planning ability.

E-learning can play into this new funding formula. It encourages the marketing of Nevada online courses and programs to out-of-state students since institutions will be able to keep the non-resident tuition. Institutions might redeploy their resources, perhaps encouraging more development of self-supported

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<sup>37</sup> David McGath Swartz, “Legislative Committee Adopts New Higher Education Funding Formula,” *Las Vegas Sun*, August 31, 2012, <http://www.lasvegassun.com/news/2012/aug/31/legislative-committee-adopts-new-higher-education-/>

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online programs. It can impact how rural serving institutions reevaluate their options. For example, e-learning enables rural institutions to bolster their class FTEs by co-sharing courses with other institutions or develop an out-of-state student population. On the con side, it may stymie collaborations, as institutions have to figure out how to allocate completion FTEs. As an administrator said, “Everyone wants to take a piece of the pie; no one wants to give.”

Another funding issue is distance education fees. Most institutions charge students a distance learning fee. Fee levels – which vary widely – are submitted to and approved by the Board of Regents annually. Institutions can carry over the funds from year to year because it is not state funds, and used them to fund extra resources: instructional designers and online tools like, lecture capture software, the Wimba virtual classroom environment<sup>38</sup> and Smarthinking<sup>39</sup> online tutoring services. The common impression is that the Board of Regents will standardize distance education fees.

### The 10% Gap

Faculty members and administrators fretted about how to close the typical 10% gap between online and face-to-face student retention. The pending state formula adds urgency to the issue. No definitive answer emerged from the discussions, but faculty and staff described ways to resolve the difference.

LMSs provide analytics that allow the instructor to see at a glance if a student is in trouble (color codes, etc), and track student and faculty communication.

Some faculty members use early alert systems for at-risk students so faculty can intervene before students get into real trouble. One administrator described her strategy:

*“On Wednesday of the first week of the semester, I send a video out to faculty to show them how to log in to Canvas so they can see which students have logged in and participated during the first week. Next to the instructor’s PeopleSoft class roster is an early alert button which sends a message to our retention coordinator, who calls the student. Students set up a profile in Canvas, and we proactively send them information in their world via their preferred communication. We no longer assume that students will log in. The system will alert the student about upcoming assignment due dates via text messaging, personal messages to Facebook, or an email address. The student chooses how often and what kind of messages that Canvas sends – grade alerts, assignment due alerts, etc. Canvas has default settings where faculty can set up flags to message students who meet certain criteria, like scoring less than 75%, and give them supplemental material.”*

TMCC launched an institutional strategy to close its retention gap, initiating a four prong program which coordinates and channels an array of institutional activities, including:

- Faculty Improvements: recruitment, training, faculty assessment, and course assessment;
- Technical Improvements: improve student technical support, redesign/simplified access;

<sup>38</sup> See [http://www.wimba.com/solutions/higher-education/wimba\\_classroom\\_for\\_higher\\_education/](http://www.wimba.com/solutions/higher-education/wimba_classroom_for_higher_education/)

<sup>39</sup> See <http://www.smarthinking.com/solutions/secondary-education/>

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- Course/Curriculum Improvements: Content review, course quality rubric adoption, incorporate student success strategies, professional production to improve consistency and quality;
- Student Services and Support Improvements: new student orientation, minimum student expectations, early intervention, more frequent online advising, improve student completion rate for course evaluations.<sup>40</sup>

Some faculty members said they experienced higher persistence rates in shorter classes. A faculty member explained, “Some classes like technical writing lend themselves better to an eight-week course than a 16-week course. Students turn in two or three assignments online per week instead one. The sixteen week online goes on and on, and the student does not focus that long anymore.”

### Faculty

An online course’s success or failure rests ultimately with the instructor, and whether or not they can create an engaging online course and master the technical intricacies in a way that achieves the desired learning outcomes. Faculty members outlined ways to enhance their online teaching readiness.

#### Faculty Recognition

Online education changes the faculty role. It requires more time to train, to design, to teach, and to maintain courses, and faculty confronted this issue during a time of system financial difficulty. Faculty underscored the need for proper recognition for their efforts. A faculty member said, “There will have to be incentives for the college, faculty, and deans to do it. If you don't, it won't be successful.”

At least one faculty member called for more teaching staff to handle online teaching demands and to staff the growing number of courses. “Any state program should start with faculty, and we are terribly short of teaching faculty,” stated one. “We give course release to faculty to develop a new course, but we are a small department and then we have to find someone to teach that class,” said another.

Compensation issues frequented conversations. “E-learning is a boon for institutions because they get millions of dollars of free labor. It takes a lot of work to teach an online course well and we have to recognize that,” stated one. “Faculty can get compensation for developing a course which makes sense; but it is not very much, given how many students those online courses bring in,” said another. One faculty member described her experience, “Personally organizing my online program cost me money. It just added to my load without compensation. If we’re going to do this, we need compensation in the form of financial support and work release.” One faculty member wondered about inload vs. overload issues.

Additional compensation does exist: paid stipends as well as work release or sabbaticals. But for some, it is not enough to invest the extra time. An administrator said, “Nominal amounts of money are available to faculty to create an online course, but it is hard to entice their involvement. Science faculty want a factor of five [times] more to put together that kind of class.” Another said, “There are no initiatives in flipped lectures because we cannot identify faculty who are willing to do this for nothing.” A third

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<sup>40</sup> “WebCollege Retention Strategy”, Truckee Meadows Community College, March 2009, internal document.

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suggest turning to part-time instructors, who earn less than tenured faculty. “We would be willing to try something like that and try to solve some of the duplications that take place.”

Intellectual property issues arose, too. Faculty expressed reluctance to share their course content. A faculty member explained, “I adapted my 101 curriculum and developed 102, and then nobody will want to teach it. English instructors want ownership of their own content.” Individual institutions can pay faculty members a stipend to develop an online course for the institution. The course became institutional property, and could be shared. Some faculty members refused the stipend outright because of the loss of intellectual property. At least one institution suspended the faculty stipend due to the budget cuts, so now the course ownership remains with the faculty member.

