

**Virtual Schooling at the K-12 Level:**

**A Study of Curricular and Instructional Decision-making by Teachers**

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THESIS

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This dissertation is dedicated to all of the students who have been denied access to the best teachers and to the best schools because they grew up living in the wrong place.

It is also dedicated to all of the virtual teachers, those who have been the early pioneers and explorers, and those who will be the future settlers of the virtual teaching landscape.

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## TABLE OF CONTENTS

<u>CHAPTER</u>	<u>PAGE</u>
1. INTRODUCTION.....	1
1.1 A New Phenomenon.....	1
1.2 History of the Phenomenon.....	6
1.3 A New Remedy Emerges: Potential Impact.....	11
1.4 Questions Raised.....	12
1.5 A Brief History Of Teacher Qualifications for Non-Local Teaching.....	14
2. LITERATURE REVIEW.....	17
2.1 Efforts By Quantitative Researchers To Study K-12 Virtual Schooling Practices.....	17
2.1.1 The North Central Regional Education Laboratory (NCREL) Study.....	18
2.1.2 The US DOE Study.....	19
2.2 School Reform Literature: Models Relevant To Virtual Schooling.....	23
2.3 Hidden Curricula.....	29
2.4 Curriculum Theory Literature: Theoretical Framework.....	30
2.5 A Brief History Of Establishment Of Professional Teaching Standards.....	35
2.6 Establishing Standards For Virtual Teaching.....	38
2.7 A Heritage Foundation White Paper On Virtual Schooling: Pro-Rated Vouchers.....	42
2.8 Case Studies Of Specific Virtual Schools.....	48
3. METHODOLOGY.....	51
3.1 Overview: Challenges Presented By The Phenomenon.....	51
3.2 Historical Development Of Methodologies For Studying Virtual Communities.....	52
3.3 Curriculum Inquiry: Contrasting Paradigms.....	56
3.4 Setting and Access.....	57
3.5 Identification Of Participants.....	58
3.6 Data Collection.....	60
3.7 Analysis & Interpretation.....	65
4. DATA AND ANALYSIS.....	67
4.1 Participants.....	67
4.2 Transcripts.....	70
4.3 Analysis Of Transcripts.....	94

## TABLE OF CONTENTS (continued)

<u>CHAPTER</u>	<u>PAGE</u>
5. DISCUSSION AND CONCLUSIONS.....	110
5.1 Methodological Influences On Data.....	110
5.2 Common Experiences Among Virtual Teachers.....	114
5.2.1 Terms Of Employment Among Virtual Teachers.....	114
5.2.2 Sense Of Job Security And Satisfaction Among Virtual Teachers: Being Valued.....	121
5.2.3 Curriculum Decision-Making: Being Trusted With Autonomy As An Expert.....	130
5.2.4 Experiences In Virtual <i>Course</i> -rooms: Tele-mentoring, Creating Customized Curriculum, And Implementing Individualized Instruction.....	136
5.2.5 Experiences In Virtual Schooling Communities.....	144
5.3 Do Virtual Classrooms Share Common Characteristics with One-Room Schoolhouses?.....	148
5.4 Do Virtual Schools Share Common Characteristics With Provider Networks?.....	151
5.5 The Purpose Of Virtual Schooling: Accessing A Curriculum Of Expert Teachers.....	153
5.6 Final Reflections: Further Questions for the Future.....	155
WORKS CITED.....	165
APPENDIX.....	170
VITA.....	173

## LIST OF TABLES

<u>TABLE</u>		<u>PAGE</u>
I.	CHECKLIST FOR SELECTING, PREPARING, AND EVALUATING ONLINE TEACHERS FOR K-12 STUDENTS.....	40
II.	INITIAL QUESTIONS.....	62
III.	TRANSCRIPT FOR PATTY.....	71
IV.	TRANSCRIPT FOR MARY.....	78
V.	TRANSCRIPT FOR JANE.....	85
VI.	TRANSCRIPT FOR SUE.....	90
VII.	SUMMARY ANALYSIS OF TRANSCRIPTS.....	95

## SUMMARY

A study of the experiences of K-12 virtual teachers was carried out, using a qualitative survey and interpretive approach. Four (4) virtual teachers with experience teaching in seven (7) virtual schools participated in the study; they had also served as teachers for many years in traditional, face-to-face, K-12 schools. Questions addressed working conditions and terms of employment, status, and decision-making authority surrounding curricular and instructional decisions, and professional preparation and credentialing for virtual teaching and for curriculum design for virtual schooling. Additional questions addressed the nature of virtual classroom interactions and interactions with other members of the virtual schooling community, including, colleagues, administrators, and parents.

Interpretive analysis revealed common experiences among participants. These included being treated as independent contractors working part-time under short-term contracts, feeling secure and satisfied in their positions, having the authority to design and modify the curriculum for the courses that they teach, relying on their own face-to-face teaching experience to make curricular decisions, and being evaluated based on the satisfaction of customers.

Interpretive Analysis also raised questions concerning the potential implications of the reported virtual teaching experiences for the future of schooling practices. These include questions concerning the future professional status of replaceable and outsource-able teachers, the future of pre-service professional preparation for virtual teaching, the future of common schooling experiences for all students, and the future of curriculum as a substitute for the decisions made by expert, professional teachers.

# **1. INTRODUCTION**

## **1.1 A New Phenomenon**

This chapter will highlight a newly emerging phenomenon within the K-12 curricular and instructional landscape, Virtual Schooling. A brief history of what I call non-local schooling leading up to the emergence of Virtual Schooling will be provided; I will share my own experiences within this history. The implications of Virtual Schooling will be explored, including the ways in which Virtual Schooling challenges the fundamental organizational structures of schooling, potentially in ways that may foster more equal access to quality educational programs, regardless of a student's location. Questions will be raised surrounding 1) potential conflicts between local and global decision-making about curriculum and instruction, schooling practices, and school culture; 2) potential conflicts between a personalization-customization model and a mass-production model for curriculum and instruction; 3) potential conflicts over who determines the required professional preparation and certification qualifications for professional teaching in virtual schools; and 4) potential conflicts over new organizational models for schooling that may emerge. These questions will be discussed in greater detail below. This study will inquire into the phenomenon of K-12 virtual schooling by exploring the experiences and perspectives of four virtual teachers who teach K-12 students in seven different virtual schools.

A newly-emerging and rapidly-growing phenomenon within the domain of K-12 education is the emergence of Virtual Schooling. A leading organization tracking the phenomenon, iNACOL, the InterNational AssoCiation for K-12 Online Learning, estimates that 1,500,000 K-12 students were enrolled in online learning courses in 2009 (INACOL, 2011). Over the two-year period from the 2005-2006 school year to the 2007-2008 school year, the Sloan Consortium reported a 47% increase for K-12 online learning enrollments from 700,000 in



2005-2006 to 1,030,000 in 2007-2008. They also reported that 75% of school districts had one or more students enrolled in an online or blended learning course by 2008 (Sloan, 2008).

I have often heard colleagues express the view that this phenomenon merely constitutes a new delivery system for the same old curriculum. However, it may be the case that this phenomenon offers not only the opportunity for curricular change, but also the newest and least-studied potential remedy for a long-standing, fundamental problem within the domain of K-12 education: the unequal distribution of access to high-quality schools, curriculum, and instruction. I am not alone in this view, nor am I the first to suggest this view; INACOL proposes that “Virtual Schools and online learning can help provide equal access to rigorous courses for all students, reducing inequities that exist across the educational system” (INACOL, 2011). In this view, the ability for students and teachers to interact across existing school district boundaries offers the potential to circumvent the underlying problem of unequal resources and curricular offerings within isolated districts by bridging existing barriers and challenging existing organizational structures. Separate schools were described as inherently unequal in the *Brown v. Board of Ed.* Supreme Court case (1954).

I have also heard colleagues suggest that access to technology may impose a similar barrier. The PEW Internet Project reported in 2005 that 87% of all youth between the ages of 12 and 17 use the internet, 21 million people (PEW Internet Project, 2005). By 2003, the National Center for Educational Statistics at the U.S. Department of Education was already reporting that 97% of students used computers by high school, and 80% used the internet (NCES, 2003). In my own experience, I have witnessed that students in even the lowest-income neighborhoods in Chicago have access to mobile communications technology (cell phones); this technology

already allows face-to-face video conferencing, with newer, portable, tablet-style devices offering even greater capabilities as costs continue to decrease.

Virtual schools already exist in many states, including Illinois; teachers are already teaching students not only throughout their state but across state lines. In 2010, Evergreen Consulting reported that supplemental or full-time online learning opportunities are available statewide to at least some students in 48 of the 50 states plus Washington, D.C. They also reported that 27 states, as well as Washington D.C, have statewide full-time online schools (Evergreen Consulting, 2010).

To my knowledge, at least three Virtual Schools already have a physical presence in Illinois: 1) The Illinois Virtual High School was established nearly 15 years ago offering a supplemental curriculum associated with the Illinois Math & Science Academy (Matthew Wicks & Associates, 2009), a residential school supported directly by the state legislature under higher education law; 2) The Chicago Virtual Charter School was more recently established in 2006 as a charter school serving the city of Chicago; this school is associated with the educational management company K12. This program includes a face-to-face component (Matthew Wicks & Associates, 2009). Through a position listing to hire a curriculum developer, I learned that the Chicago Virtual School's curriculum was developed and provided by the company K12 rather than by local teachers, leading me to question of the scope of services provided by an educational management company for a virtual school; and 3) The Gifted Learning Links program is part of the Center for Talent Development at Northwestern University, a program for gifted and talented students. This program offers both locally-developed enrichment courses and externally-developed, widely-adopted courses, such as Advanced Placement courses, as a supplemental program for students. All three (3) of these virtual schools were approached for

inclusion in this study; my professional experience includes working for the parent organizations of two (2) of these three (3) virtual schools.

The practice of Virtual Schooling within the K-12 domain may bring with it the potential to fundamentally challenge the pre-existing organizational structures for K-12 public schooling and to fundamentally change the culture associated with schooling, changing the very nature of the roles of community members and the interactions among them. Virtual Schooling may not be subject to the same constraints that had existed at the time when local schools had been established, particularly constraints that made traveling and communicating over long distances difficult. In my view, these constraints had favored local control of decision-making and had limited efforts to establish uniform curricular offerings to establishment of college entrance requirements and state-mandated graduation requirements.

Virtual Schooling may bring with it the potential for renewed conflict between locally-developed, personalized, customized curricula, and externally-developed, globally-imposed uniform curricula. One possibility is that the only courses and learning experiences that will be offered through Virtual Schooling are those that are one-size-fits-all curricula, universally-accepted beyond the local community – forming an essentially standardized curriculum to match the increasingly ubiquitous standardized tests associated with the No Child Left Behind Law. Another possibility is that courses offered through Virtual Schooling will be highly-differentiated, “ala carte” customized curricula -- including a broad range of guided independent study, elective courses and enrichment courses. In this study, the participating virtual teachers have had experience with both of these possibilities.

One such conflict has already arisen among the Illinois-based Virtual Schools; shortly after the Chicago Virtual Charter School was established as a charter school, litigation ensued

surrounding the degree to which this school was required to comply with the Illinois State Board of Education curriculum and the requirements of the Illinois School Code, rather than with the terms of its own charter; one controversy surrounded whether or not the school should be considered a “home school” which is exempt from the ISBE mandates, or whether it should be considered a charter school, exempt from the Illinois School Code definitions for attendance and direct (face-to-face) supervision during instruction (Matthew Wicks & Associates, 2009).

Included among the potential new organizational structures that may emerge are those that favor local decision-making, allowing teachers to offer their services directly to students (and parents) without the previously-existing constraints imposed by attendance area boundaries. Private-practice teaching may emerge in the same way that doctors or lawyers engage in private practice, guided by a not-yet-existing “standard of care”. A “medical group” or “law group” model may emerge in which groups of teachers join together of their own choosing to form “education groups”, hiring their own support staff.

