

Policy, Technology, and Practice in Cyber Charter Schools: Framing the Issues

JUNE AHN

University of Maryland, College Park

Background: *Online learning in K-12 education has grown rapidly in the past decade. Cyber charter schools (CCSs) have been a particularly controversial form of online school, but there is very little scholarly examination of these new organizations. As CCSs expand, policymakers and stakeholders have a critical need to understand how to evolve the charter school policies that govern these new school forms.*

Focus of Study: *Through a three-site case study, this paper (1) explores what current charter policies govern CCSs and (2) outlines the practices in these schools that might illuminate future policy needs. Specifically, the findings highlight how cyber charters problematize existing charter school policies in the areas of authorizers and governance, teacher policy, and student achievement.*

Research Design: *The study presents an exploratory, comparative case study. The exploratory analyses illuminate implications for how policymakers understand governance, teacher policy, and the evaluation of student achievement in cyber charters. The comparative case design also highlights how different state policy contexts might influence the practices of CCSs.*

Conclusions: *Cyber charter schools introduce new ways of delivering public schooling. The study shows how state leadership is vital to coordinate student enrollment across geographic boundaries, funding mechanisms, and conflicts between CCSs and established stakeholders. This paper also illuminates how teaching and learning practices differ in an online environment and introduces questions of teacher preparation and professional practices. Finally, CCSs in this study serve unique, niche student populations that opt out of the traditional school system. These considerations are vital for evaluating student achievement in cyber charters.*

Over the past two decades, the growing charter school movement and widespread adoption of the Internet has brought about a unique confluence of policies and technologies in education. The result of this convergence is a relatively new form of public school, the cyber charter school (CCS), which offers both new possibilities for the delivery of education and rising controversies that put pressure on existing education policies. A CCS is “a public institution that is guided by a charter and offers a tuition-free educational option.... Virtual charter schools are unique because they deliver educational programs over the Internet” (Baker, Bouras, Hartwig, & McNair, 2005, p. 133). Cyber charters arise from the serendipitous combination of school choice policies and the widespread adoption of technology.

Minnesota enacted the first charter school law in 1991, and the movement has grown steadily ever since. As of 2008, over 4,500 charter schools were in operation, serving over 1.3 million students across the United States (Center for Education Reform, 2008). A diverse coalition of stakeholders, with very different political agendas, all support charter schools (Bulkley, 2005; Wells, Grutzik, Carnochan, Slayton, & Vasudeva, 1999). For example, Shanker (1988) promoted the early motivation for charter schools where cadres of teachers could design and run their own schools. Other stakeholders have believed that charters represent a policy mechanism through which to introduce greater parental and local control over schooling (e.g., Sizer, 2005; Wohlstetter, Wenning, & Briggs, 1995). Despite the varied political motivations of their supporters, two policy features remain common for all charter schools. First, charter schools are given significant flexibility from regulations with the goal of being “deliberately, thoughtfully, boldly different from existing mainline public middle and high schools” (Sizer, 2005, p. 59). Second, in return for this flexibility, charter schools are held accountable with the potential for closure if they do not successfully improve student achievement (Petrilli, 2005).

The widespread adoption of personal computing and the Internet has evolved separately from, but in parallel to, the charter movement. In 1995, approximately 10% to 20% of adults were Internet users, while most recent surveys have reported that over 70% of adults are now online (Pew Internet and American Life Project, 2008). For students, technology usage is even more ubiquitous. Recent studies have reported that 93% of teenagers currently use the Internet (Lenhart, Madden, Macgill, & Smith, 2007). The rapid and widespread use of technology in society first motivated many scholars to consider the role of computing in the traditional classroom (e.g., Cuban 1986; Cuban, 2001; Sandholtz, Ringstaff, & Dwyer, 1997). As the Internet and related applications also

evolved, scholars predicted these would also revolutionize distance education (e.g., Tiffin & Rajasingham, 1995). Maeroff (2003) stated, "What has developed, courtesy of the Internet, is the possibility of offering learning on a scale more far-reaching than previously imagined.... Online education is here to stay...a kind of catalyst to a learning revolution" (p. 4). Similarly, Christensen, Horn, & Johnson (2008) made the prediction that up to 50% of classes in K-12 schools will be online within the next decade.

From a pedagogical perspective, cyber schools might introduce new ways of delivering education. For example, students may learn at their own pace and outside of the constraints of traditional school hours. Furthermore, the history of evidence on student achievement in distance learning suggests that online schooling applications perform no worse when compared to classroom instruction (Bernard et al., 2004). Although the authors of the meta-analysis found no significant differences between distance education and classroom instruction in terms of learning gains (or losses), there are numerous benefits of cyber schools from a policy perspective. Cyber charters may be able to offer an educational quality comparable to that of traditional schools, but also reach underserved populations that need a more flexible educational option. For example, recent media reports have highlighted how students are using cyber schools to finish their high school credits (Trotter, 2008).

Although the predictions for online schooling in primary and secondary education (K-12) may seem fanciful, enrollment in K-12 cyber schools has increased steadily in recent years. One of the first online schooling options, the Virtual High School, began in 1996 and after five years of operation had expanded to serve over 9,000 students (Zucker, Kozma, Yarnall, & Marder, 2003). A decade later, several states have started their own virtual schools with an estimated 700,000 students having taken virtual classes in the 2005-2006 school year (Tucker, 2007). Some states have also implemented policy mechanisms to facilitate online learning. For example, Michigan mandates that all students have an online learning experience in order to graduate from high school (Watson & Ryan, 2007). Finally, individual cyber schools have also risen as options for students in K-12 public education. Recent industry reports have suggested that 17 states now have significant cyber charter activity (Watson & Ryan, 2007).