At the universities, faculty tenure requires research, and some faculty wondered whether evaluators would award online teaching equally as a publication, especially given online teaching’ time commitment. Otherwise online teaching can be viewed as a huge disincentive. One faculty member stated, “If there is no incentive to teach online; if it is not viewed at same level as face to face - where is the bang for the buck?”

A final issue is part time faculty compensation. **Part time faculty are a mainstay for online teaching, especially for sections deployed at the eleventh hour, but are poorly compensated.** “Since part time instructors are 'at will' employees, there is no guarantee if they create a class, they will teach it. They receive no additional funds to create classes either,” stated a faculty member.

### Faculty preparedness

“If a faculty member is not properly trained and not prepared, an online course won’t work,” stated one person. For many, good online teaching skills are not inherent; they need help getting up to speed. One administrator assessed faculty’s capabilities:

*“I would say 10 percent or less are expert. All they do is assign things on discussion boards and post PowerPoints, something that has been done since 1996. It's a low percent who are comfortable with technology and instruction. Our student surveys say the same thing over and over again: Teach the faculty how to use it.”*

Some observed that age does not necessarily translate into technical proficiency either. A faculty member explained, “A younger faculty member may know how to use Facebook and email, that doesn’t mean they know how to do group work and to integrate interactivity to transform a piece of content into a life lesson.” To help faculty prepare, institutions offer teaching and technology tutorials and training; some institutions mandate training before a faculty member enters the online classroom. Others suggested more mentoring for faculty.

The issue of adjuncts teaching online courses stirred up considerable discussion. Faculty and administrators worried about adjuncts’ teaching abilities, especially the last-minute hires. Some institutions and departments avoid this issue by allowing only full time faculty to teach an online course. Another department requires their instructors to complete professional development and must reside

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in-state. One English department devised a system to ensure part-time faculty members' readiness for teaching its online English 101 and English 102 sections:

*"Because we have to run so many sections of English 101 and English 102, we hire a lot of part time faculty. I hire only experienced online teachers, who must demonstrate their teaching skills in an on-campus class before moving into an online setting. Very often when the instructor comes from a for-profit institution, they are very surprised that we don't hand them a course. I work with for-profit teachers all the time who have never designed a course, chosen a textbook, never looked at outcomes and figured out what to do to ensure that students can do this. Their job is to prove that the students meet the outcomes, and if they can't prove that to me with a course they designed themselves, then I won't hire them. Our program has made a huge difference in the standards."*

Readiness applies to content readiness, too: Faculty who use material dated from previous semesters or who fail to upload the content on the LMS at a semester's commencement was an issue that arose in interviews. "It creates bad perception and brand," an administrator stated. "If students see a blank course page on the learning management system, they may drop the class because there is no material. They feel 'if the faculty member may not take this seriously, why should I?'"

One faculty member noted that an instructor's preparedness is more obvious in an online class, or even an on-campus class that relies on the LMS. In a traditional classroom context with no LMS, the students cannot tell whether a teacher is prepared for the entire semester, or only for the lecture that day. With an LMS, any lack of preparation becomes more obvious.

### Teaching Entirely Online

Faculty pondered the effects of teaching entirely online and off campus. One potential side effect is isolation and burnout from 24x7 availability. Some wondered about the potential lack of involvement in department affairs while others felt the opposite, that teaching online gave them more flexibility to get involved. At least one institution has or planned to enact a policy for mandatory time on campus and on campus teaching workloads.

### Student Counseling

People tend to open up in online forums, and one faculty member suggested counseling training to respond appropriately if a student reveals suicidal tendencies in a posting or suffers a family tragedy.

### Student Readiness

Faculty and administrators raised the issue of student readiness repeatedly, and it became obvious that a NSHE e-learning initiative should address this issue. "Students have to understand what they are facing and to make sure this is really the media for them," stated one administrator. Another "received a student's email stating, 'This online course is supposed to be convenient. You have weekly assignments. That isn't fair.'" First time students need more scaffolding and help, because "many of them do not know how to learn, and come from less than stellar high schools," added another. "Sometimes they quit because it is just beyond them."

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*One faculty member defined her student preparedness checklist: “An online student needs to be self-disciplined; have the ability to ask the right questions; be proficient in English, especially in email communications; and have a good grasp of the technology and basic computer skills.”*

Many emphasized the importance of “managing the gate” to filter out unprepared students, and offered numerous suggestions:

- Alerting the student when she registers for an online course, directing her to a tutorial.
- Advisors should verify the student’s computer skills and discipline to take an online class. A senior administrator stated, “Students must have mandatory advising at our institution, and they are strongly counseled against taking an online course during their first semester.”
- A peer-mentoring program
- Student orientation or a mandatory pre-requisite course about general and online-specific study skills, basic communication skills, technology skills, and student rights.
- A 10-question self-assessment checklist.
- A pilot online course for students to test drive before actually registering for a course. “A lot of students check it out and don’t enroll in an online course because they thought it would be easier or have less rigor than a face-to-face course,” stated an administrator. A ‘test drive’ could familiarize new students with the institution’s LMS.
- A signed “informed consent” statement for every online course.
- Banning the student from online classes upon failing an online class until he passes an assessment test.

Others mentioned technical readiness: One faculty member listed the three questions an online student needs to answer: “1) Do you have right equipment (computer, connectivity)? Do you have the right software? Do you know how to use them?” Many felt students’ answers were “no.” One faculty member said, “I have a lot of out-of-state students and this is the first college class they have ever taken. They usually have no technology skills and I spend time working on those skills as well as their English skills.” Another faculty member expressed his concern:

*“Despite the surveys that say that students can navigate the technology, they really can’t. Students can post on Facebook or send a photo to a friend, but composing a serious email is more difficult, not to mention meeting academic writing and work standards, and maintaining them in an electronic environment. Students are not as prepared as you think. They are not technology savvy, and lack the academic preparedness and the required discipline to succeed in an online class. Many do, but some don’t.”* There is a substantial body of evidence (ECAR) that confirms the existence of a significant divide that separates so-called net-savvy students from those who are challenged academically and technically.