Teachers may be able to schedule students individually or in small groups for personalized tutoring and mentorship; this stands in sharp contrast to the current system of classes which constrains efforts to a one-size-fits-all, mass-production, learning experience. If doctors treated patients 30 or more at a time, we would call that a mass-casualty triage – a situation in which doctors are compelled to prioritize to only treat a few; of necessity doctors are left ignoring the majority of patients. In the educational analog, the common existing structure of large class sizes impedes meeting each student’s needs.

The fundamental conflict that may emerge is between a mass-production orientation and a personalization orientation to creating curriculum and providing instruction. Both the current organizational structures of local schooling and the earlier technologies for non-local schooling

constrain schooling efforts to a mass-production orientation. Newer virtual schooling technologies enable, allow, and support a personalization model. The danger does exist that Virtual Schooling technologies could be used to further scale up provision delivery of mass-lectures or other media content.

The practice of Virtual Schooling within the K-12 domain may fundamentally change the culture associated with schooling, changing the very nature of the roles of community members and the interactions among them. The most extensive virtual schools have established entire programs that may have created their own virtual communities and cultures, with specific norms and roles; other virtual schooling programs take the form of supplemental programs, associated with traditional schools, and serving specific populations of school students, such as credit-recovery students or gifted & talented students.

## 1.2 History Of The Phenomenon

A major problem has been that different groups of students who attend different schools, located in different school districts, frequently experience educational programs, curriculum, and instruction of substantially unequal quality, with many students experiencing unacceptably-poor-quality educational programs. In previous studies of the problem by other researchers, most notably Anyon (1980), recognized qualitative differences between “hidden” curricular expectations at schools serving students from different social classes; this prior work emphasized the view that students were being prepared for qualitatively different future careers and roles within the workforce, and within the community, within each isolated school as it served primarily one particular social class (Anyon, 1980).

Since the time of the Brown v. Board of Education case (1954), a number of remedies have been attempted in order to provide more uniform access to better-quality, higher-

expectation educational programs for students who had been assigned to poor-quality, low-expectation educational programs as a result of the existing organizational structures of attendance area boundaries and district boundaries. The practice of “busing” is perhaps the best known of these, physically moving students to schools that were identified as being better in quality in the context of desegregation-integration.

I refer to these efforts collectively as “non-local schooling”, and consider them to be the predecessors of virtual schooling; I have personal experience with parts of this history. I include among the examples of establishing non-local schooling, the practices of establishing “distance learning”, establishing state-wide residential math-science schools, establishing magnet schools, establishing charter schools, and establishing online learning. My own experience includes teaching for 3 different state-wide math-science schools, one of which was using distance learning technology and evaluating the next-generation of that technology. My experience also includes working at two urban charter schools, serving as a founding faculty member during the establishment of one of them.

Though distance learning had existed before I had entered the teaching profession, my first encounter with distance learning occurred while I was working at one of the state-wide residential math-science schools; at that time this school had plans to broadcast lectures beyond their home state. This school were already broadcasting lectures within their state at that time, using a television broadcast studio; this technology had only allowed students to call in to the studio to be put live on the air to ask questions. In that context, I had been assigned to observe the next-generation of distance learning technology, then under development and being piloted by that state’s university, using a 4-way split screen for teleconferencing among four different

sites. This expensive, satellite-based technology had emerged just before the World Wide Web had become widely available and utilized, enabling other solutions to the problem.

My own experience had merged with the history of non-local schooling in the wake of the Nation at Risk Report (US DOE, 1983). I had no reason to believe that the suburban school that I had attended was in any way unusual or atypical; it had been characterized by a not-very-diverse student population, and, in my opinion, a weak academic program – representative of the “rising tide of mediocrity” bemoaned within that report. Upon later reading TedSizer’s *Horace’s Compromise*, based on a study of American high schools, I recognized my own school as consistent with his portrayals of typical high school experiences. Despite this experience, I attended MIT, learning there of the existence of two kinds of “special” schools in existence at that time that some fellow MIT students had attended: urban “magnet” schools for science and technology, and state-wide, residential, math and science schools, funded directly by state legislatures, available to all students in a given state. I had learned through both my fellow MIT students and my later experience working for 3 state-wide math-science schools, that both of these types of schools had been characterized by competitive, selective admissions. I began to question at that time why the opportunity to attend such a “better” high school had not been made available to me; my home state had no such schools at that time.

The urban magnet schools had begun appearing during the 1960’s following the Brown V. Board of Ed decision (1954) as part of the efforts to remedy segregation, attracting students across attendance area boundaries by providing better-quality programs, often with a unique focus, such as math and science (US DOE, 1965). The Bronx High School of Science, in New York City, is notable for having been established much earlier, in 1938 (Bronx High School of Science, 2011). In Chicago, the first such school established was Whitney Young Magnet High

School, which opened in 1975; planning for this school had begun in 1970, following the 1968 riots in the wake of the assassination of Dr Martin Luther King (Wikipedia, 2011).

The state-wide, residential, math-science schools were established in the mid to late 80's and early 90's following the Nation at Risk Report; early graduates had begun appearing as students at MIT between 1985 and 1989, during my years there, describing their experiences. They had their origins in efforts to overcome poor availability, especially in rural areas, of high-quality math and science teachers, curriculum, and instruction; in addition to attending classes, students had the opportunity to join a residential community of students of similar academic abilities due to the existence of the residential program. One of the earliest examples of this type of school was the North Carolina School of Science & Math, which was established in 1980 (North Carolina School of Science and Math, 2011).

During my teaching career as a STEM (Science, Technology, Engineering, and Math) educator, I had the opportunity to serve on the faculties of three of these state-wide, residential, math-science schools. At that time, in the late-1990's, there were only about a dozen such residential math-science schools in the country, largely in the southern and Midwestern states. Through teaching colleagues who had worked at others of these dozen, and through MIT students whom I had known who had attended others of these schools, I had heard second-hand about experiences at those schools as well. During this time, at least one of the residential math-science schools was already making plans to offer courses to students beyond the boundaries of their states using distance learning technology.

More recently, large numbers of Charter Schools emerged beginning in the 1990's. The first state to legally establish charter schools was Minnesota in 1991; by 2010, 40 states and the District of Columbia had laws allowing charter schools (Heritage Foundation, 2010). The Center



for Educational Reform (1999, 2003) tracked the rapid growth of the numbers of charter schools over the years. I had subscribed to their publications for many years. The establishment of these schools followed concerted political efforts during the 1980's to more-widely establish and popularize the 1950's-era idea of "school choice" through the establishment of "school vouchers, put forth by Milton Friedman (Friedman, 1955).

In my experience working for urban charter schools, including joining efforts to establish a new charter school intended as a national model, I learned that these schools served a defined geographic area, often an entire, large, urban school district, while still crossing local-level attendance area boundaries within that district; they relied on lottery-style admissions when demand exceeds the ability to accommodate.

I suspect that the recent emergence of virtual schools may enable a repeat of efforts to establish school vouchers that would pay for attendance at any virtual school, crossing district boundaries, unlike most existing charter schools.

In mid-2009, the Illinois state legislature approved a doubling of the number of charters allowed in the state from 60 to 120 (Heartland Institute, 2009). In my experience, as I have monitored advertisements for hiring by charter schools in Chicago, certain charter schools have begun employing a branded "franchise" model, replicating themselves at multiple sites, utilizing a uniform curriculum and instructional approach that teachers are required to implement. This trend was also evident in other states, based on listings of charter schools established over time by the Center for Education Reform (1999, 2003). The development of "franchisation" may have the potential to further evolve into a "sell it everywhere" online virtual school model.

Most recently, online learning has become widespread at the post-secondary level within the world of colleges and universities. The Sloan Consortium (2008) reported there were 3.6

million post-secondary students in the US that took at least one online course and that the number had grown to 4 million by 2008; the 2006 figures had been a 25% increase from the previous year. In my experience, colleges and universities seem interested in the potential for increasing enrollment by offering time and place convenience to students, as well as the opportunity for accommodating a more personalized pace through online learning. The now commonly heard mantra “any time, any place, any path, any pace” is used as a motto by one of the largest K-12 virtual schools, the Florida Virtual School (Florida Virtual School, 2011).

### 1.3 A New Remedy Emerges: Potential Impact

The emerging practice of Virtual Schooling at the K-12 level offers a potentially new remedy for the problem of unequal access to high-quality, high-expectation schooling, by enabling K-12 students to access curriculum and instruction (take courses) “online”, offered by entities outside their local school district, using modern telecommunications technologies, without the need for physical transportation to another school campus.

In my experience, I have observed that these experiences have evolved over time from initially being limited to one-way lecture broadcasts, or computer-based tutorials, to more face-to-face interactive videoconferencing and discussion as technology has evolved. I witnessed such a transition occurring in the mid-90’s at one of the state-wide math-science schools, just as “Web 1.0” was emerging. As what is called “Web 2.0” becomes more widely available and utilized, more interactive possibilities may emerge and be implemented.

My own experience with virtual schooling to date is limited to teaching courses at the university level using online Course Management Software that included establishing and moderating an online discussion forum, as well as online posting and submitting of assignments. My own course was primarily a face-to-face course, with a supplemental online component. The

online discussion forum component of my course constituted what is considered an asynchronous form of online learning. Some of my colleagues were already using a next-generation technology which allowed for live discussions; this is considered to be a synchronous form of online learning.

#### 1.4 Questions Raised

The practice of Virtual Schooling within the K-12 domain raises many questions surrounding curriculum and instruction; even though online learning has been both pioneered and widely implemented at the post-secondary level of colleges and universities, few of the questions relevant to K-12 schooling were raised in that environment. These questions need to be raised within the new environment of K-12 Virtual Schooling as a way of organizing thinking and reflecting about the phenomenon of virtual schooling. These questions will serve as guiding questions as virtual school teachers are interviewed in an effort to understand their experiences and perspectives on virtual schooling.

The first of these questions is “Who decides what (curriculum) students should learn? (Who decides what students should know and be able to do?) Potential conflict exists between two possible answers to this question, between one possibility that places decision-making at the local level, and another that places decision-making at a more-global level. This is to fundamentally ask whether local teachers, parents, students and communities are “deciders”, or whether teachers are mere “deliverers” of curriculum, whether parents and students are mere “recipients” of curriculum, whether the needs of local communities are inseparable from those of the world beyond the local community.

This question is closely tied to the question of “What future roles in the community and the world beyond are students being prepared to fulfill?” The previous work of Anyon had explored the future roles for which students were being prepared by schools that served students from different social classes; the existence of virtual schooling gives rise to the possibility of engaging all students in a common curriculum, raising questions about the potential to prepare all students for more equitable roles in the community. Can all students access and succeed in school and in life through online classes / virtual schooling? Will a single high-expectation curriculum prevail? Or will tracking prevail, promulgating a system of differing expectations for different students – high expectations for some, low expectations for others?

It also follows to ask “What kinds of instructional decisions are within the purview and authority of classroom teachers?” (Who decides what kinds of learning experiences students should have?) To the extent that teachers are viewed as having some capacity to make such decisions, the next logical question to ask is “How are teachers prepared for decision-making in the context of online teaching in a virtual school?”; which is akin to asking “Is additional professional knowledge needed to teach online in a virtual school?” and “Will the practice of teaching change in online virtual schools compared to teaching practices in local schools?” An affirmative view leads to further discussion of who has the authority to professionally train and certify online virtual school teachers as having the necessary additional professional knowledge. “Who decides who is qualified to teach online in virtual schools?”

I have sought information from professional schools of education about certification programs for teaching online; to date I have not yet identified any pre-service programs offered by professional schools of education for teaching online. These schools do not appear to be addressing this issue, despite their role in training and certifying teachers for local schools.

Surprisingly, many other degree programs, including traditional teaching certification programs, can be completed online. By 2006, a small number of “in-service” professional development programs for online teaching did appear to exist as part of continuing education efforts for existing teachers based on an article published in the ASCD’s journal, *Educational Leadership* (Revenaugh, 2005). One of the first such programs providing certification for online teaching appears to have been offered through the University of Wisconsin (2011).