This current moment offers a particularly unique chance for scholars to examine CCSs. States across the country vary in their readiness for CCSs, and a majority of states do not have policies to govern CCS options (Watson & Ryan, 2007). Such an ambiguous situation offers an opportunity to explore the ways in which these new school forms interact with the

existing public education system. In particular, there is little scholarly understanding of how education policy can best regulate and govern online schools. In this study, I address two critical questions that contribute to the debates, concerns, and knowledge about cyber charters: (1) What are the education policies, particularly charter school policies, that currently govern CCSs in three particular states? and (2) How do the operations and practices of CCSs in these state contexts introduce insights to potential policy and research issues? These two questions are critical for policymakers who will likely grapple with CCSs in the near future and for researchers who evaluate these new school organizations.

In the following sections, I first locate CCSs within the K-12 public education landscape. I highlight why CCSs are unique cases in comparison to other online and traditional public school institutions. Second, I review salient areas of charter school policy for this study: (1) the role of authorizers and governance, (2) teacher policy, and (3) student achievement and accountability. Authorizers are agencies that issue charters and govern charter schools, including school districts, state departments, and other entities such as universities (Lake, 2006). The findings of this study highlight how state authorizers and leadership become vital in governing CCSs. In addition, teacher policies in charter schools differ tremendously across states (Brewer & Ahn, 2010) and compel larger questions about effective teacher preparation for cyber schools. Student achievement is also a broader debate for charter school reform that becomes particularly salient for CCSs. This paper highlights how the unique student populations currently served by CCSs inform how evaluators understand self-selection into these new schools. Finally, I present the experiences of three CCSs and consider how CCSs further problematize these policy issues. Using a review of policy documents, secondary sources, and interviews with teachers and staff, I highlight how these cases assist policymakers and researchers to conceptualize charter school policy in the future.

CYBER SCHOOLS WITHIN THE BROADER CHARTER LANDSCAPE

The terms used to describe online education are varied and often confusing. Rice (2006) noted that “distance education, distance learning, e-learning, Web-based instruction, virtual schools, and online learning are all terms used interchangeably to describe this broad, somewhat confusing, and constantly changing field of non-traditional instruction” (p. 426). Other terms include virtual education, cyber schools, and e-schools. In this article, I use the terms “cyber,” “online,” and “virtual schools” interchangeably to mean the public and private institutions that

deliver instruction using the Internet. In the K-12 setting, there are different types of virtual schools spanning from state-level programs to individual charter schools. As Table 1 (below) shows, cyber charters are just one form of online school among several that currently serve students in the K-12 system.

Currently, there are four main forms of public, online schools that reflect different policy and organizational configurations (Erlebacher, 2006). First, state online schools are typically authorized at the state level and provide supplemental coursework to students who reside only in that state. Second, school districts operate online schools that provide either supplemental or full-time programs to students within their boundaries. Third, multiple districts may form partnerships to offer their online programs across district areas.

Table 1: Typology of Public Virtual Schools

System Level	Program: Supplemental or Full Time	Enrollment Boundaries	Governance
State Virtual Schools	Supplemental	Entire state	Typically authorized and governed by state agencies and policies
School District Virtual Schools	Supplemental	Students in a single district	Operated by autonomous school districts, not always monitored by the state
School District Virtual Schools	Full Time	Students in a single district	Operated by autonomous school districts, not always monitored by the state
Multi-District Virtual Schools	Full Time	Students within partnering districts	Operated or chartered within single districts
Cyber Charter Schools	Supplemental or Full Time	Varies in each state	Autonomous school; must comply with state charter laws

Source: Erlebacher, 2006

The final variation of online school is the cyber charter school. As charter schools, CCSs are authorized by a sponsor and must follow their state’s applicable charter law. Charter schools are granted flexibility from many of the laws that govern public schools. For example, charter schools can determine their own mission, philosophy, and curriculum. In other instances, they may be given less stringent requirements concerning

teacher and staff hiring (Bulkley & Wohlstetter, 2004). The regulatory flexibility of charters, combined with the evolution of online education, has given rise to cyber charters that deliver schooling via the Internet (Baker et al., 2005).

As CCSs have spread, conflicts have occurred between established stakeholders in the education system. For example, in the 2007-2008 school year, Wisconsin's cyber charters faced closure when the state teachers' union challenged the legality of these new online schools. District courts ruled that the Wisconsin Virtual Academy did not comply with policies such as teacher certification and open enrollment that were written for traditional public schools. Several online schools were shut down, affecting several thousand students and prompting legislators to quickly develop a bill to ease the conflict (Editorial: "Cram to pass," 2008; Editorial: "Virtual school bill," 2008). In Pennsylvania, cyber charters that enrolled students across the geographic boundaries of school districts also engendered a series of litigation and political battles between charter operators and established stakeholders (Huerta, Gonzalez, & d'Entremont, 2006).

The conflicts in Wisconsin and Pennsylvania underscore the importance of examining the policies that govern these charter schools. Huerta, Gonzalez, and d'Entremont (2006) noted that cyber charter schools "are quietly gaining momentum across the country and have begun to challenge traditional definitions of public schooling by delivering instruction from beyond the classroom walls..." (p. 104). Traditional definitions of schooling, or how stakeholders define what schools should be, are often instantiated in education policy (Schon & Rein, 1994). Thus, in this paper, I begin with an overview of policy frameworks that govern charter schools and then consider how cyber charters introduce new challenges to established policy mechanisms.