Some faculty members require skills verification of their students. One asks students to demonstrate these skills in an initial class assignment; another refuses access to the class readings until the student demonstrates his proficiency. Several advocated a basic assessment test regarding technology skills.

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A final issue was student support. At least one institution has no help desk for students – only for faculty and staff – relying upon the library reference desk to handle password resets and to offer very minimal LMS support. Students who take their online classes via the school computer labs can utilize local support resources.

### Marketing

The e-learning's popularity reduces the need for marketing in some cases. "At CSN, we have 1,000 classes online and they fill up to capacity. All we do is just put them into our registration system," stated one administrator.

For self-supported programs, marketing is commonly used to assess program viability. For example, CSN's Department of Workforce and Economic Development conducts a competition and a value assessment to determine financial practicality for every program, "To educators, continuing education is not so much a product, but it is enrichment. But when you look at it from the product side, it is a matter of where you put your efforts and resources. I don't want to do everything, but I want to make sure our programs are the most useful and valuable for the student and the employer."

But marketing activities are inconsistent elsewhere. One example raised is the NSHE centralized course catalog. "We put it up and the system office was supposed to promote it and update it, but the marketing piece was missing," stated an administrator. "We could have done fabulous things, but there was no one to promote it. It was a lost opportunity." State supported online programs may not have the same level of marketing resources as self supported ones. One faculty member said, "We have special education classes online – either totally or hybrid – but people outside of the state don't know about them." Some people thought NSHE could learn from for-profit institutions' marketing practices.

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# Summing Up: An Emerging Vision of Student-Centered E-Learning for NSHE

NSHE, like the State of Nevada, has faced daunting challenges in recent years. A slowing economy and troubled real estate market have seriously weakened the State's overall funding capacity and NSHE's state funding. Diminished funding of the State's higher education system, in turn, cannot help but impair NSHE's capacity to address the fundamental structural issues that state leaders recognize as essential to Nevada's long-term prosperity, such as diversifying the state's economy, and creating a knowledge-intensive economy by improving its historically low levels of educational attainment and performance.

E-learning cannot solve every problem NSHE faces, but it is an essential component of the System's future. E-Learning is already embedded deeply at NSHE's institutions not only because it has become a mainstream mode of higher education, but because it is especially well-suited to Nevada's diverse, mobile, busy, and sometimes isolated student populations. There is no longer any question whether e-learning has a place at NSHE. The issue going forward is whether the deep, but loosely-coordinated and under-resourced e-learning efforts across NSHE can and should be organized into a more coherent and holistic capacity for serving the evolving needs of the growing proportion of students (and prospective students) who study online.

Our preliminary conclusion after interviewing hundreds of faculty members, administrators, executives, and students at NSHE institutions is that NSHE not only should develop such a vision, but that the system already has realized some of its elements in nascent form. Components like a common course numbering system, general education course standards, effective collaboration on the distance learning front, shared SIS and LMS infrastructure, and nearly universal participation in the Quality Matters program all place NSHE well ahead of many peer systems of higher education in key areas of e-learning maturity. This level of collaboration and commonality is both rare and precious within public higher education and should be commended and built upon.

The most important missing element is a broad theme that ties these elements together and provides some guidance about what else remains to be achieved. We believe that NSHE's students are already telling NSHE through their behavior what that theme needs to be: **systemwide dedication to empowering students to discover, design, and successfully complete rigorous academic courses and programs fitted to each student's interests and life circumstances regardless of the location of those courses and programs.** Aligning NSHE's e-learning efforts with this theme doesn't just help NSHE's students; it helps the state of Nevada reach its own goals of expanding educational access, improving retention and degree completion, and creating the more diverse, better-educated workforce necessary to a renewed state economy.

It would be premature for us to offer specific recommendations in this overview of our campus visits. However, our discussions with NSHE stakeholders and constituents lead us to outline these essentials of an NSHE vision for e-learning:

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- **Enabling the free agent learner.** NSHE needs to use e-learning aggressively to help students shape study programs that fit with their work and family lives and their academic ambitions. This means offering courses in coherent and methodical delivery modes across a rich range of subjects, grounded and facilitated by a home campus relationship but not restricted to the offerings available at a single institution.
- **Creating and opening up the catalog.** NSHE needs to develop tools that help learners discover all the educational opportunities available to them, such as a unified System-wide catalog and schedule of online courses, and integration with campus systems needed to incorporate those courses into institutional advising, enrollment, billing, student services, and degree award processes.
- **Minimizing transactional friction.** Though NSHE has gone farther than many state institutions to standardize course offerings and make them available to all students, cumbersome processes of separate admission, financial aid award, and credit transfer still interfere with the free flow of instruction across institutional boundaries. Expanding the quantity of instruction available online (a process well under way at NSHE) without lowering the administrative barriers to taking advantage of them (a process hardly begun) risks presenting students with tantalizing possibilities that are too much trouble to exploit.
- **Assuring that a credit earned is a credit accepted.** Many of NSHE's constituents complained that it is easier to transfer credit from outside the system than from within. Though NSHE has many examples of successful point-to-point articulation, it needs to streamline articulation and establish the general principle that courses available System-wide will be *seamlessly* accepted System-wide. Seamless acceptance assumes that NSHE resolve differing perceptions of academic quality and acceptability within its current policies of articulation and credit transfer.
- **Accepting no compromise on quality or performance in online instruction.** NSHE's widespread adoption of online course quality processes indicates both a relatively advanced state of maturity and a recognition that online course quality has been uneven in the past. The Quality Matters rubric is an excellent start for NSHE's institutions, but the system must understand that properly designing and assessing online courses and programs will be an ongoing process calling for long-term investment. Likewise, even the best classroom instructors need training to make the transition to the online environment. The professional development of online instructors is a critical investment in e-learning success.
- **Creating the conditions for student success.** Though some NSHE institutions have successfully experimented with techniques to improve online retention and help students develop better online study skills, they have been unevenly applied. Tools like student self-assessments, study skills courses, and learning analytics-based outreach have been shown to improve online student retention and must be a part of any NSHE e-learning vision. As well, NSHE might well consider an NSHE-wide mandate that prospective e-learners pass a low-credit preparatory course designed to imbue those skills that are unique to learning in online or hybrid contexts.
- **Reaching prospective students more effectively.** The one aspect of e-learning performance that our interviewees almost universally found lacking at NSHE institutions was marketing. The inability to discover and attract appropriate student prospects puts even the best-designed