I have encountered what appear to be certifications offered by other entities; these seem to be filling the gap through self-proclamation as authoritative experts. One example of this is the Master Online Teacher Certificate offer by ION, the Illinois Online Network (2011). Another example is certification provided by a professional association called TESOL (Teachers of English to Speakers of Other Languages) (2011), apparently since online learning is used extensively for this purpose. The alternative view would be that “anyone can teach online in a virtual school” – that no additional professional knowledge is required. This view holds significant implications for teaching professionals in local communities; they may find their jobs being “outsourced” through virtual schooling to other instruction-providers living in other states.

### 1.5 A Brief History Of Teacher Qualifications For Non-Local Teaching

Throughout the history of non-local schooling practices within the predecessors to virtual schooling, the question of who is qualified to teach has been raised repeatedly, with often surprising answers. In my own experience applying for, and being hired for, faculty positions at state-wide residential math-science schools, these schools did not required K-12 teacher certification for their instructors, even though those schools served students in grades 10-12; instead, I and other faculty members were required to meet the qualifications for being a University Instructor, holding either a masters degree or PhD, with expertise in the subject area

to be taught. In my experience, a more limited range of views about instructional practices prevailed as a result of this view of teaching qualifications; few questioned the appropriateness of broadcasting lectures using the limited distance learning technology of the day.

I would describe the practice of hiring individuals who were not certified to teach K-12 students to be an implementation of the view that no professional knowledge was required to teach, beyond knowing the subject – not far from the view that “anyone can teach”. The students in these schools were often among the top students within each state as a result of the selective admissions processes utilized; I often heard colleagues express a prevailing belief that this population of students did not require any pedagogy other than the lecturing typical of a college classroom in order to learn successfully.

In my own experience establishing a new urban high school, I again encountered an example of individuals being hired who were not certified to teach K-12 students. While I was in the role of interviewing potential teachers to be hired for the science department as chair, I had the experience of interviewing H1 visa candidates; the district had arranged for a large number of these individuals to be available for interview. I was informed of three criteria for considering candidates: 1) do they have a degree in their subject, 2) do they speak English well enough to be clearly understood, and 3) can they relate to the students that they will be serving (which was to ask whether they expected differentially quiet and respectful students.)

In my experience seeking employment with charter schools, these same practices were also beginning to be used by charter schools. Charter schools were allowed to hire non-certified teachers, because they were only required to have a certain percentage of the faculty holding certification; these non-certified teachers were still labeled as “highly-qualified” by virtue of

having a degree in the subject that they will teach, rather than by being professionally trained and credentialed as certified teachers.

In recent years, I have observed a growing number of Charter Schools using a franchise model to replicate themselves on multiple campuses. In my experience, they have been increasingly drawing upon additional sources of instruction-providers, who were neither professionally trained nor certified as professional teachers. Among these sources were programs such as Teach for America – a model in which individuals provide instruction for a short time (a year or two) before moving on with their non-teaching career plans. Another of these sources were H1B Visa programs, in which foreigners seeking to work in the US were allowed to provide instruction while engaging in “on-the-job training” by enrolling in professional teacher certification programs. The utilization of non-professionals, while claimed necessary owing to shortages of high-quality professional teachers, also served to further re-enforce the notion that “anyone can teach”, within a uniform, franchise model in which teachers were not required to make professional decisions.

## **CHAPTER 2: LITERATURE REVIEW**

### **2.1 Efforts By Quantitative Researchers To Study K-12 Virtual Schooling Practices**

Extensive literature searches have already been conducted by previous investigators conducting meta-analyses, two of which are included here, one for the practice of “distance education” and one for the practice of “online learning”; the distinctions in meanings, and the degree of overlap among meanings, for these labels is problematic for efforts to define the phenomenon, as a pre-requisite for attempting to make clear comparisons or generalizations. “Distance Education” takes many different forms, as does “online learning”, with some degree of overlap between each of these practices and the practice of Virtual Schooling. The term “e-learning” is also in usage, further complicating matters. One meta-analysis used thirteen (13) different search term labels for the phenomenon in its literature search (NCREL, 2004). In my view, the unsettled nature of the vocabulary and terminology is indicative of the nature of the phenomenon as a paradigm shift that is currently occurring, in my view.

Not only does the multitude of terms and meanings utilized render literature searches difficult, the multitude of differing forums in which such literature appears also compounds and exacerbates efforts to gain a comprehensive view of previous writing and work pertaining to the phenomenon. One meta-analysis itemized a search of 7 major databases, 35 different indexes for journal-specific abstracts, and a web search using 5 major search engines and including over 200 virtual school websites along with the websites of several distance education organizations (NCREL, 2004). Based on such search efforts as well as on my own efforts, I can confidently assert that there does not yet appear to exist within the literature, a single, focused forum for discussion of the K-12 virtual schooling phenomenon.



Previous extensive literature searches were self-described as quantitative meta-analyses, studies of studies, with the stated goals of identifying prior studies meeting “scientific” criteria, such as utilizing experimental or quasi-experimental methodologies, in order to statistically quantify the effectiveness of Virtual Schooling as a practice in comparison with traditional face-to-face schooling; this approach was, in turn, motivated by the desire to support evidence-based decision-making about whether or not to implement, or how best to continue implementing, the practice of Virtual Schooling within K-12 school programs, consistent with the No Child Left Behind Act of 2001 (NCREL, 2004; US DOE, 2010).

#### 2.1.1 The North Central Regional Educational Laboratory (NCREL) Study

One meta-analysis was conducted by The North Central Regional Educational Laboratory for the practice of “distance education” (NCREL, 2004); this meta-analysis identified 6 previous meta-analyses published between 2000 and 2003, *only one of which focused on K-12 learners*. The NCREL meta-analysis is notable for its effort to focus on K-12 level distance education programs, while still seeking studies meeting criteria to be considered “scientific”; the criteria established by the meta-analysis included use of treatment and control groups with quantitative measures of outcomes, including, but not limited to, “student academic achievement”, which appears to mean measurable, quantifiable student test scores and / or course grades. Other outcome variables included motivation, attitude, retention, and conduct. Only fourteen (14) studies meeting the established criteria were identified, ten (10) of which studied “virtual charter schools” which had then-recently been established in different states (NCREL, 2004).

The NCREL meta-analysis sought to determine quantitatively the effects of distance education, as a treatment, on K-12 “student academic achievement” and other outcomes; it also sought to determine the effects of specific treatment variables including content area, duration of

use, frequency of use, grade level of students, role of the instructor, type of school, timing of interactions, and pacing of the learning. The NCREL meta-analysis ultimately found *an effect size “not significantly different from zero”*; this result also applies to the specific treatment variables identified. These results argue that K-12 students experiencing distance education are neither harmed, nor benefited by the practice of distance education. But it also argues that little can be said about the effectiveness of factors that comprise distance education based on the existing literature (NCREL, 2004). One particularly important variable factor addressed by the NCREL meta-analysis in terms of its implications for the present study is the finding that “No studies described the levels of instructor preparation or experience required of, or possessed by, the instructors” (NCREL, 2004).

#### 2.1.2 The US DOE Study

A more recent meta-analysis was originally published by the US Department of Education in February of 2009, and has since been revised and republished in September of 2010, for the practice of “online learning”; this meta-analysis identified five (5) other previous meta-analyses. This meta-analysis specifically limited the definition of online learning to “Web-based instruction”, specifically “eliminating studies of video-based and audio-based telecourses or stand-alone, computer-based instruction”; this appears to mean that online learning is being defined by this meta-analysis as involving some degree of interaction with an instructor and / or other learners. Such a definition is consistent with my own understanding of the meaning of Virtual Schooling. The specific nature of this interaction remains unclear (US DOE, 2010).

Within this narrowed focus, the US DOE meta-analysis also sought to differentiate between differing purposes for online learning: between its use as an alternative [treatment] to traditional face-to-face learning, and its use as an enhancement supplementing traditional face-

to-face learning in what is often called “blended” learning. The US DOE asserts that these two purposes require differing degrees of evidence-based justification; while equivalent outcomes would suffice to justify the use of online learning as an alternative, superior outcomes would need to be in evidence in order to justify use of online learning as an additional, supplemental enhancement. The reasoning for this distinction appears to be one of differing costs between the two potential implementations of online learning, with the supplemental enhancement model being associated with higher costs than the outright replacement model (US DOE, 2010).

This narrower definition of the phenomenon in the US DOE meta-analysis was accompanied by a narrower set of criteria for acceptable methodologies used in prior studies of the phenomenon. In addition to requiring an experimental or controlled quasi-experimental design, the US DOE meta-analysis also required “an objective learning measure”, specifically screening out and discarding any prior studies that were deemed not to be objective, including those that described “student or teacher perceptions of learning or course quality, student affect, etc.” (US DOE, 2010). This would appear to eliminate from consideration any study using data-collection practices that previous meta-analyses had deemed acceptable, such as Likert-scale surveys, interviews, or classroom observations, to capture any affective aspect of the experiences of students or teachers. This apparently eliminates consideration of any aspect of the phenomenon of K-12 Virtual Schooling other than quantifiable changes in student performance as measured by some form of test of acquired skills or knowledge. In contrast, the present study seeks to qualitatively describe and examine the potential impact of Virtual Schooling on our system of schooling, including decision-making about curriculum and instructional practices.

The original literature search conducted for this meta-analysis had spanned the period between 1996 and 2006, had included five (5) other previous meta-analyses, and had *failed to*

*identify a single study meeting their strict established criteria* for the meta-analysis. The investigators subsequently extended their search through mid-2008, *resulting in the identification of only 5 studies meeting their established criteria and involving K-12 students in formal instructional contexts* (two others did not involve formal instruction); this grew to a total of 50 studies *when studies involving older learners were included*, with most of the additional studies having been published since 2004 (US DOE, 2010).

The decision to include studies of older, non-K-12 students, rather than to alter the strict criteria for inclusion of studies is notable in that such a decision departs from the underlying purpose of studying the phenomenon of online learning at the K-12 level. The focus appears to be on evaluating the “treatment” of online learning with any population of “patients” for which data is available, rather than first focusing on the experiences of K-12 “patients” who are already increasingly experiencing this “treatment”.

*Based on statistical analysis of the larger pool of 50 studies, including the studies involving older learners*, the study reported only small differences and mixed results for a number of different comparisons involving different variables; in addition to variables for replacing or supplementing face-to-face instruction, the study also sought to differentiate among three different types of learning: Expository Learning, Active Learning, and Interactive Learning. The study also sought to distinguish between “conditions” and “practices”, where conditions were defined as un-modifiable factors and where practices were defined as controllable variations on implementation, such as the choice between synchronous and asynchronous communication. *The largest differences were noted to coincide with the greatest variations in curriculum materials and instructional approaches* (US DOE, 2010).

This last point is significant in that the meta-analyses appear to regard Virtual Schooling as little more than a new method or new technique for delivering the same curriculum and the same instruction. Efforts to isolate such a method or technique as a single variable have *not* yet produced convincing results. In contrast, the present study recognizes that the explicit curriculum and / or the hidden curriculum will likely change when Virtual Schooling is implemented and that instructional practices will also likely change, rendering efforts to isolate a single variable to likely be futile and meaningless. The US DOE meta-analysis acknowledges that many of the studies it examined were conducted in settings other than K-12 schools, including medical training, corporate training, military training, career technology, and higher education; the meta-analysis cautions against generalizing to K-12 schooling for that reason (US DOE, 2010).

This decision to include studies outside the realm of K-12 schooling, rather than to alter the strict criteria for inclusion of studies is notable, once again, in that such a decision departs from the underlying purpose of studying the phenomenon of online learning at the K-12 level, specifically in K-12 Virtual Schools. Again, the focus appears to be on evaluating a “treatment” regardless of context, rather than on studying the impact of an increasingly-adopted treatment within the K-12 context. I would further add to the US DOE’s own caution, that the preponderance of skills-oriented procedural knowledge in most of these training settings may be unrepresentative of the desired learning in K-12 educational settings, that “training” and “education” may be distinct endeavors.