CHARTER SCHOOL POLICIES AND CYBER SCHOOLS

Bulkley (2005) summarized the unusual marriage of diverse stakeholders that support charter schools as follows:

Free-market conservatives see them as a way to enhance competition in education and a step in the direction of vouchers. Teachers' union leaders such as the late Albert Shanker see them as a way to increase the power of teachers. Cultural conservatives hope that they will increase parental control over the values taught in schools their children attend, while those interested in restructuring schools see them as a way to further their goals.

Moderate Democrats hope that charter schools will provide parental choice, competition and accountability.... (p. 527)

The motivations of charter school supporters are varied, and ideological differences seep into any discussion of charter school reform, including that of cyber charters. Nevertheless, the common strands of flexibility and accountability are features of every charter school. The founders of a respective charter school might determine its philosophy and mission. However, every charter school is generally (1) a school of choice, (2) an autonomous entity freed from many education regulations, and (3) under contract (or charter) that is issued by a public entity such as a local school board or state department of education. In return for their autonomy, charter schools face accountability measures such as closure or revocation of their charter if they are not successful (Bulkley & Wohlstetter, 2004).

To balance the goals of autonomy with accountability, various regulatory mechanisms exist that govern different functions. Policy researchers have examined three major areas that are salient for this study: (1) the role of authorizers and governance, (2) teacher policy, and (3) student achievement and accountability. First, authorizers (also called sponsors) play a key role in the governance of charter schools. Authorizers are public entities—including, but not limited to, local school districts, state education departments, state boards, cities, and universities—that issue charters to prospective charter schools. Who can serve as an authorizer varies considerably across states (Bulkley, 1999; Lake, 2006).

Charters or contracts usually consist of several key governance agreements including the number of years the charter is valid, the school's mission and curriculum, the number of students the school will serve, the school's governance structure, the tools and assessments that will determine student success, and the terms of reauthorization (Bulkley, 1999). Authorizers are key actors because they govern the overall accountability of charters, and there have been recent calls to better examine their practices and effectiveness (Lake, 2006). Cyber charters introduce questions of effective governance because they can enroll students across geographic and school district boundaries. Past conflicts with cyber charters have centered on issues such as the jurisdiction of school districts and enrollment policies (see Huerta et al., 2006).

Policy related to teacher qualifications is a second important concern for charter schools. Much of the research concerning charter teachers has compared them to their traditional, public school peers. For example, charter teachers tend to be less experienced, compensated, and certified than those employed in traditional public schools (Brewer & Ahn, 2010; Burian-Fitzgerald, Luekens, & Strizek, 2003; Fuller, Gawlik,

Gonzalez, & Park, 2003; Malloy & Wohlstetter, 2003). Some studies have suggested that charter school administrators value other teacher qualities, such as college degrees from elite universities or coursework in science and mathematics, rather than traditional certification (Baker & Dickerson, 2006; Hoxby, 2002). These concerns about charter school teachers fall within even broader debates about teacher quality and preparation. In cyber schools, much of the direct instruction occurs through the computer. Thus, questions remain as to the role of teachers in these new schools and, subsequently, the factors of teacher quality and preparation for online instructors.

Finally, the major theory of action behind charter school reform is that, through increased school choice, autonomy, and flexibility, these new schools can improve student achievement (Petrilli, 2005; Sizer, 2005; Shanker, 1988). However, how does one know that a charter school is the reason for improved student outcomes? Significant challenges remain concerning how to measure and evaluate whether a charter school actually improved student achievement. The major obstacle to evaluating charter school effectiveness is the presence of unobservable differences between charter students and noncharter students. Betts and Hill (2006) noted that, “for example, the students may differ in their home educational environments, parental motivation, or specific educational histories in ways that are difficult to measure” (p. 11). These limitations complicate recent attempts to evaluate charter schools. In a study of California’s charter schools, researchers noted that students in nonclassroom-based charters—schools that are either home based or virtual—had significantly lower achievement scores than their peers (Buddin & Zimmer, 2005; Gill, Timpane, Ross, Brewer, & Booker, 2007). However, Buddin and Zimmer noted the limitation of their analysis, stating:

...the schools may differ from one another in the types of students that they attract. For instance, non-classroom based students may be different in unique ways from students in conventional public schools that are not captured by the demographic factors in the analysis. (2005, p. 366)

This study reports on the types of students that select the cyber charter option and illuminates the ways in which they differ from their peers in traditional public schools. These considerations are vital for future analyses of student achievement and accountability.

Hardly any formal studies have been conducted on the policies and practices of CCSs. One study by Huerta et al. (2006) focused explicitly on the policy and practice context of CCSs. From their analysis of

Pennsylvania's cyber charter history, the authors offered insights into the areas where CCSs may differ from traditional public schools. These features, listed below, accentuate the critical questions concerning these new school forms:

- Source of instruction: How are computers and the Internet used for instruction? What is the role of the teacher in an online school?
- Supplemental resources: How do students use curricular materials? How do cyber schools employ parents, aides, and other human resources?
- Settings and facilities used for schooling: What facilities are used by cyber schools?
- Governance: What are some of the administrative challenges of cyber charters? How do they handle enrollment? How do they comply with accountability laws?
- Fiscal and market-based factors: How do cyber charters receive per-pupil funds? Are there challenges concerning funding and cyber charters?

In this study, I use these initial questions to describe the experiences of three cyber charter schools. I further illuminate how cyber charters introduce new challenges to charter school policy—particularly in the areas of governance, teacher policy, and student achievement and accountability. I focus on two main questions in this study. First, what are the education policies, particularly charter school policies, that currently govern CCSs in three states that allow cyber charters? Second, how do the operations and practices of CCSs in those contexts introduce insights to potential policy and research issues?