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online programs at risk. NSHE will need to develop this capability along with its portfolio of courses and programs.

- **Take account of MOOCs (and other possible new models of delivery).** While many members of the NSHE community are aware and literate as regards MOOCs, flipped lectures, and other emerging modes of instruction, most appear to be blinded by the glare of hype surrounding them. This condition is not unique to NSHE by any means. Indeed, MOOCs are the most hyped development in the history of modern post-secondary education. Notwithstanding the hype, there is great peril in either dis-engagement from the possibilities posed by MOOCs, or the adoption of a wait-and-see attitude towards them. There is at this writing no easy or obvious course of action for NSHE in this arena, save strong encouragement to engage the community in strategy setting around this phenomenon. It may be that ‘watchful waiting’ is the right strategic posture for NSHE, but that action should be a careful choice made following a rigorous review of alternatives. Many choices in this arena will produce viable or positive outcomes. The inheritance of accidental strategies, borne of inaction, is the only likely adverse outcome.

We do not specify at this juncture exactly what role the Chancellor’s Office and System-wide resources ought to play in shaping and realizing this vision. We are mindful that top-down initiatives – particularly unfunded mandates – are rarely welcome or successful in state systems of higher education. Any such efforts must be carefully crafted in consultation with NSHE campus academic and administrative leadership. We also heard that centralization works best when applied selectively and built organically from the natural collaboration of interested parties. While reserving for another time our recommendations about the System’s role, we can say at this point that “one System, many options” is a far better motto than “one size fits all,” and that the System’s role in realizing an e-learning vision is more likely to take the form of facilitating, coordinating, and incentivizing investment rather than direct management or mandate.

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### Appendix: NSHE Site Visit Participants

Richard N. Katz & Associates is grateful to the many members of the NSHE community who participated in our site visits:

Abba, Crystal, Vice Chancellor Academic and Student Affairs, NSHE  
Adams, Kenneth, Associate Research Professor, DRI  
Adhikoni, Narayan, Student, UNR  
Albrecht, Mary, Web CT and Web Manager, School of Nursing, UNLV  
Albright, William, Associate Research Hydrogeologist, DRI  
Anderson, Valerie, Library, WNC  
Antoniuk, Dan, Instructional Applications Developer, Office of Online Education, UNLV  
Aqui, Yvette, WebCampus Administrator, Office of Information Technology, UNLV  
Arnone, Jay, Research Professor, DRI  
Arrigotti, Stephanie, Faculty, Performing Arts, WNC  
Armitage, Sue, Instructional Designer, Office of Online Education, UNLV  
Apisa, Jon, Instructional Artist - Office of Online Education, UNLV  
Assoudeh, Student, UNR  
Bagley, Peter, Professor, Life Sciences, GBC  
Basquiat, Jennifer, Professor, Dept of Communications, CSN  
Batson, Christine, Assistant Professor, Sociology, UNLV  
Bearce, John, Director, Institutional Research, CSN  
Beck, Ericka, Provost, NCS  
Becker, Randy, Chair, Dept of Media Technologies, CSN  
Belbin, Rob, Librarian, WNC  
Berki, Markus, Associate Research Professor, Division of Hydrologic Sciences, DRI  
Best, Lynn, Professor/Librarian, College Library Services, CSN  
Bettencourt, Ana, Faculty, Science, UNR  
Blackwell, Curtis, Student, WNC, and NSHE Student Body Presidents, Nevada Student Alliance  
Boardman, Kathy, College of Liberal Arts, UNR  
Borman, Todd, Information Technology, UNR  
Brewster, Cathy, Manager, Professional Development, TMCC  
Broch, Amber, Assistant Research Engineer, DRI  
Brommel, Angela, Faculty, NCS  
Brown, Gregory, Vice Provost for Faculty Policy and Research, UNLV  
Brown, Shannon, Associate Director, Online & Independent Learning, UNR  
Bruno, Carrie, Faculty, Earth/Physical Science, GBC  
Bubb, Dan, Director of Academic Assessment, UNLV  
Burkett, Eugenie, Associate Professor, Music, UNLV  
Burns, Julie, Enrollment Management, GBC  
Burns, Kevin, Faculty, English, WNC  
Burns, Rebecca, Executive Director, Workforce, CSN

## E-Learning at NSHE: Preliminary Snapshot

Bywaters, Kathryn, Student, UNR/DRI, and NSHE Student Body Presidents, Nevada Student Alliance

Calkins, Larry, Library, WNC

Call, Pam, Faculty, Nursing, NSC

Campbell, Lisa, Site Director – Winnemucca, GBC

Carrillo-Abara, Christian, Student, WNC

Capurro, Connie, Vice President of Academic and Student Affairs, WNC, and e-learning Steering Committee

Carman, Steve, Faculty, Biology

Carsey, Alan, Student, WNC

Case, Deb, Library, WNC

Casey, Sean, Chemistry, UNR

Casper, Scott, Interim Dean, Liberal Arts, College of Liberal Arts, UNR

Castro, Patricia, Dean, School of Health Sciences, CSN

Charlebois, Wendy, Faculty, Social Work, GBC

Charles, Patty, Faculty, Medical School/Outreach & Public Health, UNR

Chaffin, Amy, Faculty, NSC

Chandler, Dani, Application Administrator, Client Services, System Computing Services, NSHE, and Faculty Senate Chair Committee Representative