As a result of its two critical decisions, while the meta-analysis purports to examine the phenomenon of online learning in the context of K-12 schooling, it in fact avoids doing so by relying on studies of older learners outside of K-12 schools while eliminating qualitative, descriptive studies of the actual phenomenon of K-12 learners in K-12 online classrooms. As

previously noted, the focus rests with the “treatment” practice rather than with the actual phenomenon occurring in the K-12 setting. While five (5) studies were identified at the K-12 level, no valid generalizations could be drawn from that small number of studies. The present study represents a clear choice to instead study the actual phenomenon of K-12 Virtual Schooling, as it is occurring, using qualitative methods of necessity to describe the experiences of those participating in the phenomenon, recognizing that broad generalizations will be unobtainable through this approach.

Finally, in my own experience, one reason that scientific quantitative studies of K-12 Virtual Schooling are difficult to implement, is that individual practitioners seldom have access to teaching the same K-12 experience (unit-level, course-level, or program-level) in both traditional school and Virtual School contexts with matched groups of students, sharing the same teacher, in order to meet strict criteria for experimental or quasi-experimental design. The quantitative meta-analyses indicate the scarcity of rigorous quantitative research into the phenomenon of Virtual Schooling at the K-12 level. They also reflect the absence of a firm basis for recent policy recommendations, and ongoing practices.

## 2.2 School Reform Literature: Models Relevant To Virtual Schooling

In the absence of definitive quantitative studies of the phenomenon of Virtual Schooling, framing and developing qualitative questions surrounding the phenomenon appears to be an appropriate course of action. One starting point for this task is to reconsider earlier descriptions of models of alternatives to the traditional structure and organization of schooling practices. One or more of these alternative models may influence the practice of Virtual Schooling or become manifest through the practice.

Alternatives to traditional schooling practices have been discussed for at least half a century. Of particular interest for this study are proposed alternatives that separate and distinguish curriculum from the organizational structures and practices associated with the typical K-12 school experience, and that further seek to diminish the necessity of those structures and practices. Before reviewing earlier literature describing alternatives, for purposes of comparison, one notable description of what constitutes a typical school experience is contained within Theodore (Ted)Sizer's *Horace's Compromise*, based on "A Study of High Schools" that spanned 5 years and consisted of extensive observational visits to a wide variety of schools; Sizer describes a typical school day from both a veteran teacher's perspective, and from a student's perspective, in narrative form, based on collected observations and interviews. One of the most significant points emphasized by Sizer is the manner in which veteran teachers, represented by the composite character "Horace", are forced into making less-than-ideal decisions about practices, which constitute unavoidable compromises that diminish the quality of the educational experience for students, particularly in schools with large class sizes and large numbers of classes per teacher (Sizer, 1984). This point is of particular interest for the present study, which seeks to include an examination of teacher decision-making in newly-emerging context of Virtual Schooling.

Sizer (1984) also notably emphasizes that the observed organizational structures and practices are remarkably uniform across different schools, with the exception of one variable: the social class of the students served by the school; Sizer asserts his ability to predict school organizational structures and practices based on social class differences, stating "Tell me about the incomes of your students' families and I'll tell you about your school" (Sizer, 1984). He was,

of course, not the first to note this disparity; other notable examples of this recognition will be addressed later in this review.

One interesting place to begin reviewing earlier discussions of alternative schooling practices is with the 1960 publication of A.S. Neill's *Summerhill*, describing a school in which learners were not compelled to attend formal lessons, but instead pursued their own interests free from many of the organizational structures and mandatory practices typically associated with schools (Neill, 1960). During my own entry into the teaching profession, I had the opportunity to visit a school that seemed to exemplify the same ideas and practices as Summerhill, the Sudbury Valley School. Here, too, no teaching or teacher was utilized except on request; I had even been told during my visit to Sudbury that the students decided whom, if anyone, would be hired to teach them anything (Neill, 1960; personal visit to Sudbury, 1991).

What I find most noteworthy about these schools, based on Neill's descriptions and my own observations, is the nature of the relationship between the student, the teacher, and the curriculum. What was to be learned was determined largely by students' own self-motivation and interests. Appropriate resources and adults (teachers) to support desired learning were then sought. While these schools had been established long before the World Wide Web had become widely available as an information resource and means of communication, current Virtual Schooling practices could enable and support the Summerhill / Sudbury model in which learners seek resources, including communication with teachers and mentors, through Virtual School technologies, rather than seeking enrollment in prescribed school programs in their entirety. Existing supplemental Virtual Schooling programs are represented among the virtual schools in which participating teachers in this study teach; they may already be serving as a resource.



Ivan Illich was among the notable voices arguing for alternatives to existing schooling structures; Illich's 1970 publication of *Deschooling Society* more specifically argued to disestablish schooling institutions. Illich argued that efforts to create universal, equal schools were doomed to failure since much of a student's learning experience occurred outside the institution of school, and since learning is not a direct result of teaching. Illich further argued that the credentialing and certification functions of institutional schools should be decoupled from participation in school-based curriculum and instruction; Illich instead described learners attending their choice of "skill centers" staffed by "skill teachers" using an "edu-credit card" as a means of payment for services, an early description of school voucher and school choice concepts, but without the institutional schools as the means of delivery (Illich, 1970). Economist Milton Friedman had proposed the concept of school vouchers in 1955 to financially support customers' choices among competing schools in a free market model (Friedman, 1955). Illich is quick to distinguish skill acquisition from education, while maintaining his argument against institutional learning, referring more broadly to the work of Paulo Freire concerning pivotal ideas of common interest around which to center education. Finally, and perhaps most importantly for the present study, Illich describes a matching service among those wishing to learn and including those willing to teach, separating the act of teaching, or the right to teach, from any special institutional or professional designation or certification (Illich, 1970). Virtual Schooling may allow such a system to be implemented since it allows matches to be made with others who live beyond the immediate neighborhood, others who would otherwise be unavailable.

John Holt was another notable voice arguing for alternatives to traditional schooling structures; Holt's 1976 publication of *Instead of Education* distinguished between what he called "capital 'S' schools, (written S-schools)", and "small 's' schools, (written s-schools)" distinguished

largely by the difference between freedom and various forms of coercion. Holt begins by defining even Neill's Summerhill as a S-school, because students could not choose to work, or travel, or live unsupervised instead of attending Summerhill, not due to any failing on Neil's part in creating a school in which students were relatively free to choose what they did, but because the law viewed such activities as not being part of compulsory education in an institution called school. Holt cites a Spanish-language school run by CIDOC, a place where Ivan Illich had given seminars, as an example of an s-school, since students there were neither compelled to attend the s-school nor to learn (Holt, 1976).

Holt describes s-schools as serving those whom he calls "do-ers", rather than students, to emphasize the active role of learners, and the skills orientation of the curriculum. Holt further distinguishes between "T-eachers" and "t-eachers", identifying the distinction as whether the teacher or the learner decides what is to be learned; T-eachers decide and impose the curriculum, while t-eachers do not (Holt, 1976). Holt further describes resources such as libraries for do-ers, in which information is more directly available to do-ers, without being affiliated with S-schools; he describes the role of t-eachers as that of guides to possible paths of exploration (Holt, 1976). The World Wide Web, which had only appeared decades after Holt's writings, may serve in the role that Holt had imagined; Virtual Schooling may enable virtual teachers to serve more like the guides that Holt had envisioned.

I perceive a similarity between the examples of what Holt calls "Do-er" S-schools, focused on skill development, and the non-K-12 contexts in which many of the attempts at quantitative studies of Virtual Schooling have been conducted. Holt lists several skill-development schools including "typing schools, driving schools, cooking schools, dance schools, karate schools, ski schools" (Holt, 1976); the US DOE Study had listed contexts for quantitative

research into Virtual Schooling included medical training, corporate training, military training, and career technology (US DOE, 2010), all of which I would describe as having a skills orientation. Other specific examples of s-schools given by Holt include the Beacon Hill Free School in Boston and The Learning Exchange in Evanston, Illinois; these consisted of efforts to list opportunities to learn, facilitating matchmaking between those wishing to learn and those willing to t-each. Offerings of learning experiences could be made by anyone, without need for professional credentials as a T-teacher (Holt, 1976).

Holt's description of a catalog of learning opportunities, in which anyone could offer to lead an experience, and those interested could choose to participate, closely resembled my own previous experience during the Independent Activities Period each January at MIT. My own participation included both leading offered experiences and joining experiences offered by others. This period of time on campus was remarkably different from the remainder of the year when regular classes were the norm; in my experience, many regarded this period of time to be the best time to be on campus as a participating member of the MIT community. Virtual Schooling may take such a form, involving matchmaking between individuals as the means of determining the curriculum; Virtual Schooling however, has the potential to extend this model far beyond a single campus or geographic location. A supplemental Virtual School may also serve that purpose, since students are not assigned to compulsory classes, but instead choose to enroll in classes of their choosing from among the offerings. Some of the participating teachers in this study teach in virtual schools that provide supplemental curricula to virtual learners.

Holt also clearly articulates what he regards as the danger posed by global implementation of a compulsory education model ("compulsory treatment" model); he describes a "global schoolhouse . . . in which one group of people would have the right through our entire

lives to subject the rest of us to various sorts of tests, and if we did not measure up, to require us to submit to various kinds of treatments, i.e, education . . . until we did” (Holt, 1976). Virtual Schooling has the potential to become that global schoolhouse that Holt described and feared, if it is used to implement such a monolithic, one-size-fits-all curriculum and testing regime, by superceding local control of decision-making in favor of more-globalized decision making.

### 2.3 Hidden Curricula

Holt emphasizes that S-chools are already characterized by common curricula, and particularly by common “invisible curricula” that include “ideas and attitudes not in the [official] curriculum”, but instead “expressed or implied in the S-chool’s materials or textbooks....taught consciously and deliberately by T-eachers.....or taught unconsciously by T-eachers” (Holt, 1976). The invisible curriculum of Virtual Schooling, called the “hidden curriculum” by others, is of particular interest for this study, though it may prove to be elusive.

I had first encountered the notion of a hidden curriculum through Benson Snyder’s 1970 book “The Hidden Curriculum,” which had identified within the experiences of MIT students certain expectations that were not formally communicated by faculty members, yet which students needed to discern and meet in order to be successful (Snyder, 1970). I had experienced these hidden curricular expectations myself as an MIT student in the mid-late 1980’s. Among them were the need to practice “selective neglect”; instructors assigned more work than can be completed by most students within the available time, leaving students to prioritize and choose which work is the most important work to complete while less-important work goes incomplete.

More recently, Jean Anyon’s 1980 publication of “Social Class and the Hidden Curriculum of Work” studied hidden curricula in schools serving students from different social classes; she recognized and identified that different hidden curricular expectations existed for

schools serving students from different social classes. These hidden curricular expectations were manifested in the types of assignments and instructions given to different groups of students in schools serving students in different social classes. These hidden expectations prepared students to serve in differing future roles within the workforce. Some schools essentially tracked all of their students toward lower-expectation vocational educational programs, while other schools tracked their students toward higher expectation college-preparatory programs (Anyon, 1980).

Virtual Schools, too, may have hidden curricular expectations for students. I have already heard others suggest that only certain students, with certain characteristics, would benefit from Virtual Schooling, while others would not, leading me to question whether “tracking” would persist in the Virtual School context, with individual Virtual Schools serving only those students within one particular track. Some Virtual Schools may be oriented toward vocational preparation, emphasizing specific employer-demanded skills and preparing students for specific types of functional jobs, while other Virtual Schools may be oriented toward college preparation, emphasizing more abstract academic work and preparing students for professional careers.

#### 2.4 Curriculum Theory Literature: Theoretical Framework

Among the orientations to curriculum identified by Schubert (1997), the school reformers discussed above (Neill, Illich, and Holt) could be described as representing the Experientialist school of thought. In response to three central questions: what’s worthwhile?, why is it worthwhile?, and how is it (what’s worthwhile) acquired? (Schubert, 1997), they would likely concur that interchanges of ideas and experiences are worthwhile (while de-emphasizing the designation of experts), in order to foster un-coerced, democratic reflection, by pursuing self-identified interests in a self-motivated manner. They would likely further agree in response to questions of “Who should learn? Where should learning occur? and When should learning

occur?” (Schubert, 1997), that the entire community should be involved, that learning should take place beyond the walls of institutional schools, in the larger community, and that learning should be a life-long endeavor.