METHODOLOGY

STUDY SAMPLE AND CASE SELECTION

I use a purposeful sampling method to describe cases of CCSs in varying contexts. Cyber charter schools across the country were first identified using directory searches of the National Charter School Directory from the Center for Education Reform (http://www.edreform.com/charter_directory/) and the NACOL Online Learning Clearinghouse (http://www.edgateway.net/cs/nacol/search/nacol_sch). Charter schools were contacted via e-mail to gauge their availability and interest in participating in the study. Based on the initial search, three schools were chosen for the study. The sample cases vary along different features:

urban or rural setting, enrollment boundary, instructional models, school size, and state policy context.

The first case is a small cyber charter school in Minnesota, which I refer to as Minnesota Cyber Charter (MCC). The school is set in a rural community and utilizes a hybrid model of instruction. In a hybrid model, students take their coursework online but are required to come to a physical location (a campus or school location) at varying times per week. Minnesota Cyber Charter serves students in high school and enrolls students throughout the state. Minnesota enacted the nation's first school choice law in 1985, allowing students to take courses in colleges and universities, followed by the first open enrollment program in 1987 and charter schools in 1991 (Wong & Langevin, 2007). With this historical support of school choice, Minnesota has created a system of enrollment, per-pupil funding, and other policies that facilitate reforms such as charter schools.

The second school is referred to as Nevada Cyber Charter (NCC). The school is of medium size and set in an urban school district in Nevada. Nevada Cyber Charter has two divisions, an elementary school (K-8) and a high school (9-12). In the elementary division, the instructional model is home based and relies heavily on the participation of parents, with teachers visiting their students once per week. In the high school division, NCC uses a hybrid model where students come to campus once per week in addition to their online instruction. The Center for Education Reform (CER) rates state charter school laws along various metrics including number of charters allowed, diversity of authorizers, and legal, fiscal, and operational autonomy. More flexible, and well-developed states, receive higher grades from the organization. Accordingly, the CER rates Nevada as a relatively strong state for charter schools, although not as open and flexible as Minnesota in its policies (Center for Education Reform, n.d.).

The third case is Pennsylvania Cyber Charter (PCC), which is a large school serving a student body across the entire state. Pennsylvania Cyber Charter employs a fully online model that relies extensively on a parent or guardian to deliver instruction, with the help and assessment of a trained teacher. The school is also a part of an umbrella educational management organization (EMO) that operates similar charter schools across the country. At the time of this study, PCC served students in grades K-11 with plans to add the 12th grade in the coming year. Pennsylvania offers a unique context as one of the first states to experience cyber schooling and has a well-chronicled history of adapting policy to these new school forms (Huerta et al., 2006). Table 2 highlights the key features of the three cases and offers a point of initial comparison.

Table 2. Characteristics of the Three Case Schools

	Instructional Model	School Size	Area & Enrollment Boundaries	Grades Served
Minnesota Cyber Charter	Hybrid	Small (Approx. 125 students)	Rural District Also open to students across state	High School (9-12)
Nevada Cyber Charter	Home-based and Hybrid	Medium (Approx. 700 students in each division)	Urban District Only open to resident students	Elementary and High School (K-12)
Pennsylvania Cyber Charter	Fully Online	Large (Approx. 2,100 students)	Statewide	Elementary and High School (K-12)

DATA AND ANALYSIS

Several data sources were used in this comparative case analysis. First, documents were collected to provide information about each case. Document sources included policy documents, school websites, school memos, e-mail correspondence with faculty and staff, news and media accounts, and federal and agency reports. Second, I conducted 20 interviews with individuals in the three case schools. The interviewees provided a varied perspective on the practices of cyber charters and included: 2 Directors, 1 Assistant Principal, 1 Testing Coordinator, 3 Learning Specialists/Special Education/Counselors, 1 Parent Coordinator, and 12 teachers across grade levels and subject areas. The semi-structured interviews typically lasted about 45-60 minutes and varied in content. Each interview focused on the particular organizational role of each participant as well as the salient components of their daily practice in the CCS. The interview questions covered the areas suggested by Huerta et al. (2006) as features of cyber schools that differ from traditional public schools: instruction, resources, facilities, governance, and finance. In addition, I utilized a member-checking strategy to ensure the accuracy of the interviews. Each participant was sent a follow-up e-mail to confirm the statements in the interview and was also given opportunities to add additional thoughts via e-mail response.

Documents and interview notes were hand coded and organized under several themes that consistently emerged for each school: (1) enrollment practices, (2) information about the school's instructional model, (3) the daily practices of teachers, (4) the role of parents, and (5) the challenge of serving unique student populations. Document and interview notes

were analyzed using a reflective memo strategy (Creswell, 2007). In a case study, the researcher may choose to write reflective memos—a series of personal notes or documents—to integrate the data sources into a coherent line of thought. I took the themes culled from the three cyber school cases and organized them along the issues of authorizers and governance, teacher policy, student achievement and accountability. These policy areas arose from previous discussion and research of charter school policy. Through this process, I highlighted how the practices of these cyber schools introduce further issues to the evolution of charter policy.

FINDINGS

AUTHORIZERS AND GOVERNANCE

The policies that govern cyber charters in Minnesota, Nevada, and Pennsylvania offer an initial point of comparison. Table 3 below outlines some salient policy areas for cyber charters including teacher policy, governance, funding, and student enrollment. The comparison of policy features highlights how different states have approached online learning and also structures what cyber charters in a respective state can or cannot do. The table also assists policymakers, researchers, and stakeholders of other states that either do not have cyber charter laws in place or are in the process of developing such regulations. A quick glance at Table 3 highlights several key trends in Minnesota, Nevada, and Pennsylvania. Namely, the state department of education (DOE) plays a significant role in the governance of cyber charter schools. The state departments of both Minnesota and Pennsylvania play a direct role in authorizing cyber charter schools. In Pennsylvania, the state is the sole authorizer of cyber schools.