Charlton, Patricia, Senior VP Finance, CSN

Cheney, Chris, Professor and Interim Dean, College of Education, UNR

Childress, Amy, Faculty, Engineering, UNR

Cho, James, Videographer/Motion Graphic Designer, Office of Online Education, UNLV

Chodock, Ted, Instructor/Library, College Library Services, CSN

Chongtai, Brian, Office of Information Technology & Instructional Technology, NSC

Ciotti, Jennifer, Student, UNLV

Clark, Michelle, Faculty, Nursing, UNLV

Cline, Joe, Vice Provost for Undergraduate Education, UNR

Cochran, Chris, Associate Professor, Health Care Admin and Policy, UNLV

Coffman, Sherrilyn, Assistant Dean of Nursing, NSC

Coombs, Allison, Assistant Vice Chancellor and Director of Public Policy, Academic and Student Affairs, NSHE

Cordia, Judith, Nursing, WNC

Cota, Clarissa, Chair, Dept of Business Administration, CSN

Coulombe, William, Associate Research Scientist, DRI

Council, Jacob, Student, WNC

Crope, Linda, Faculty, UNR

Cuffe, Orion, Student, UNR, and NSHE Student Body Presidents, Nevada Student Alliance

Davis, Adam, Faculty, Humanities, NSC

Davis, Renee, Director of Student Affairs, Academic and Student Affairs, NSHE, and e-learning Steering Committee

DeBraga, Angie, Director of Continuing Education, GBC

Decker, David, Associate Research Professor, DRI

## E-Learning at NSHE: Preliminary Snapshot

Demchak, MaryAnn, Education, UNR  
 Devine, Darrin, Vice Provost of Academic Affairs, CSN, and e-learning Steering Committee  
 Diener, Don, Associate Vice Provost for Information Technology, Office of Information Technology, UNLV  
 Dillet, Bridgette, Faculty, Geo Science, WNC  
 Ditzler, Christine, Senior Instructional Designer, Office of Online Education, UNLV  
 Dobbert, Tom, Interim Technical Support Manager, IT Office, TMCC  
 Dobson, Jared, Student, UNLV  
 Dockstader, Darin, Professor of Philosophy, Social Sciences, Faculty Senate Chair Elect, CSN  
 Doherty, Bill, Professor, Computer Information Technology, TMCC  
 Dolezal, Melanie, Student, UNR  
 Donelli, Amber, Faculty, Nursing, GBC  
 Dorsey, Devvall, Student, NSC, and NSHE Student Body Presidents, Nevada Student Alliance  
 Doucette, Joseph, Student, GBC  
 Doucette, Mary, Radiology Technology, GBC  
 Douglass, Ana, Professor of English, TMCC  
 Downs, Jeff, Faculty, Math, WNC  
 Duncan, Janis, Faculty, UNLV  
 Duke, Christopher, Online Education, UNLV  
 Dwyer, Doris, Faculty, History, WNC  
 Eardley, Larry, Interim Vice Chancellor, Budget, Department of Finance, NSHE  
 Erickson, Paul, Faculty, Online Education, UNLV  
 Edberg, Dana, Faculty, College of Business, UNR  
 Elithorp, Jim, Faculty, Geomatics, GBC  
 Enderlin, Tom, Server Administrator Technician, Office of Online Education, UNLV  
 Emmers-Sommer, Tara, Associate Dean for Research and Graduate Education, Communications Studies, UNLV  
 Etezadi-Amoli, Mehdi, Faculty, Electrical & Biomedical Engineering, UNR  
 Etheridge, Dale, Professor/Director, Dept of Physical Science, CSN  
 Evans, David, Professor of Geology, Sacramento State University and ACE Fellow, UNR  
 Farr, Sara, Student, UNLV, and NSHE Student Body Presidents, Nevada Student Alliance  
 Feldmeier, Cheryl, Director, Academic Technology Services, CSN  
 Fenimore, David, Faculty, English, UNR  
 Ferguson, Neal, Faculty, History/Core Humanities, UNR  
 Fink, Mark, Director of Distance Education - Office of Online Education, UNLV, and e-learning Steering Committee  
 Finn, Richard, Faculty, Criminal Justice, WNC  
 Forgues, David, Academic Success Center, UNLV  
 Fox, Patty, Professor, Art, GBC  
 Frazier, Lisa, Director of Online Education, GBC, and e-learning Steering Committee  
 Fredrickson, Judith, Professor, Computer Information Technology, TMCC  
 Freistroffer, David, GBC, and Faculty Senate Chair Committee

## E-Learning at NSHE: Preliminary Snapshot

Fritsen, Christian, Research Professor/Interim Vice President for Academic Affairs, DRI, and e-learning Steering Committee

Fruzzetti, Armida, Dean, Liberal Arts, TMCC

Fulkerson, Kathy, Director of IR, GBC

Garcia, Kerri, Executive Director, Extended Studies, UNR

Garcia, Steve, Electrical program and Instrumentation, GBC

Gates, Gary, Online Education, UNLV

Gelinas, Russ, Director of IT Infrastructure, Office of Information Technology, UNLV

German, Kevin, Graduate Student, GBC

Gertler, Alan, Interim Executive Vice President for Research, DRI

Gonzales, Danny, Professor, Political Sciences, GBC

Gottschalk, Simon, Associate Professor, Sociology, UNLV

Graziano, Kevin, Faculty, NSC

Green, Marc, Research Professor, DRI

Grove, Susan, Faculty, Nursing, NSC

Guinan, Mary, Dean of School of Community Health Sciences, UNLV

Hackett, Keith, Faculty, Intercollegiate Athletics, UNR

Hahn, Kate, Library, NSC

Hampton, Wade, Chair, Humanities Department, TMCC

Hancock, Gael, Master of Hospitality (MHA) Program Manager, Harrah College of Hotel Administration, UNLV