The experientialist school of thought stands in contrast to other orientations, particularly to the Social Behaviorist (applied science) perspective. I would describe this school of thought as most closely associated with the currently-prevailing school-reform practices within the organizational structures of institutionalized schools. The answers to the above questions from this perspective would likely be that modern skill-oriented knowledge is worthwhile, because students need marketable job skills to survive economically in a post-industrial and post-agricultural world, and that best practices derived from objective, quantitative research should determine how students are taught. They would likely further respond that learners should be tracked by measured ability into differing curricula, in different versions of school, following a research-based determination of the best alternative (Schubert, 1997).

In my view, each of these schools of thought will seek, and are already seeking, to lay claim to the newly-emerging landscape of Virtual Schooling, and each such effort will take a distinctly different form. I recognize the quantitative research efforts to date as serving the purposes of the Social Behaviorists by seeking to determine the effectiveness of Virtual Schooling for specific populations of students, for specific subjects, using specific variations on the technology, all in order to determine whether and how best to implement the practice as a proposed new “treatment”, among many other treatments. By initiating quantitative research into the practice of Virtual Schooling, the Social Behaviorists may have gained a head start on using Virtual Schooling for their own purposes; however, the quantitative research has not yet yielded sufficient data that they would deem necessary for making decisions about implementation. I

should note that this lack of evidence-based data concerning the practice has neither prevented, nor slowed, nor stopped the emergence of the practice; this reality might be expected to give the Social Behaviorists pause when considering allowing the practice to continue unabated and “unproven”. I interpret the meta-analyses to date as content to demonstrate that the new treatment “does no harm” in comparison with traditional treatments, or more specifically that “no evidence of harm being done” by the practice has emerged to date, as narrowly defined and measured by specific test scores and performance measures.

In my view, those subscribing to the experientialist curriculum orientation have also begun to realize the potential of Virtual Schooling toward achieving their purposes and goals. Both the Home-schooling movement and the Charter School movement seem to have embraced Virtual Schooling. By 2003, the Center for Educational Reform had already listed in its National Charter School Directory a total of 57 “Virtual / Cyber Charter Schools” based within 13 different states, as the result of closely tracking the emergence of charter schools over a long period of time (Center for Education Reform, 2003). Home-schooling usage of Virtual Schooling in order to access additional resources and additional teachers is more difficult to gauge; to my knowledge, a number of states have required home schooling families to meet requirements for demonstrating teacher qualifications, following a state-mandated curriculum, and demonstrating student learning through state-wide testing.

Virtual Schooling may offer a fresh perspective regarding the question of “what’s worthwhile?,” specifically whether that question can be separated from the question of “with whom is it worthwhile to interact?” as a teacher, guide, and mentor, and, perhaps also as fellow learners. At least some of the knowledge that is most worthwhile may be the knowledge and skills already possessed by a mentor / master for any particular area of knowledge or skill. In a

very real sense, the curriculum may be inseparable from the expertise and the expert tutelage of a particular teacher, mentor, or guide; this view is the anti-thesis that teachers, mentors, and guides are interchangeable, and the expectation that students will learn the same curriculum no matter who the teacher may be. The journeys and experiences that result from interacting with one particular “expert” teacher, guide, or mentor may well be more worthwhile than those that would result from interacting with another less-expert one.

From this perspective, Virtual Schools may provide more worthwhile curricula by allowing students to interact with more-expert teachers, mentors, and guides with whom they would otherwise be prevented from interacting by the existence of organizational structures such as school attendance area boundaries or district boundaries. An old adage often voiced within the world of private schools that “Teachers *are* the school” recognizes that ultimately teachers decide what constitutes the curriculum. I would suggest that this is distinct from the experientialist view in that it is not the experience as such that constitutes the curriculum but rather the series of recommendations, advisements, and decisions, furnished by the guide, mentor, and teacher which shapes and influences the actual the journey. Virtual schools may allow students to assemble their own “all-star team” of expert mentors, guides, and teachers, through an *a la carte* selection process, in contrast with, using the comparable analogy, being forced to choose a “complete dinner” consisting of a prescribed sequence of courses served by any one particular school’s roster of faculty. This may also be described as the difference between an “information pull” model as compared with an “information push” model.

One problem, which I call the Problem of Sequences and Pre-Requisites, that arises from the view that *Teachers are the Curriculum* occurs when learners engage in subsequent learning experiences with a different teacher / mentor / guide; this creates the situation in which



expectations may exist about the nature and quality of the previous learning experiences under the tutelage of another teacher / mentor / guide. While one solution to this problem is for the new teacher to carefully and thoroughly assess what the learner has previously learned from others, temptation exists to call for increasing standardization of the previous experiences, to be established as defined course pre-requisites. Doing so constrains and limits the number of possible paths / journeys by requiring a list of specific milestones (weigh points) to be included in the journey. This also leads back to the situation in which teachers are treated as being interchangeable, effectively diminishing the importance of the teacher by creating an environment in which all teachers are expected to provide the same learning experiences.

Virtual Schools have the potential to foster greater teacher-level decision-making and to thereby encourage the perspective that a given learning experience will be different when experienced with different teachers, rather than the perspective that a given learning experience will be identical regardless of who the teacher may be. An important question is whether schools were established for the purpose of providing students with access to expert mentors, guides, and teachers at a time when geographic separation impeded such access? Alternatively, were schools established for the purpose of designating by credentialing that prospective employees possessed the job-related skills that employers identified as important and demanded of their hires? In the former case, the present-day existence of telecommunication technologies may allow Virtual Schools to replace brick-and-mortar schools, while continuing to serve the same purpose, since the problem of geographic separation of learners and mentors, guides, and teachers is no longer a problem. In that case, learners may be able to more significantly determine both who their teachers will be and what they will learn. In the latter case, Virtual Schools may continue to serve the needs of the employers by globally imposing a universal curriculum of specific,

itemized, job-related skills, verified through high-stakes testing. This approach diminishes the decision-making of teachers by imposing centralized decision making; by testing whether all learners have arrived at specified way-points / benchmarks / milestones, learners are forced (coerced) to follow the same route to the same destination.

The present study seeks to understand the experiences of teachers who are teaching in Virtual Schools; among the aspects of teacher's Virtual Teaching experiences that are of interest, are the decisions that these teachers make as distinct from those made in traditional schooling experiences, and the professional preparation that the teachers have experienced that had prepared them for making such decisions in a Virtual School. Pinar's 2007 account of the history of the curriculum field, and particularly of the paradigm shift represented by the reconceptualist movement, includes a description of autobiographical and biographical efforts to understand teachers' experiences, including those of Ayers and Schubert (1992) (Pinar, 2007). This leads to the larger questions surrounding teacher qualifications, especially Who is qualified to decide the curriculum for everyone? or to decide a curriculum for each student?

## 2.5 A Brief History Of Establishment Of Professional Teaching Standards

One of the important landmarks amid the efforts to establish elevated qualifications for entering and serving in the teaching profession was the series of reports issued by the Holmes Group including Tomorrow's Teachers and Tomorrow's Schools (Holmes Group, 1986, 1990). In my view, these reports sought to more clearly professionalize entry into the teaching profession, based on the models of other professions, especially the medical profession. In my view, the purpose of The Holmes Group was to more firmly establish teachers as professional

decision-makers, drawing from a body of professional knowledge in order to make a multitude of daily decisions exercising professional judgment.

Among the recommendations contained within these reports were the notion that teachers needed to possess both strong content knowledge for a specific field and strong knowledge of pedagogy for learning in that specific field. This is comparable to the notion that in order to be an effective guide for a journey, the guide must know the landscape that will be traversed thoroughly including worthwhile destinations, but must also know multiple routes and methods of travel toward that destination. Without content knowledge, the teacher-guide wouldn't know the landscape being traveled and explored; without knowing pedagogy, they wouldn't know alternate routes, and alternate means of travel. The Holmes Group recommendations included that undergraduate education programs be eliminated, and that prospective teachers first complete an undergraduate major in the field to be taught, followed by graduate-level study of how students learn best in that field (Holmes Group, 1986; Holmes Group 1990).

The Holmes group further recommended the establishment of Professional Development Schools, based on the model of a medical school residency; in this model, novice teachers learned the practice of teaching by being apprenticed under the tutelage of designated master teachers (Holmes Group, 1986, 1990). I was one of the first graduate-level science education students in the country to experience such a model during my own entry into the profession as part of a pilot program for a Professional Development School

Another important landmark among efforts to raise standards for the practice of teaching was the work of the National Board for Professional Teaching Standards. I was one of the first science teachers in the country to seek National Board certification in my own field of science education, as that credentialing process was first piloted. In my experience, the purpose of this

particular credential was to facilitate portability across state lines, establishing common, non-local qualifications; this was done in response to the problems faced when teachers were recruited across state lines in order to address shortages of teachers in certain fields in certain locations. By establishing what I would call a “least common denominator”, each state could be assured that a National Board certified teacher had met a set of minimum qualifications, which all participating states had agreed to accept as equivalent to their own state’s specific requirements for teacher certification. In my own experience, it was never intended to be used as designation of mastery, or as an indication of a more “highly qualified teacher”, as it has since come to be viewed; it does however require a minimum number of years of classroom teaching experience (as well as current work in a classroom), and so does denote that a teacher has survived their first few years in the profession, assuring schools that such a teacher is less likely to leave the profession after recruitment, or to need extensive support in their first years.

My own career had included being recruited across state lines, often by schools operating under different credentialing requirements; I made such a move while pursuing National Board certification. My new department chair had also pursued this certification, but had communicated that he did not perceive any value to it, discouraging me from bothering with it. At the time, some states were offering hiring bonuses for National Board Certification; I was leaving a state with a large bonus that highly valued the additional credential, for one without any such bonus, that did not, at the time, value the additional credential.

In my experience, one problem with National Board certification was the issue of “Who decided who among the applicants was qualified to join the membership?” Determinations about which applicants had met the required standard were to be made by those who themselves had been selected previously as having met the standards; this process is reminiscent of a fraternity

recruitment process. The first-generation selected was, therefore, unique in their selection process. This took decision-making about professional expertise and competence out of the hands of designated experts, professors of education. This would be akin to deciding that the judgment of professors in a medical school about a new doctor's qualifications and performance was no longer relevant, effectively bypassing and devaluing the expertise of the senior faculty members of the medical school. It would be like asking doctors early in their career to decide which other new doctors were doing a good enough job to become licensed.

## 2.6 Establishing Standards For Virtual Teaching

The first major effort toward establishing professional standards specific to teaching in an online, Virtual School context was produced by the Southern Regional Education Board (SREB) in 2003. The SREB promulgated a set of "Guidelines for Evaluating K-12 Online Teachers", consisting of two parts: 1) a 2-page overview prose description identifying essential questions and considerations related to Virtual Teacher qualifications, notably lacking any citations or references to any specific, identified research studies or their findings, and 2) a 5-page self-labeled "Checklist" evaluation, intended to be utilized by those administering a Virtual School in order to determine in a seemingly objective manner whether a teacher was "recommended" or "not recommended" (qualified or not) for service in the role of teaching in a Virtual School setting. As with the overview, the Checklist lacks any citations or references to any specific, identified research studies or their findings that might serve as a basis in published research for the stated criteria (SREB, 2003).

The SREB Guidelines document overview identifies only three differences between online teaching and traditional teaching:

- “1) Online teachers rarely, if ever, see their students; they communicate primarily through writing;
- 2) Online teachers provide courses through computers and the Internet. As a result, teachers and students can work any time and in any place; and
- 3) Online teachers need strategies to ensure that each online student participates actively (SREB, 2003).”