The case of Pennsylvania provides useful insight into how the state stepped into such a significant role. One of the first CCSs in the state was the Western Pennsylvania Cyber Charter School (WPCCS). Huerta et al. (2006) noted that, “within months after opening, WPCCS faced a funding crisis, when 70% of the of nearly 105 school districts from which it drew student enrollment refused to forward tuition payments to the school” (p. 124). The ensuing litigation and political battle centered on questions of who would govern these new charters. Ultimately, Pennsylvania lawmakers amended the state charter law in three ways. First, lawmakers defined CCSs as viable entities. Second, they established the state department of education as the sole authorizer of these new schools. Finally, they instituted state laws that clearly defined how local school districts would interact with the new cyber charters. For example,

Table 3: Policy Features of the 3 States

	Minnesota	Nevada	Pennsylvania
Teacher Requirements	Teacher certification required.	Teacher certification required for at least 70% of teachers.	Teacher certification required for at least 75% of teachers.
Governance	<p>State DOE reviews and certifies online providers as meeting state standards and assessment criteria. DOE maintains list of certified online providers.</p> <p>Local districts may challenge the validity of courses supplied by an online provider, after which the DOE will review the provider.</p>	<p>State DOE reviews and publishes list of approved distance learning courses and providers.</p> <p>Complaints about an online course are investigated by the state board of education and state approval may be revoked.</p> <p>Charter schools authorized by school districts, colleges, universities, or state board of education.</p>	<p>All cyber charter schools are authorized and governed by the Pennsylvania Department of Education (DOE).</p> <p>The DOE performs regular evaluations of annual reports, and periodic evaluation visits to cyber charter facilities.</p>
Funding	DOE calculates average daily membership and distributes funds using a student-centered model. Funds follow the student.	<p>Charter schools received 100% of per-pupil funding.</p> <p>For part-time students, separate written agreements between school district board, charter school board, and online provider are required.</p>	<p>Cyber charters send invoices to the student’s resident district with applicable information.</p> <p>The resident district is required to report average daily membership for all resident students and to pay invoices to cyber charters.</p> <p>Disputes between district and cyber charters are investigated by the PDE.</p>
Student Enrollment	<p>Students may enroll in programs outside of their resident district.</p> <p>May enroll in online schools as a full-time or supplemental student, through a clear application process.</p>	<p>No restrictions on charter school enrollment eligibility.</p> <p>For part-time, online programs separate written agreements between school district board, charter school board, and online provider is required.</p>	All students in Pennsylvania are eligible to enroll in cyber charter schools.

Sources: Center for Education Reform (n.d.); Minn. Statutes ch. 124D § 03; Minn. Statutes ch. 124D § 095; Minn. Statutes ch. 124D § 096; Minn. Statutes ch. 124D § 10; Nevada Statutes ch. 388 § 834; Nevada Statutes ch. 388 § 838; Nevada Statutes ch. 388 § 866; Pennsylvania Purdon’s Statutes 24 P.S. § 17-1741-A; Pennsylvania Purdon’s Statutes 24 P.S. § 17-1701-A.

local districts are required to give cyber schools reasonable access to district facilities and also forward any payments for students enrolled in a CCS (Pennsylvania Purdon's Statutes, 2004; Pennsylvania Purdon's Statutes, 2006).

Minnesota and Nevada (Table 3) also feature significant state roles in the governance of cyber charters. In both states, the DOE reviews and certifies a list of online school providers and plays a clear role in resolving disputes between cyber charters and other stakeholders. Another vital feature of the three states are clear regulations concerning students who enroll in programs beyond school district boundaries and the distribution of funds. Minnesota has clear procedures to allow students to enroll in school programs outside of their resident district (see Minn. Statutes ch. 124D § 03). In addition, Minnesota also implements an Online Learning Options Act that clarifies much of the governance, funding, and enrollment issues related to online learning providers (see Minn. Statutes ch. 124D § 095). Nevada also employs a separate set of regulations to govern both charter schools (see Nevada Statutes ch. 386 § 505-655) and distance learning programs (see Nevada Statutes ch. 388 § 820-874).

With the introduction of online instruction, numerous variations of student enrollment are possible. Students may enroll in a local program full-time or part-time. They may also possibly enroll in programs outside of their usual school district full-time or part-time. This diversity in enrollment patterns suggests a need for policymakers to consider new regulations that facilitate the possibilities afforded by online schools. For example, clear regulations concerning per-pupil funding also appears to be a vital state responsibility. The director of NCC noted that:

We're lucky in Nevada because the funds follow the students directly, and we're paid on the same quarterly dates as the districts are.... It's a single count day state, there is no average daily attendance.... We know our counts, and we can plan accordingly. It helps a great deal.

Minnesota also employs a student-centered funding model whereby the DOE calculates an "average daily membership," and the percentage of student funds is distributed accordingly (see Minn. Statutes ch. 124D § 096). As noted earlier, Pennsylvania's local school districts are required to forward payments to cyber charters, but the state plays a major role in governing the process, including any disputes that may arise from local stakeholders. In each of the three cases, state leadership appears vital to help integrate cyber charter options into the public school system.