Hannu, Bob, IAV coordinator, GBC

Hardy, Heather, Provost, UNR

Hartley, Kendall, Faculty, Education, UNLV

Harris, Chris, Faculty, NSC

Hawthorne, Elizabeth, Interim Dean in School of Education, NSC

Hayes, Levia, Chair, Dept of English, CSN

Heavey, Chris, Associate Dean, Liberal Arts, UNLV

Herlands, Robin, Faculty, NSC

Hershey, Ronald, Associate Research Hydrogeologist, DRI

Herzik, Jodi, Extended Studies, UNR

Heyvaert, Alan, Interim Senior Director, Center for Watersheds and Environmental Sustainability, DRI

Hiles, Dwaine, Computer Services Coordinator, GBC

Hill, Stephanie, Associate Dean, Student Affairs, CSN

Hollitz, John, Chair, Dept of Social Sciences, CSN

Holman, Fred, Vice Provost for Extended Studies and Chair of the Online Education Planning Committee UNR, and e-learning Steering Committee

Hogarth, Emily, Faculty, Technology, WNC

House, Cathy, Computer Technologies, TMCC

Hritz, Michelle, Faculty and Faculty Senate Representative, UNR

Hudgins, Chris, English, Dean of Liberal Arts, UNLV

Huntington, Justin, Assistant Research Professor, DRI

## E-Learning at NSHE: Preliminary Snapshot

Hyslop, Cindy, Professor, Computer Technologies, GBC  
 Iannuzzi, Patty, Dean of Libraries, Library, UNLV  
 Jackman, Tom, Interim Sr. Director CAVCaM, Division of Hydrologic Sciences, DRI  
 Jackson, Fredrick, Chair, Dept of Biological Sciences, CSN  
 Jarvis, Pat, WebCollege Fast Track Coordinator, TMCC  
 Jezierska, Joanna, Academic Advisor, Student Affairs, CSN  
 Jobe, Janita, Library/IT, UNR  
 Johnson, Ed, Faculty, Math/Statistics, UNR  
 Johnson, Marc, President, UNR  
 Johnston, Sally, Dean, School of Science & Math, CSN  
 Jones, Bruce, Executive Director, Division of Earth & Ecosystem Sciences, DRI  
 Jones, Tim, Lecturer, Music Department, UNLV  
 Judkins, Gabriel, Visiting Assistant Professor, Geoscience, UNLV  
 Kaufman, Roberta, Faculty, NSC  
 Kearns, Thomas, Technician, Disability Resource Center, TMCC  
 Kilker, Julian, Emerging (Media) Technologies, UNLV  
 King, Jan, Dir Admissions & Registrar, GBC  
 King, Nangeet Zed, Student, TMCC and NSHE Student Body Presidents, Nevada Student Alliance  
 Klaich, Dan, Chancellor, NSHE  
 Kloes, Richard, Faculty, Accounting, WNC  
 Konowalow, Stephen, Professor, Dept of English and College Success, CSN  
 Korgan, Kate, Senior Associate Dean, Graduate College; Sociology, UNLV  
 Kratsch, Heidi, Cooperative Extension, UNR  
 Kuchenbrecker, Linda, Faculty, UNR  
 Kuniyuki, Andy, Dean at Liberal Sciences & Arts, NSC  
 LaMotha, Phillip Luke, Student, NSC  
 Lancaster, Nick, Research Professor, Division of Earth and Ecosystem Sciences, DRI  
 Larsen, Trudy, Faculty, School of Community Health Sciences, UNR  
 Leavell, David, Professor, Dept of International Languages, CSN  
 Lentz, Susan, Faculty, Criminal Justice, UNR  
 Levin, Joshua, Professor, Dept of Human Behavior, CSN  
 Licht, Jon, Career Div, Welding, GBC  
 Lingenfelter, Molly, Instructor of English, TMCC  
 Liu, Yingjie, Instructional Designer, Teaching and Learning Tech, UNR  
 Llasus, Ludy, Assistant Dean for Nursing, NSC  
 Lochrem, Scottie, Online Student/Administrative Assistant – Art, TMCC  
 Logan, Christine, Student, UNLV  
 Lokken, Fred, Dean, WebCollege, TMCC  
 Lopez, Tracy, Instructor, Dept of Dental, Diagnostics, and Rehabilitation, CSN  
 Loustalet, Joan, Director, Disability Resource Center, TMCC  
 Lozano, Patricia, Academic Advising Administration Coordinator, UNLV  
 Lucey, Carol, President, WNC  
 Lujan, Jessica, Student, UNLV, and NSHE Student Body Presidents, Nevada Student Alliance