The SREB evaluation Checklist document itemizes 26 specific criteria along with indications that teachers have met the respective criteria spread over four (4) broad domains: 1) State Qualifications; 2) Curriculum, Assessment, and Student Assessment; 3) Management; and, 4) Evaluation. (See Table I.) The Checklist included blank columns – omitted below – to be used by administrative evaluators, to indicate whether a Virtual Teacher “Meets criteria”, “Somewhat meets criteria”, or “Does not meet criteria” for each of the 26 criteria (SREB, 2003). The Checklist closely resembles a generic evaluation that could be utilized for evaluating teaching in traditional face-to-face K-12 classrooms; few of the checklist items address issues unique to online teaching. On the other hand, the Checklist’s emphasis on K-12 level instruction may set it apart from other evaluation schemes used at the post-secondary level for online instruction, where widespread use of online instruction preceded widespread use at the K-12 level; I have yet not encountered a similar evaluation document specifically establishing guidelines or standards for post-secondary online teaching for purposes of comparison.

Table I: Checklist for Selecting, Preparing, and Evaluating Online Teachers for K-12 Students

Criteria	Indications
<i>State Qualifications</i>	
The teacher meets the core professional-teaching standards established by state licensing agency.	Recent evaluations report that the teacher is utilizing the core professional-teaching standards.
The teacher has the necessary academic credentials in the field in which he or she is teaching.	The teacher provided evidence that he or she has credentials in the field of study to be taught.
The teacher has the prerequisite technology skills to teach online.	The teacher can provide evidence that he or she can use Internet browsers, e-mail applications (including attaching and downloading files) and word processing applications.
<i>Curriculum, Instruction, and Student Assessment</i>	
The teacher assesses each students' background and content knowledge before beginning instruction.	The teacher demonstrates knowledge of each student and bases instruction on the student's academic needs.
The teacher uses appropriate technology to teach the online course successfully.	The teacher demonstrates effective use of e-mail applications and course-management software to teach the online course.
The teacher uses fair, adequate, and appropriate methods to assess students' mastery of content.	The teacher uses valid, reliable assessments. These assessments may include online or proctored testing, performance assessments, standardized tests, projects, demonstrations, multimedia presentations, case studies, simulations, or electronic portfolios.
The teacher demonstrates high-quality written communication skills.	The teacher's ability to communicate effectively in writing is evident in the course syllabus, learning activities, instructions, threaded discussions, and email.
The teacher makes clear to students his or her availability and willingness to support them.	The teacher actively responds to students and anticipates their needs.
The teacher facilitates and monitors appropriate interaction among students.	Collaborative learning opportunities – through emails, discussion strands, simulations, lab activities, and other group projects – are embedded in the course and are monitored by the teacher.
The teacher provides and enforces appropriate standards for student behavior.	The teacher establishes standards for student behavior that are designed to ensure academic integrity and appropriate uses of the Internet and written communications.
The teacher's instruction complies with the Americans with Disabilities Act.	All course materials are provided in a format that can be used by students with a range of abilities or disabilities. If the materials are not compatible with assistive technology, students with disabilities still must be able to use them.
The teacher uses online resources effectively to deliver instruction.	All materials and / or Web resources have been reviewed for appropriateness and are aligned with course objectives and standards.
When appropriate, the teacher gets others to assist him or her in supporting students' learning.	The teacher provides access to technical and academic support personnel to meet students' needs.

<b>Criteria</b>	<b>Indications</b>
The teacher adapts the Web-based course to meet students' needs.	Learning activities for the course have been adapted to meet the needs of the current group of students.
The teacher promotes student participation and interaction.	Collaborative learning opportunities – through e-mails, discussion strands, simulations, lab activities, and other group projects – encourage student participation and interaction.
<i>Management</i>	
The teacher ensures that students know one another and feel comfortable interacting with one another online.	The teacher includes ice breakers and other activities to build relationships among students and to create a learning community.
The teacher provides students with timely feedback.	The teacher responds to students' questions within 24 hours. Feedback may include e-mails, discussions, telephone calls, regular progress reports and term/ semester grades.
The teacher ensures that students' work and data are secure.	Student information remains confidential as required by the Family Education Rights and Privacy Act.
The teacher monitors students to ensure academic honesty.	Learning activities and assessments are designed to promote academic honesty.
The teacher helps students with technical issues.	The teacher tells students what materials and technological resources they will need and how they may be obtained.
The teacher coordinates and assists students in understanding course requirements and procedures for working online.	Students are given clear timelines for learning activities and assessments. Students receive a list of rules for participation in the online environment and a list of issues associated with the use of copyrighted materials.
The teacher guides and monitors students' management of their time.	The teacher monitors student progress by using management tools provided in the course. The teacher has intervention plans for students who are failing.
The teacher shares information about student progress with mentors, principals, and parents.	The teacher maintains regular contact with key people at students' school(s) and with their parents.
<i>Evaluation</i>	
The teacher understands that student success is an important measure of course success.	Evaluation of the course includes students' grades, levels of participation and final exam scores, as well as the percentage of students who enrolled in the course and completed it successfully.
The teacher accepts and follows policies and procedures to monitor courses.	The teacher provides school and state agencies with the necessary data to show that the course is meeting standards and state requirements.
The teacher ensures that students participate actively in the course.	The teacher provides clear rules for participation and monitors student participation.

(Adapted from SREB, 2003.)



In the same year, 2003, published articles were already emerging written by faculty members of Colleges of Education raising the issue of the need for establishing requirements for teacher education students, including student teaching fieldwork in “distance education” settings and other specific training (Thompson, 2003). Entities other than schools of education have also begun contemplating defining best practices for offering (in-service) “professional development” and supplemental credentialing for online (Virtual) teaching (training?). One such organization is the Illinois Online Network; the organization’s Director, Michael Lindeman, published a weblog in 2005 considering the state of affairs following an unspecified conference, indicating a need to connect Professional Development practices to not-yet-existing research to “determine what works” (Lindeman, 2005).

In my view, both the establishment of new professional standards, and suggestions of new requirements for pre-service or in-service teachers are pre-mature, given the as-yet inconclusive results from quantitative analyses of Virtual Schooling practices. From a social behaviorist perspective, an apparent contradiction seems clear that despite scant, unconvincing evidence about the practice, standards for the practice have already been promulgated (by proponents / advocates?) by certain organizations; this does not seem to exemplify evidence-based decision making. Despite this, I have also observed advertisements offering a wide variety of training programs and credentialing, particularly within the world of corporate training.

## 2.7 A Heritage Foundation White Paper on Virtual Schooling: Pro-Rated Vouchers

One of the best, and most recent examples of a policy white paper about the practice of Virtual Schooling was produced by The Heritage Foundation in 2010 entitled “How Online Learning is Revolutionizing K-12 Education and Benefiting Students”; this report briefly

describes the overall landscape of Virtual Schooling, raises a number of important questions, and offers policy recommendations for policy makers at all levels of government concerning ways to support and expand the practice of Virtual Schooling (Heritage Foundation, 2010).

One series of questions raised centers on the problem of limited access to high quality schools and teachers for many students due to factors beyond their control, for which virtual schooling is proposed as a solution. The fundamental questions are 1) “does the child live near a good school?”, emphasizing that geography, district boundaries, and delineated attendance areas have been a limitation on available choices; 2) “if not, [do the child’s] parents have the financial means to place [them] in a quality learning environment?”, emphasizing the inequitable situation that affluent parents have the ability to “opt out” of a low-quality public school system by paying for private or parochial schooling, or by relocating into another district or delineated attendance area, while low-income parents do not have those options; 3) “Was the child placed in a class with the best teacher?”, emphasizing the limitation of only being able to choose an entire school program rather than being able to choose, or avoid, *a-la-carte*, specific teachers in order to ensure that only the best teachers provide service, and 4) “Are the teacher’s lessons -- designed to instruct a classroom of 16 or more students -- tailored to [the child’s] level, learning style, and interests?”, emphasizing the limitations surrounding the abilities of even the best teachers to customize each lesson for each child, given a large number of children to accommodate – in public schools, often double the number mentioned (Heritage Foundation, 2010).

Another series of questions raised center around envisioning the phenomenon: 1) “What does it mean to say that a child is being taught through an online or virtual education program?”; 2) “How would a child interact with a teacher online?”; and, 3) “How would such an online program be funded or governed?” (Heritage Foundation, 2010). The first two of these are

answered by a brief overview of the varying manifestations of the virtual schooling phenomenon. The white paper devotes the majority of its effort to addressing the third question concerning funding and governance, along with a discussion of potential benefits as part of the justification for advocating implementation.

The discussion surrounding funding begins by suggesting that virtual schooling will “improve productivity and lower the cost of education thereby reducing the burden on taxpayers.” A study is cited that projects that “a[n elementary] school could reduce its teaching staff by approximately one-sixth if elementary school students spent one hour per day learning electronically”, by, as is quoted from the original (Moe & Chubb, 2009), “relying more on technology (which is relatively cheap) and less on labor (which is relatively expensive).” Productivity is also cited regarding the actions of individual teachers, suggesting that online learning will “allow teachers to instruct students in more productive ways” (Heritage Foundation, 2010). Both of these suggestions imply that much of the work of teachers in current schools is unproductive, devaluing that work.

The funding discussion continues with advocacy of a free-market model, beginning with the suggestion that “parents should [increasingly be able to] purchase online learning services from a diverse range of independent providers.” Turning to funding provided through federal, and state, and local governments, specific suggestions are made concerning ways to “transform the current system of education finance and governance, which funds and regulates a system that was largely designed in the 19<sup>th</sup> and 20<sup>th</sup> centuries.” One specific proposal is to “reform funding formulas” to allow funding to follow students to virtual schools “without requiring the permission of their schools or school districts”, shifting decision-making, and funding, to parents and students and away from administrators of existing local schools. A further elaboration of this

proposal is to allow funding to follow students to their education services providers on a pro-rated basis, by “reforming a state’s share of per-pupil funding”, allowing “[a student’s] share of the school’s per-student enrollment funding [to be] redirected to the virtual school” based on the number of classes in which the student enrolls at the virtual school: “if a student takes one-fifth of [their] courses online, [then] one-fifth of [their] share of the student’s per-student enrollment funding should be redirected to the virtual school” (Heritage Foundation, 2010).

This effectively becomes an indirect means to implement school vouchers on a per-course-enrollment basis rather than on a full-tuition basis. The white paper advocates that all school funding streams, at all levels of government, should allow funding to follow students to virtual schools, a voucher / school-choice argument. At the Federal level, which is cited as 9.2% of school funding, funding is identified as flowing through several different departments and agencies, with recommendations to allow such funding to flow to virtual schools; these include Title I funding through the US Department of Education, funding for educating military families through the Department of Defense Education Activity, funding for educating students living on reservations through the Bureau of Indian Education, and funding for educating families of State Department Foreign Service personnel stationed overseas (Heritage Foundation 2010).

Among the “potential benefits” made possible by Virtual Schooling and emphasized within the report are 1) the “increased access to high-quality teachers”; 2) the “mass customization and optimization” of curriculum and instruction; 3) “increased flexibility” for students and “improved flexibility for teachers”; 4) “improved productivity and efficiency”, and 5) “innovation” (Heritage Foundation, 2010). A free market model permeates not only the most obvious consideration of increasing access to high-quality teachers regardless of the location, but also consideration of teacher flexibility by allowing teachers working from home to “expand the

talent pool of the teacher workforce and improve teacher quality” (Heritage Foundation, 2010). In both cases, by increasing the number of education service providers, more competition is introduced into the educational service provider profession (industry?), in contrast to a current system in which many students have no choice but a single provider, effectively being held captive to a local monopoly for providing services exclusively.

This could predictably lead to competition on the basis of price-point (cost), giving an advantage to low-cost providers for providers of indistinguishable-quality services. This path may inevitably lead to a world in which provision of educational services becomes commoditized and outsourced to low-cost providers, such as teachers living in India, who conveniently speak English.