TEACHER POLICY

Throughout the interviews, every teacher noted that the computer was the primary way that instruction is delivered to the student, with the role of the teacher shifting to that of coaching, individualized assistance, and assessment. However, the teacher's role differed subtly in each of the three cases, depending on the instructional model of the school. For example, MCC is a hybrid school whose students are required to log 20-25 hours per week in their online course systems. In addition to the online coursework, the school opens on Tuesday and Thursday for students to come to campus from 7:00 a.m. to 3:00 p.m. On campus, the students work in either of two computer labs. When students come to the MCC campus, they do one of several activities: finish their school work that remains incomplete from home; attend classes that are directly taught by the teachers; and meet with their "Learning Manager," which is a teacher who also acts as their individual counselor. A special education teacher at MCC noted the benefits of the hybrid model:

I feel like I make a bigger difference teaching special education online because I do get to provide direct instruction. I can see my students weekly due to our hybrid model, and, because I take the time to make sure that I make a difference—even if it's just turning in 1% more assignments to pass a class than the student had in the past—every accomplishment is worth celebrating, and online learning lends itself to that better.

At MCC, students are able to move at their own pace via the online curriculum, but also gain individual face-to-face attention during on campus time.

The teachers at NCC had subtly different roles compared with their counterparts at MCC. In the elementary division of the school, each student's parent takes the primary role of instructor. Parents make sure that their child is progressing through the curriculum and working through any materials. Teachers of the school visit each child—for one hour, once per week—to provide direct instruction and assessment and to address any individual issues during the learning process. Thus, NCC takes a unique approach by configuring a variety of resources to guide a student through the learning process. At home, the computer and parent play major roles in delivering instruction. Then, the school's teachers, and even counselors, visit to further guide the family through the learning process. The school counselor for NCC's K-8 program describes her role

and highlights the role of other staff, particularly in the implementation of individualized education plans:

I am the School Counselor for the K-8 program and also Chair of the Student Intervention Program (Response to Intervention). I am also the 504 Facilitator and am responsible for 504 plans for K-8.... With the eighth grade students, I do individual counseling, track achievement and also meet with parents.... With the K-7 students who are at home, I will meet at their home when I have a parent or teacher request. Counseling with this population is sometimes focused on assessing the problems for low achievement or dealing with social skills issues. My job is to provide support to the teacher and parent and work with the team to find solutions. Remember, this group has a teacher who goes into the home once a week for an hour.

In the high school division, students come to campus at least once per week in addition to their online coursework. Thus, high school teachers have dual responsibilities, as noted by one math teacher at NCC:

At [Nevada Cyber Charter], I have two main responsibilities. First is to monitor the progress of the students enrolled in my online courses. This consists of answering e-mails, grading student work, and encouraging students to meet established benchmarks. Secondly, I conduct two daily one-hour tutorial sessions to assist students in any of their math courses. Some are enrolled in my own classes, but most are not.

Teachers at NCC communicate, often intensely on a daily basis, with parents and students as they progress through the online curriculum. E-mail and phone calls are the main ways this communication occurs. In addition, teachers provide direct instruction and tutoring to students when they come on campus.

Finally, PCC offers a comparison point as the only fully online program in this study. Students complete all coursework at home, via a computer or curricular materials that are mailed to each family. Under the guidance of a learning coach, usually a parent, students participate in guided lessons, watch multimedia presentations, and take quizzes and tests using the school's content management system. Students also complete papers, project work, and other assignments offline and mail them to their teachers for grading. Teachers at PCC interact daily with their families via e-mail and phone, and teachers noted that this interaction is quite intense

and consistent due to the ubiquitous presence of communication technology. One teacher noted that:

That's why we're here, there's always someone here to talk to. We have to check each student regularly and step in when necessary. We do see all of their work. Usually, the students come to us. If they're stuck, I refer them to websites, skills tutoring, and programs for remediation.

The teachers at PCC also provide direct instruction in the form of “Live Sessions.” Teachers often schedule time for direct instruction online, and students may log in to attend a live lecture or presentation. Teachers present in real time, students may ask questions, and collaborative screens allow teachers and students to write messages and discuss issues during the live session. The sessions are popular with students as a way to obtain additional instruction from teachers, and most teachers reported having several live sessions per day. A major challenge for PCC teachers was time. The daily, individual communication with families, coupled with grading and live sessions, proves a challenging array of tasks. As one teacher noted, “I regularly schedule tutoring sessions, but there's not enough time to get everybody in.”

These shifts in teachers' daily practice give rise to a variety of policy concerns. For example, teachers' unions have questioned whether teachers in CCSs actually “teach” or fulfill the professional responsibilities of a quality instructor. In their opposition to CCSs, Wisconsin Education Association Council (WEAC)—the state teachers union—warns that, “This [Assembly Bill 1060] would have lowered the bar for the teaching profession by defining teaching in a virtual charter school merely as assigning grades or credits for pupils” (Wisconsin Education Association Council, 2008, para. 13). The experiences of teachers in the three cases presented here suggest otherwise. The teachers of the schools noted that their direct instruction time was much less than one would expect in a classroom teacher, but their responsibilities are far from merely assigning grades. A science teacher at NCC noted that, on top of her direct teaching responsibilities, she has an intense, daily responsibility to communicate with each of her students and their parents. She noted that “parents can walk up to your desk anytime,” send e-mails, or call teachers. The cyber schools in this study use technology to deliver instruction, sometimes replacing the teacher, but also lower the barriers to family-teacher interaction that result in a highly individualized process.