## E-Learning at NSHE: Preliminary Snapshot

Lykes, Valerie, Student, UNR  
 Macfarlan, Lynette, Professor, Early Childhood Education, GBC  
 Madden-Dent, Tara, Student, UNR  
 Maise, Clarence, Distance Education Coordinator, WNC  
 Marchand, Eric, Faculty, School of Engineering, UNR  
 Marin, Bob, Faculty, Social Sciences, WNC  
 Marston, Ron, Professor of Graphics Resource Center, Chair, Faculty Senate, TMCC  
 Martin, Gil, Faculty, Fine Arts WNC, Faculty Senate Chair Committee  
 Martinez, Santos, VP Student Affairs, CSN  
 Matovina, James, Chair, Dept of Mathematics, CSN  
 Matula, Tom, Instructor, Management & Marketing, GBC  
 Mahlberg, Lynn, VP for Student Services, GBC  
 McBride, Lauren, Professor, Dept of English, CSN  
 McCarty, Heather, Student, GBC  
 McCool, Sam, Instructional Technology Manager, Office of Information Technology & Instructional Technology, NSC, and e-learning Steering Committee  
 McCue, Sandi, Program Specialist, DRI  
 McDonald, Bentley, Student, NSC, and NSHE Student Body Presidents, Nevada Student Alliance  
 McFarlane, Mike, VP Academic Affairs, GBC  
 McGee, Richard, Chair, Dept of Fine Arts, CSN  
 Meana, Maria, Dean, Honors College, UNLV  
 Metcalfe, Eileen, Instructor, Dept of Hospitality Management, CSN  
 Miller, Joseph, Professor, Dept of Applied Technology, CSN  
 Miller, Kris, Dean, Health Sciences and Human Services, GBC  
 Milne, Charles, Professor of Biology, CSN, Faculty Senate Chair Committee  
 Montcalm, Denise, Faculty, Health Sciences/Social Work, UNR  
 Moreau, Eric, Professor, Dept of Communications, CSN  
 Moorhouse, Jessica, Student, UNLV  
 Morgan, Delceta, Student, NSC  
 Morgan, Joe, Assistant Professor, Educational & Clinical Studies, UNLV  
 Morris, Don, Executive Director, Business Operations, CSN  
 Moser, Duane, Associate Research Professor, DRI  
 Mosier, Greg, Dean of Business Administration, College of Business, UNR  
 Murphy, Bill, Dean, Applied Science, GBC  
 Naik, Swatee, Professor, Mathematics and Statistics (and Faculty Senate liaison), UNR  
 Nagelhout, Ed, Associate Professor, English, UNLV  
 Nazemian, Charlie, Faculty, Math/Statistics, UNR  
 Negrete, Sarah, Faculty, Teacher Education, GBC  
 Nehmer, Valerie, Online Education, UNLV  
 Neverette, Dan, WNC, e-learning Steering Committee  
 Niemasik, Greg, Professor/Counselor, Counseling, CSN  
 Newbury, Robert, Instructional Designer, Teaching and Learning Tech, UNR  
 Newman, John, Faculty, Math, GBC

## E-Learning at NSHE: Preliminary Snapshot

Nicely, Penny, Faculty, Geo Science, WNC  
 Nichol, Ed, Faculty, BIS Digital Technology, GBC  
 Nichols, Jane, e-learning Steering Committee  
 Nicol, Candace, Instructor of Art/Art Gallery Curator, TMCC  
 Nielsen, Scott, Director, Student Financial Services, GBC  
 Nikolich, George, Assistant Research Electrical Engineer, DRI  
 Norris, Terry, Director E-Learning, CSN  
 Novak, Ed, Assistant Vice President of IT & Chief Information Officer, DRI  
 O'Driscoll, Richelle, Director of Public Affairs, School of Medicine, Division of Health Sciences,  
 UNR  
 Okeke, Charles, Dean, School of Education, Behavioral and Social Sciences, CSN  
 Oppenheim, Ellen, Senior Vice President for Finance & Administration & Chief Operations  
 Officer, DRI  
 Pandey, Alok, Professor, Dept of Mathematics, CSN  
 Patterson, Bart, President, NSC  
 Pawluk, Cheryl, Faculty, Psychology, WNC  
 Peevey, Shannon, Instructional Applications Programmer, Office of E-learning, UNLV  
 Pettit, N.J., Professor/Counselor, Counseling, CSN  
 Pierce, Jennifer, Retention Coordinator, GBC  
 Pitchford, Marc, Executive Director, Division of Atmospheric Sciences, DRI  
 Plaggemeyer, Ted, Dean of Sciences, TMCC  
 Poon, Percy, Faculty, Business, UNLV  
 Porter, Alex, Graduate Student, GBC, and NSHE Student Body Presidents, Nevada Student  
 Alliance and e-learning Steering Committee  
 Porter, Tim, Dean, Sciences & Physics, UNLV  
 Pravosudova, Elena, Faculty, of Biology, UNR  
 Price, Chuck, Director of Joe Crowley Student Union, and Campus Affairs Committee Liaison  
 Priest, Susan, Faculty, Social Sciences and Education, WNC  
 Purdy, Melanie, Counseling, TMCC  
 Quiroga, Jose, Financial Aid, WNC  
 Rafferty, Kevin, Chair, Dept of Human Behavior, CSN  
 Rauls, Mark, Professor, Dept of Social Sciences, CSN  
 Ray, Kathlin, Dean, University Libraries, UNR  
 Read, Marsha, Dean, Graduate studies and Vice President Research  
 Reagan, Tom, Professor, Secondary Education, GBC  
 Redding, Vic, Interim Vice Chancellor, Finance, Department of Finance, NSHE  
 Reiber, Carl, Vice Provost for Academic Affairs, UNLV  
 Reese, Peg, Vice Provost, Division of Educational Outreach, UNLV  
 Reynolds, Kathryn, Faculty, English, WNC  
 Rhode, David, Research Professor, DRI  
 Richards, Mike, President, CSN  
 Riner, Wonda, E-Learning Coordinator, Office of Information Technology, UNLV  
 Riske, David, Faculty, Information Technology