This begs more questions: 1) How will teachers market themselves as providing a higher-quality, value-added service, more capably than other service providers, and command higher fees for service?; 2) How will the best teachers distinguish themselves through advertising?; 3) Will a customer satisfaction / consumer rating / consumer review and recommendation model prevail? (e.g. Angie’s List for contractors); 4) How will teachers build and defend their reputations? Some of the teachers participating in this study, who have provided services for more than one online program, may have already faced these questions. They may be able to their share perspectives not only on the problems posed, but also on any potential solutions.

It also follows to ask: “How will parents and students identify and choose the best teachers? Looking to other professions as a guide, objectively determining the quality of services provided by any given service provider -- individual doctor or lawyer, hospital or law firm -- can be difficult. While outcomes are often advertised, they may be inadequate. Even if customers could successfully determine the best doctor or lawyer, such choices may still not be accessible

or available. For health care services, an insurance model for payment for services by a third party may still restrict choice of doctors and hospitals, as does financial means outside of the insurance model. Further, an insurance model may base restrictions on lists of customary fees, and pre-negotiated agreements with networks of service providers. Some providers choose not to accept insurance payments as full payment, billing additional costs to the patient. School voucher plans may be regarded as third party payment plans, comparable to insurance payments for medical services. This raises the question of whether any type of voucher plan to pay for educational service providers would restrict the choices of service providers based on customary per-student fees or based on preferred networks of service providers. It also raises the question of whether a voucher would be accepted as full payment by all providers of educational services.

The Heritage Foundation white paper does not appear to consider the potential detriments that may arise from virtual schooling, such as the potential for loss of local control over decision-making about the curriculum and instruction through extensive use of centralized decision-making and standardized testing. This potential may have been overlooked due to the white paper's apparent agenda to advocate for and legislatively "green light" the practice of Virtual Schooling on an even larger scale than has already occurred through rapid growth.

Further evidence of the potential bias in this report is furnished by the manner in which this study cites the 2009 US DOE meta-analysis, isolating from within its findings one particular statement "students who took all or part of their class online performed better, on average, than those taking the same course through traditional face-to-face instruction." (US DOE, 2009 as quoted in Heritage Foundation, 2010) In doing so, previously-discussed caveats and cautions expressed within the US DOE meta-analysis are overlooked. This could be viewed as an example of "cherry-picking data", or at least of generalizing from very little data. Reports such

as this one appear to focus on how best to implement the practice of Virtual Schooling rather than on other issues, such as whether or not to implement the practice, or the potential impact on curriculum or the teaching profession.

## 2.8 Case Studies Of Specific Virtual Schools

Examples also exist of reports commissioned by providers of Virtual Schooling themselves, and conducted through consultants; one of the most extensive among these is The California Virtual School Report, published in 2002, consisting of 120 pages, including nearly 50 pages of Appendices; within this report, only one-half of one page was devoted to the topic of curriculum (University of California, 2002). A small number of entire books have been written and published by other Virtual Schooling Providers and their consultants, from the perspective of those who established and administered the Virtual School. Among these, are two books published by the well-respected Teachers College Press: a 2003 book entitled “The Virtual High School”, and a 2005 book entitled “Virtual Schools”. The 2003 book was written by members of SRI International, a consulting firm commissioned by “The” (not “a”) Virtual School in Massachusetts, associated with the Concord Consortium; this book describes itself as “a definitive study of an important emerging phenomenon: the use of virtual learning environments in U.S. pre-college education” (SRI International, 2003). The 2005 book has, as one of its editors, the president of an Illinois-based educational consulting firm; many of the chapters are written by consultants, or by Virtual School administrators, and constitute brief “case studies” of those particular virtual schools (Berge and Clark, Eds., 2005).

The 2003 book, *The Virtual High School*, describes a model in which selected teachers working for consortium-member schools become online teachers of a course for the Virtual School, with that course then being made available to virtual students at other member schools of

consortium as part of the virtual school's course offerings. The book provides a degree of qualitative description of the experiences of that particular virtual school, asking as one of its organizing questions "what is the online course experience for teachers and students?" and including identification of "lessons learned" (SRI International, 2003).

Of particular interest are the descriptions of part-time Virtual Teachers designing their own courses to be taught, the majority of which stem from teachers' own interests; this approach to curriculum development is described as being "unusual" in comparison with other virtual schools of the time, and as being supported by professional development coursework. The professional development courses were described as being taught by Consortium staffers and by prior VHS teachers; these individuals were not described as being associated with professional schools of education, but rather as "experts" who published a book summarizing the research to date about effective online pedagogy. The courses were described as initially being "one-of-a-kind", but evolving into a set of standard courses, with multiple sections taught by different teachers, leading to a second-tier form of professional development, a set of in-house course standards, and course standards developed by two external groups (SRI International, 2003).

The book emphasizes that not all traditional teachers, even outstanding traditional teachers, will be successful online teachers, stating that some "wash out" (quotes in original) during professional development (SRI International, 2003). Also of interest are descriptions of the school's model as "(quotes in original) "tinkering" with a standard structure of schooling that in most respects remains unchanged", while also describing a shift away from teachers using direct instruction and toward teachers as facilitators of students' work (SRI International, 2003). Meanwhile, students are described as often lacking the necessary independence and discipline needed to succeed in an online course, as an explanation for high "drop-out" / "stop-out" rates



experienced by this and other virtual schools, meaning that students often do not complete the courses in which they are enrolled (SRI International, 2003).

An abundance of articles have been written to create a general awareness of Virtual Schooling. A few of these are promulgated by professional associations intended to raise awareness among educators; one such example is an article published by ASCD (Association for Supervision and Curriculum Development) in the December 2005 / January 2006 edition of *Educational Leadership* entitled “K-8 Virtual Schools: A Glimpse Into the Future” (Revenaugh, 2005). The majority, however are journalistic in nature. Since access to Virtual Schools is limited and controlled by the Virtual Schools themselves, and since these Virtual Schools pay for their own research studies, conducted by those paid by the Virtual Schools, independent studies of Virtual Schooling, beyond journalistic accounts, are rare and difficult to identify. Gaining limited access to Virtual School teachers presented one of the greatest challenges for this study.

### **3. METHODOLOGY**

#### **3.1 Overview: Challenges Presented By The Phenomenon**

Studying the phenomenon of virtual schooling presents a combination of challenges. One challenge is the inability to associate the phenomenon of interest with a single, physical location that could be visited (accessed) for purposes of a study in order to identify and interact with community members, or to observe any aspect of life in the community. Other researchers have struggled with a similar challenge amid efforts to study open-access, open-membership, virtual communities more broadly; their efforts to overcome this challenge will be described below. A second challenge that further compounds the difficulty in studying the phenomenon is that schools (and virtual schools) are restricted-access communities, with controlled membership, rather than open-access communities; access to a school, whether a physical school or a virtual school, is commonly restricted to members of the school community, to the exclusion of outsiders. To my knowledge, other outside researchers have not faced this combination of challenges in their efforts to access and study other virtual communities. The available, existing descriptions of the phenomenon appear to have been provided by community insiders, including virtual school administrators and researchers commissioned by the virtual schools themselves; such individuals have a vested interest in conveying descriptions of the phenomenon that promote and encourage more widespread implementation of virtual schooling.

While I had first conceptualized the task of studying any aspect of life in a virtual school community as comparable to visiting a remote, inaccessible village on the Amazon, I eventually came to realize that gaining access to a virtual school was more similar to the task of gaining access to secret society meetings. The Amazon village, at least, had a physical location that could be visited, even if the location might be remote and difficult to access, even if the visit might be

unwelcome; at least potential informants to approach could be identified. Meanwhile, the virtual school community has no such location, and operates largely concealed from the view of those who have not been admitted to membership in the community; even the identities of most of the community members (students, families, and, often, teachers) are concealed from outsiders. Unlike traditional neighborhood schools, with a defined attendance area, even the locations of the students, their families, or their teachers cannot be readily determined by an outsider to a virtual school, thwarting efforts to identify potential informants. At least other secret societies have a physical meeting location that could potentially be visited. Even the notorious secret military base at Area 51 can be viewed through a telescope, and its commuters observed. Virtual school communities have no school busses to observe (no student-commuters), nor any parking lot filled with the cars of teacher-commuters.

### 3.2 Historical Development Of Methodologies For Studying Virtual Communities

Ethnographers have struggled since the mid-1990's with the first of these methodological challenges -- the lack of a single, physical, bounded geographic study site -- as they have sought to conduct "virtual ethnographies" for a variety of newly-emerging, open-access, open-membership virtual communities in the online environment. Ethnographers have sought to develop methodologies for the virtual landscape that would enable them to conduct studies comparable to the traditional ethnographic field study, in which the ethnographers would customarily immerse themselves in a community. The term "virtual communities" had been introduced as early as 1993 by Howard Rheingold in his book of the same title (Mason, 1996).

The American Folklore Society had published an early discussion of virtual ethnography by Bruce Mason in 1996. Mason identified 3 strategies for studying a specific type of virtual community in which communication occurred primarily via text, such as a newsgroup or a

mailing list (list-serve). The first strategy identified by Mason was to save all of the publicly-posted messages, as a transcript of the (single) discussion. Mason recognized, however, that this approach did not capture the many other private conversations that were likely occurring simultaneously via private email. The second strategy identified by Mason was to conduct an electronic survey of community members. Mason recognized that this approach did not capture the perspective of those members called “lurkers” who were passive readers rather than active posters, since the overwhelming majority of survey respondents were those who actively posted, rather than those who “lurked” as passive readers. The third strategy identified by Mason was to conduct email interviews (interviews via email exchange). Mason recognized difficulties with the execution of this approach, particularly the need to re-iterate both that the communication was part of a study and that the researcher desired to be able to include quotations from participants’ emails in the published research study (Mason 1996). In contrast to the primarily-public nature of interactions and discussions within open-membership virtual communities, like those addressed by Mason’s first two strategies, the private nature of classroom interactions and discussions within closed-membership virtual school communities poses additional challenges.

Mason’s third strategy has the potential to be applied to the closed-access world of virtual schooling; Mason further elaborated on this third strategy, describing a more detailed procedure for conducting semi-structured interviews via email, as a means of questioning members of the virtual community. The first part of this procedure was to invite participation in an e-interview and to clearly establish the nature and structure of future communications as part of a study for a particular purpose; subsequent emails were then identified as “part x” of the ongoing interview, with each part consisting of 3-4 questions. The semi-structured interview, planned in advance, could then be “manipulated to suit the ongoing discussion” (Mason, 1996; Mason, 1999).

While Mason lists other forms of communication for virtual communities, such as IRC (Internet Relay Chat), comparable to a live party line conversation using text, and other Multi-Users environments (MU), he offers no further specific strategies for studying virtual communities through those forms of communication. Mason only describes using the same approach to asking questions that would be used for conventional fieldwork, while keeping one's identity as a researcher conspicuous in each part of the ongoing communication (Mason 1996).

Professional conferences to discuss the subject of virtual ethnography were being held as early as 1998 by the AAA (American Anthropological Association) for the purpose of engaging in a “rethinking of anthropological “field methods” (quotes in original)”, in recognition of the fact that some researchers had already begun attempting to conduct internet-based field studies. These early efforts had led to a variety of questions being raised; the broadest of these asked “In what ways is webwork [virtual ethnographic work] (dis)similar to **conventional** research practices? (emphasis in original)” (American Anthropological Association, 1998). The need for continuing study in the area of virtual ethnography is highlighted by the 2004 offering of a significant number (11) of PhD scholarships by City University in London to support ongoing research in virtual ethnography.

Among the virtual ethnographers sharing early experiences was British researcher Christine Hine, who proposed 10 principles of virtual ethnography; these included: recognizing the dual nature of the virtual landscape as both culture and artifact; following field connections rather than going to field sites; questioning boundaries between “virtual” and “real” (quotations in original); engaging intermittently rather than through long-term immersion; and recognizing partiality based on particular research questions rather than seeking to faithfully represent objective realities (Hine, 1998; Hine, 2000; Hine, 2004).