As cyber schools expand their reach in K-12 education, questions such as those raised by WEAC will remain significant challenges for

policymakers. How do we define quality teaching in online environments? What are the professional responsibilities of teachers in online schools? The experiences of teachers in the three cases here suggest that “teaching” takes very different roles in an online environment. While the cyber school teachers reported traditional teacher practices—instruction, grading, and communicating with families—the proportion of time dedicated to each activity shifted. As the computer handled much more of the delivery of instruction, the CCS teachers consulted more with parents, directed students to resources in a just-in-time basis, and participated in intense, daily, and individualized communication with families throughout the learning process.

The experiences of cyber school teachers also call into question the larger role of teacher preparation for virtual education. A science teacher at NCC noted that, “online teacher certification programs are poor quality. They are light years behind what is happening.” Furthermore, a look at Table 3 (above) highlights the teacher certification requirements for the three states examined in this study. Minnesota requires all teachers to be certified, while Nevada and Pennsylvania require a certain percentage of teachers with certification. States across the country vary considerably in these certification requirements, with some states allowing significant flexibility in teacher credentialing. If the responsibilities of teachers in cyber schools differ considerably from those in physical classrooms, policymakers and scholars will need to consider the role of teacher preparation, teacher policies, and certification programs in the near future. Debates about teacher quality and professional responsibilities in CCSs promise to be a vital challenge in the growth of online education in the K-12 system.

STUDENT ACHIEVEMENT AND ACCOUNTABILITY

As charter schools, the three CCSs in this study are required to comply with their state’s accountability laws. The general question of student achievement in charter schools is a complex research question, and the initial picture for cyber charter schools does not seem promising. In one of the only mentions of CCSs and student achievement, researchers in California found that students in nonclassroom-based charters had significantly lower test scores than their peers in traditional schools (Buddin & Zimmer, 2005; Gill et al., 2007). However, the analyses used in those studies could not fully account for unobserved variables. In the case of evaluating cyber schools, students’ prior educational histories loom large as a significant influence on their educational achievement. Buddin and Zimmer (2005) stated, “more explicitly, if non-classroom students have

been pulled out of conventional public schools because of problems in traditional settings, then conventional students who do not have these problems do not make a good comparison group” (p. 366). Of critical importance, then, is how students in cyber charter schools might differ from their peers in traditional public schools.

The three cyber schools in this study all appear to serve quite unique, niche student populations. A common theme among teachers, staff, parents, and students was that they sought the cyber schools as a needed alternative from the traditional school district. The Minnesota Cyber Charter began approximately 10 years ago as an alternative program within a school district. The program served a unique niche, catching students in grades 4-12 who were falling through the cracks or needing an alternative way to finish their credits. After MCC split from the district and established as a separate charter, they continued this tradition. Most of MCC’s students come from “at risk” backgrounds and they sought the school as an alternative. In 2004-2005 about 87% of MCC students were eligible and considered “at-risk” under a variety of state definitions. For example 8% of students were eligible for reduced lunch, 8% required special education services and 71% fell under “at-risk” categories such as being a teen parent, having mental health issues, truancy issues, or being far behind in required credits.

The student experience at MCC also shed some light on this issue. In an interview with Kathy,¹ a senior at MCC, she noted that she came to the school because:

I had issues with bullying and getting into fights at my old high school. I like the [MCC] model because I can work at my own pace and I have less social issues. I can come to the lab, put on my headphones, push out the distractions, and get all of my school work done.

Kathy was the student body president of the school, and she reported that the MCC also worked for her due to her unique schedule. She worked at two fast-food jobs in addition to finishing her high school credits. The online coursework and requirement of being on campus only twice a week helped her maintain a balance between work and academics.

The staff at NCC also noted that they served a student population that was “opting out” of the local school district. The director of the school observed:

We’re lucky in that [the district] is the fastest growing area in the

country, they can't keep up with the building of schools, even to house the kids that are moving in.... We're not looked at as a drain on their resources.

The school also seems a promising option for students with unique schooling needs. Nevada Cyber's school counselor commented:

We attract a wide variety of students and some have special needs. Our special education department is excellent, so I don't worry about those students because they have the support.... We have some students who suffer from school phobia, anxiety, and depression. My personal opinion is that these students are not good candidates for this program. They do not need the long week at home, away from peers and normal school activities. However, we do attract these students because this model is convenient. I am concerned that students may be left alone while parents work, and when we find this is the case, we intervene and recommend a return to traditional school.

Nevada Cyber provides special education services for approximately 10% of elementary and 20% of high school students. The faculty and staff of the school also note that a significant portion of students are working professionals such as actors, models, and competitive athletes with unique training schedules. For all of these students, an online option offered an alternative to the traditional schedule of the school district.

Whatever the motivations for parents and students in choosing a cyber charter school, they appear to seek a significant alternative to their traditional schooling experience. Students may have previous issues with low achievement or social considerations such as bullying, employment, or health considerations, which compel them to choose an alternative. Cyber schools seem to be a way for them to complete their academic work while at home and with increased parental guidance. Other students may have special scheduling needs, whether working a job or pursuing unique endeavors such as acting or sports. Students who are bored in their current classroom, and want to progress at their own accelerated pace, may also choose the cyber charter option. Finally, as Huerta et al. (2006) noted, a significant portion of families who would normally homeschool their children may find cyber charters an appealing education option. Whatever the reason, students in cyber charters may differ from their peers in considerable ways because they are seeking an extreme substitute to the normal public school experience.