## E-Learning at NSHE: Preliminary Snapshot

Roasselle, Michelle, Faculty, Teacher Preparation/English, WNC  
 Robinson, Gregory, Faculty, NSC  
 Rogers, Ann, Site Director – Elko, GBC  
 Rodrique, Melodi, Faculty, Physics, UNR  
 Rosenberger, Thomas, Chair, Dept of Hospitality Management, CSN  
 Ross, Stephan, Webmaster, DRI  
 Russell, Jessica, Director, Academic Success Center, GBC  
 Sa, Livia, Senior Analyst, Office of E-learning, CSN  
 Sabbath, Roberta, Adjunct, English, UNLV  
 Sabol, Jr., Donald, Assistant Research Professor, DRI  
 Sagun, Amanda, Student and WebCollege Administrative Assistant, TMCC  
 Sammons, Gail, Assistant Dean Hotel College/Director of MA Hospitality Admin Online Program, UNLV  
 Sanchez, Matt, Director, Financial Aid, CSN  
 Sanders, David, Faculty, Civil & Environmental Engineering, UNR  
 Scarnati, Brandy, WebCollege Support, TMCC  
 Schafer, Lee, Bookstore Manager, TMCC  
 Scheniter, Heidi, Instructor, Dept of Dental, Diagnostic & Rehabilitation Services, CSN  
 Schoendienst, DeAnn, Client Services Manager, Office of Information Technology, UNLV  
 Schumer, Rina, Associate Research Professor, Division of Hydrologic Sciences, DRI and Associate Director, UNR/DRI Graduate Program of Hydrologic Sciences  
 Scinta, Tony, Associate Dean for LAS, NSC  
 Shannon, Amy, Libraries, UNR  
 Sharp, Gwen, Faculty, NSC  
 Sheehan, Maria, President, TMCC  
 Sheffield, Professor, Dept of English, CSN  
 Sherman, Tracy, Professor, Health Related Professions, Faculty Senate, Past Chair, CSN  
 Shindell, Deb, Faculty, UNR  
 Shoul, Kaley, Student, GBC  
 Sibert, Sonja, Chief Business Officer, GBC  
 Skelly, JoAnne, College Cooperative Extension, UNR  
 Smilanick, Phil, Professor of Accounting, TMCC  
 Smyer, Trish, Associate Dean/Professor, School of Nursing  
 Solamsaas, Rachel, Vice President of Finance and Administrative Services, TMCC  
 Soukup, Dennis, Chair, Dept of Applied Technology, CSN  
 Souza, Travis, WebCollege Support Coordinator, TMCC  
 Spangler, Michael, Dean, School of Advanced and Applied Technologies, CSN  
 Speer, Bill, Interim Dean, College of Education, UNLV  
 Stave, Krystyna, Associate Professor, Environmental & Public Affairs, UNLV  
 Stavitsky, Al, Dean of Journalism, School of Journalism, UNR  
 Steel, Heather, Tech Prep Program Coordinator, GBC  
 Steppat, Clare, Office of International Students, TMCC  
 Stergios, Georgia, IT Business Manager, Office of Information Technology, UNLV

## E-Learning at NSHE: Preliminary Snapshot

Stewart, Ingrid, Professor, Dept of Math, CSN  
 Sturm, Danna, Library, WNC  
 Suba, Rex, Instructional Designer, Office of Online Education, UNLV  
 Summerhill, Brad, Professor, English, TMCC, e-learning Steering Committee and Chair of Faculty Senate Chair Committee  
 Sumpter, Shannon, UNLV, Faculty Senate Chair Committee  
 Susfalk, Rick, Associate Research Scientist, Division of Hydrologic Sciences, DRI  
 Swank, Crystal, Professor of Early Childhood Education, TMCC  
 Sweitch, Mary, Site Director – Ely, GBC  
 Swift, Alice, Instructional Designer, Online Education and Part-time Instructor, Hospitality, UNLV  
 Tandy, Dick, Kinesiology, Faculty, Kinesiology, UNLV  
 Taylor, Shannon, Professor of Education, UNR  
 Tenney, Glen, Professor, Accounting/Economics, GBC  
 Theriault, Steve, Business/Marketing, GBC  
 Thomas, Jim, Interim Executive Director, Division of Hydrologic Sciences, DRI  
 Thomas, Joseph, Student, UNLV  
 Thompson, Jeff, Dean of Science, College of Science, UNR  
 Thompson, Terri, Manager Student Data, GBC  
 Tori Robinson, Krystalun, Student, WNC  
 Trachok, Rick, Board of Regents, NSHE  
 Tropp, Ricky, Associate Research Professor, Division of Atmospheric Sciences, DRI  
 Traudt, Paul, Faculty, Journalism & Media Studies, UNLV  
 Trube, Anthony Allen, Student, WNC  
 Turek, Jerica, Faculty, NSC  
 Tuthill, John, Vice President, Academic Affairs/Student Services, TMCC  
 Uhlenkott, Linda, Professor, English, GBC  
 Vaithyalingam, Mugunth, CIO, CSN  
 Verburg, Paul, Associate Research Professor, Division of Earth and Ecosystem Sciences, DRI  
 Vilseck, Bird, Director, Information Technology, UNR  
 Walker, Mark, Professor and Department Chair, Natural Resources and Environmental Science, UNR  
 Walsh, Eric, Reference Librarian, GBC  
 Walsh, Laura, Faculty, Anthropology/Soc Studies, GBC  
 Weiner, Wendy, Dean, School of Arts & Letters, CSN  
 Wells, Stephen, President, DRI  
 Wertz, Ruby, Assistant Dean of Nursing, NSC  
 West, Karen, Dean of Dental School, UNLV  
 Wharton, Claudine, Media Relations, UNR  
 Whitcomb, Bob, Faculty, Business, WNC  
 White, Glynda, Professor, Dept of Business Administration, CSN  
 White, John, Provost, UNLV, and e-learning Steering Committee  
 Whitney, Jean, Assistant Professor in Residence, lawyering process, William S. Boyd School of Law, UNLV

## E-Learning at NSHE: Preliminary Snapshot

Wilcoxon, Kevin, Online Education, UNLV  
Wilder, Michael, Online Education, UNLV  
Wiseman, Nathan, Student, UNR  
Wrightman, Diane, Site Director – Pahrump, GBC  
Wurm, Sharon, Financial Aid, TMCC  
Young, Jack, Kinesiology & Nutrition Sciences, UNLV  
Young, Sharon, Student, UNLV, and NSHE Student Body Presidents, Nevada Student Alliance  
Zald, Anne, University Libraries, UNLV  
Zeh, David, Faculty, Biology, UNR, Faculty Senate Chair Committee  
Zideck, Steve, TMCC, e-learning Steering Committee  
Zink, Steve, Vice Chancellor for Information Systems and CIO, NSHE, and e-learning Steering Committee  
Zozaya, Pat, Registrar, Student Affairs, CSN