The challenges of working with these unique student populations are significant considerations in the cyber charter debate. The teachers across the three schools were candid concerning the obstacles they face. One teacher at PCC stated that, “engaging students in online instruction, developing engaging curriculum and materials, knowing what resources are available, and technology, is a challenge.” Two teachers at NCC noted that motivation was a key concern in their cyber school, as one commented, “the kids that hide out and don’t work the system, they can more easily hide out and take away energy from the teacher.” A math teacher at NCC also stated, “My main challenge is to maintain the motivation of my enrolled students when I don’t see most of them on a regular basis.” Finally, the special education teacher at MCC highlighted a consistent concern among teachers that the student plays a much larger role in their success at a cyber charter school:

I think that, all in all, whether or not the student is successful depends on the student. The IEP team can develop the best plan in the world, but, if the student doesn’t participate in the creation of the plan and buy into the plan, it’s useless. Students need to trust me and I them so that we can get over their fears, dislikes, or whatever issue they (and/or their parents) have had with school and special education in the past and be successful at [MCC].

Many of the teachers commented that online schooling is not for every student. The model requires students to stay on top of their coursework, be self-disciplined, and also actively seek out help from their teachers when they have issues. The online model also requires increased parent participation, as parents are usually charged with ensuring that students are making progress. These requirements sometimes seem at odds with a student population that often requires special attention. One teacher at NCC commented, “it is interesting that the most responsibility for learning is given to the least able students.”

Nevertheless, the majority of the teachers across the three cyber school cases voiced optimism for the online model and pointed to the many affordances that may prove beneficial for students. Students can progress at their own pace, working through the online curriculum and receiving individualized help along the way. The instructional models at both NCC and PCC require a committed, daily interaction between parents, teachers, students, and outside resources. This daily communication ironically helps create an intensely individualized learning process for the student, even as he or she learns from a distance. Finally, cyber schools appear to

be a vital alternative, and sometimes last resort, for students who want to complete their primary and secondary education. Recent media reports have covered the use of cyber schools for students who seek to finish their high school credits, but need an alternative setting to get their degree (Trotter, 2008).

CONCLUSIONS

This study utilizes a comparative case study strategy to examine three cyber charter schools across state contexts. I asked two major questions to (1) explore what current charter policies govern CCSs and (2) outline the practices in these schools that might illuminate future policy needs. The findings of this study suggest that state leadership is vital to facilitate the introduction of CCSs into the public school system. Policies that enable students to enroll across district boundaries take advantage of the affordances of online instruction. Furthermore, policymakers must grapple with per-pupil funding mechanisms that account for diverse enrollment possibilities. E-learning students can *possibly* enroll full-time, part-time, and beyond the usual academic schedules of traditional public schools. However, state policies will either enable or constrain these possibilities for online instruction. The three states in this study also monitor and certify online programs and mediate conflicts between cyber charters and school districts.

The practices of the three case schools also inform future policy debates in the areas of teacher policy and accountability. Teacher roles shift in an online environment when the computer is the primary source of instruction. The teacher does not become completely irrelevant. Rather, teachers become vital mentors, consultants, and conduits of education and information between school and family. The instructors provide highly individualized assistance to students as they progress at their own pace. The findings underscore deeper debates about the definition of teaching, teacher quality, and teacher preparation. Policymakers will need to grapple with questions of whether certification requirements are relevant for online teachers and staff, or whether new standards are needed. Furthermore, this study highlights the unique student populations served by cyber charters. Students and families select cyber schools for particular reasons that make them considerably different than their peers. Evaluating these schools will prove to be a challenging empirical question. Future evaluation of cyber charters and of charter schools as a whole will need to take into account students' prior background and educational histories.

This study offers several implications for future policy and research.

First, an industry survey of virtual schools by Watson and Ryan (2007) found that 17 states currently have cyber charter school programs. States that do not have a cyber charter program typically have one of several attributes: (1) they do not have a charter school law; (2) they have regulations that do not allow online charter schools or make them difficult to start; or (3) they do not allow students to enroll in schools outside of their resident school district. The report also stated, “in about 15 states there does not appear to be a reason why online charter schools do not exist, but none have yet been created, perhaps in part because of reluctance of charter school authorizers” (p. 17). The United States is in a unique moment of change, as online learning is gaining a foothold, but is not yet an established part of the public education system. This study helps policymakers and education researchers frame an understanding of cyber charters, as these school organizations continue to evolve in the future.

Second, the questions posed in this study are also opportunities for future scholarly work. The key limitation of this study is that it is a three-site case study and should not be seen as representative of all cyber schools across the country. As noted in this paper, cyber schools come in many flavors—from state-level schools to individual cyber charters. Furthermore, while only 17 states currently have cyber charter activity, those states may also differ in how they implement charter schools. Charter policies that govern authorizing, teacher preparation, and the evaluation of student achievement vary greatly across states. It should be noted that the exploratory study presented here considered the experiences of three schools and policy implications. However, numerous questions exist that are ripe for scholars in a variety of fields. Some fruitful questions include:

- Which instructional models in cyber schools are effective, and for what types of student?
- How are cyber schools spreading across the country? And how do new states craft policy mechanisms to account for these online institutions?
- Do cyber schools introduce financial efficiency? Or do they require the same level of funding as traditional brick-and-mortar schools?
- How can we evaluate the success or failure of cyber schools in terms of student achievement?

As online learning options evolve and grow in K-12 education, these questions will undoubtedly grow in importance. Many scholars have suggested that K-12 online learning is here to stay and may in fact gain a

strong foothold as technologies improve (Christensen, Horn, & Johnson, 2008; Maeroff, 2003). However, fundamental social questions will always remain that shape the use and growth of new technologies in public education.

Note

1. Pseudonyms are used in place of any names in this article.

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JUNE AHN is an Assistant Professor of Learning Sciences & Technology at the University of Maryland, College Park. His research examines the impact of communication technologies in education policy and student learning. He currently focuses on two research areas: (a) the policies and practices of K-12 cyber schools, and (b) the effect of social media on youth learning and information behavior.