In 2003, Canadian researchers Susan Crichton and Shelley Kinash identified strengths and weaknesses of synchronous or asynchronous text-based interactive interviewing online as a method for virtual ethnography; the synchronous case would correspond to interviewing through live text-based chat, while the asynchronous case would correspond to an email exchange, or possibly to alternating postings to a common forum. Among the strengths identified are the ability for participants to “take back their words” (quotes in original), to avoid putting regrettable words in print, and to carefully craft prose, as well as the absence of nonverbal cues from the interviewer that could influence the participant. The identified weaknesses include the limited non-verbal cues for encouragement, limited means of expression for emotion or empathy, inability to judge lapses in attention or distractions, and the lack of a multi-media record of the interview, such as a video (Crichton and Kinash, 2003).

British researcher Andrea Whittle identified 7 aspects of virtual ethnographic fieldwork work that posed challenges for her during her own PhD research. Among these were the problems of gaining access to enter the virtual community, and building trust and rapport. She described both of these problems as best overcome through personal, informal, face-to-face, off-line encounters, rather than through impersonal, online, email, phone, or other formal contacts. Whittle also notes that she was more actively encouraged to engage in the role of participant when she was physically present, compared to when she was “lurking” (quotes in original) as an observer in an online environment (Whittle, 2004). Consistent with Whittle’s experience, in the present study, efforts to achieve access through email and phone contacts were fruitless. However a face-to-face contact through an administrator who supervised both a virtual schooling program and a face-to-face program, for which the author worked, resulted in access to question virtual teachers with experiences in more than one virtual school.

### 3.3 Curriculum Inquiry: Contrasting Paradigms

As described in the previous chapter, other researchers have worked within a positivist, analytic paradigm to study the phenomenon of virtual schooling, seeking to quantify a measurable effect size for the imagined isolatable treatment of virtual schooling, as a declaration of objective reality. As previously described, to date, such efforts have been largely fruitless. Within the domain of curriculum inquiry, the dominant figure credited with promulgating this paradigm is Ralph Tyler in 1949 (Schubert, 1997).

The present study seeks instead to describe and understand, using a qualitative methodological approach, the curricular and instructional decision-making within virtual school communities and cultures; in particular, the present study seeks to understand the nature and extent of teacher-level decision-making, and the nature and extent of preparation for teacher-level decision-making. A broader study of interactions among students and teachers within virtual school communities and cultures is hindered by the limited access to only one sub-group of community members, the teachers. Even with its narrow focus, the effort represented by the present study is consistent with a practical paradigm. Within the domain of curriculum inquiry, the dominant figure credited with promulgating this paradigm is Joseph Schwab beginning in the late 1960's to early 1970's (Schubert, 1997).

The present study is also concerned with the potential impact of virtual schooling on social justice, consistent with a critical praxis paradigm (Schubert, 1997). Virtual schooling redefines access to, and membership in, school communities by disassociating access and membership in a school community from geographic location, potentially enabling more equitable access to high-quality schooling experiences regardless of a student's geographic

location, crossing the existing boundaries which currently demarcate districts and attendance areas for school communities of substantially differing quality.

The collision between the local arena and the global arena, portends potential conflicts between local and global decision-making, particularly with respect to curricular and instructional decisions. The potential political ramifications of virtual schooling range from conformity to self-determination: from the imposition of a uniform single curriculum for all, to the thriving of individually-determined, customized learning experiences for all. The potential economic ramifications of virtual schooling range from career tracking via hidden curricular expectations, to equitable access to potential upward mobility via access to high-quality curricula. The social ramifications of virtual schooling range from unity across geographic boundaries in public virtual schools, to isolation within privatized virtual charter schools. To the extent that virtual schooling is reshaping the educational landscape, the study of virtual schooling necessarily includes a critical praxis component.

### 3.4 Setting and Access

As a consequence of both the lack of a physical location for virtual schools, and the restricted access to virtual students and classroom interactions, participating teachers who work within virtual school communities were questioned on their own time, outside of their formal virtual schooling work experiences, outside the setting of any particular virtual school for which they worked. The setting for this study can best be understood as the virtual community of professional virtual teachers, whose work takes them across the traditional local geographic boundaries associated with schooling, and even across state lines. The challenges faced by other researchers attempting to conduct studies in virtual community settings was discussed earlier.



Gaining access to the community of virtual teachers posed one of the greatest challenges for this study. When established virtual schools were contacted by both phone messages and by email, despite serving students locally and regionally, these schools neither acknowledged nor replied to such communications. Administrative representatives of one virtual school that served local virtual students had even been approached *in person*, when they had established a booth for a teacher recruitment event *held at the university where the principal investigator had been training teachers at the time as an adjunct faculty member*. Upon identifying myself, briefly describing the research study, and asking for contact information to discuss the research study with an administrator who would have the authority to grant access, the virtual school representative only provided an email address for a general mailbox, used for general inquiries. Subsequent email to that address was not acknowledged and resulted in no replies.

Fortunately, an administrator for a different virtual schooling program, also serving local students, agreed to assist with identification of virtual teachers, with the understanding that their virtual school was not the specific focus, nor the specific setting, of the research. My existing professional association with this cooperating administrator at the time was both fortuitous, and likely essential, for obtaining the necessary access to conduct the study. I had taught for both a summer program and a Saturday program that were operated by the same parent organization that operated Virtual School A. This cooperating administrator was responsible for both the Saturday program and the virtual program; so, I had worked under this cooperating administrator during my work for the Saturday program.

### 3.5 Identification of Participants

This cooperating virtual school administrator identified virtual teachers who were known by the administrator to also work for other schools, both real and virtual. Beyond the shared

experience of teaching for Virtual School A, identification of the particular virtual schools for which the virtual teachers taught were made during data collection by the virtual teachers themselves; this information will be presented as part of the data collected. This cooperating administrator obtained permission from these virtual teachers to disclose their email contact information to me, as the principal investigator of this study, allowing me to convey formal invitations to participate in this study via email to the otherwise unidentifiable, inaccessible virtual teachers. The identities of participating virtual teachers were protected through the use of code names, allowing participants to comment freely, without fear of potential retribution.

As access was being obtained, additional desirable characteristics for virtual teachers were expressed to the cooperating administrator. Virtual teachers were sought whose teaching work in the face-to-face environment traditionally included a strong (indispensable) hands-on component, such as those teaching lab science or technology (robotics) courses; subsequently, one AP science teacher was included as a participant in the study. Virtual teachers were sought whose teaching work included externally defined curricula, such as the College Board's AP curricula; subsequently, two AP teachers were included as participants in the study. Virtual teachers were sought who had varying degrees of experience teaching virtually, including both those who had only recently begun teaching virtually, and those who had become veteran virtual teachers; the actual virtual teaching experiences of teachers who subsequently participated in the study spanned the full history of K-12 virtual schooling, including a participant who served as an early pioneer for the practice. However, participants in the study did not include beginning virtual teachers. Virtual teachers were sought with varying degrees of face-to-face teaching experience, from novices to veteran, master-teachers; the participating teachers, however, were exclusively veteran teachers in the face-to-face environment, rather than novices.

### 3.6 Data Collection

Participants were questioned via email. The specific procedures were based on those developed by Mason as described above. Each email contained several questions, more than the number of questions used by Mason for each email, but still allowing for modification of further questions, based on earlier responses. Two participants expressed that they viewed the questioning more as a survey or as a questionnaire than as an interview; as a result, the methodology used in this study could be viewed as an interactive survey conducted via email rather than as an interactive interview conducted via email, as was used by Mason. One participant expressed a desire to be interviewed live via telephone or via Skype in order to share extended accounts of their experiences; IRB permission was sought, but not granted, for a variation from the pre-approved research protocol in order to make such an accommodation.

The timing of the questioning was determined by the availability of the participant during the course of one academic term; participants were reportedly currently teaching for one or more virtual schools during this term. One series of questions was emailed to the participants approximately each week; some participants responded rapidly, while others took a week or more to reply. Follow up questions varied for each participant based on their prior responses; in an effort to avoid unreasonable demands on the time of each participant, follow up questions were not posed for every question, or even for every round of questions, for each participant. In general, different participants were asked different follow-up questions for different initial questions, and for different rounds of questions. In some cases, different participants were asked follow-up questions for the same round of questions, and even for the same initial questions. However, even in this case, different participants were often asked different follow-up questions

for the same original question. The variety of follow-up questions later posed a challenge for creating a data analysis table comparing responses, as described below.

Questions focused on the kinds of decisions that teachers do (or do not) make when teaching for virtual schools, particularly with respect to the curriculum and with respect to instructional practice; this includes questions that seek to understand status, authority, and accountability. Questions also focused on the extent to which teachers had been prepared for making curriculum decisions prior to their first experience teaching for a virtual school. Table II contains the list of pre-approved initial questions.

TABLE II: Initial Questions

Number	Question
1	For which Virtual School(s) have you taught courses?
1a	For which traditional, face-to-face schools, if any, do you also teach?
2	How would you describe the nature of your employment status relationship(s) with virtual school(s)?
2a	Do you consider yourself to be employed full-time as a faculty member by one virtual school?
2b	Do you consider yourself to be employed part-time as a faculty member by one or more virtual schools?
2c	How many virtual courses do you teach at the same time?
2d	Can your work with virtual school(s) lead to a long-term employment commitment or guarantee comparable to “tenured” faculty status?
2e	Do you consider yourself to be an “adjunct” faculty instructor without guarantees of further virtual teaching assignments?
2f	Do you consider yourself to be working as an independent contractor?
2g	Do you consider yourself to be a temporary employee on assignment?
2h	Do you consider yourself to be employed “at-will” without a contract?
2i	Are you represented by any organization for collective bargaining?
3	Have you provided virtual tutoring, virtual mentoring, or virtual teaching directly to students outside the organization of a virtual school?
3a	Do you serve home-schooled students?
3b	Do you provide test-preparation services for students?
3c	Do you consider yourself to be engaged in private practice?
3d	Do you consider yourself to be self-employed?
3e	Do you consider yourself to be an entrepreneur?
4	How did you first begin working as a virtual teacher?
4a	What professional preparation for virtual teaching, if any, did you have before you began working as a virtual teacher?

Number	Question
4b	What certification program(s) for virtual teaching, if any, did you complete before you began working as a virtual teacher?
4c	What educational institution(s), organization(s), agencies, or entities provided any certification program or virtual teaching credential?
4d	What certification(s) did you hold for traditional face-to-face teaching in a K-12 school before becoming a virtual teacher?
4e	How much experience did you have teaching in a traditional face-to-face K-12 school before becoming a virtual teacher?
5	Which virtual courses have you taught?
5a	For the virtual courses that you have taught, what were the ages and / or grade levels of the students?
5b	For the virtual courses that you have taught, how would you describe the purpose of the course?
5c	Did your virtual course(s) serve students in need of credit recovery (repeating a course)?
5d	Did your virtual course(s) serve students seeking advanced coursework or enrichment that was not locally available to students?
5e	What was the class size for the virtual courses that you have taught?
6	For which of the virtual courses that you have taught, if any, have you designed the course curriculum yourself?
6a	For which of the courses that you have taught, if any, have you modified a pre-existing course curriculum?
6b	How did you make decisions about the curriculum for your courses?
6c	What professional preparation for curriculum design, if any, did you have before you began designing or modifying course curricula?
6d	What policies, if any, restricted the curriculum that you designed or implemented?
6e	What additional curricular possibilities could you implement with the available technology in the absence of any other restrictions?
7	How would you describe the working conditions that you encountered as a virtual teacher?
7a	How would you describe teacher-student communications in a virtual school?
7b	How would you describe parent-teacher conferences and communications in virtual schools?
7c	How would you describe the teacher's role in the community in a virtual school?
7d	How would you describe peer collaboration and mentoring among teachers in a virtual school?

Number	Question
7e	How would you describe administrator mentoring and evaluation of teachers in a virtual school?
7f	How were you evaluated and held accountable as a virtual teacher?
7g	What professional development supports, if any, were in place for you to continue to improve your virtual teaching practice?
7h	What constraints, if any, were you working under as a virtual teacher?
7i	How do you feel about your job satisfaction as a virtual teacher?
7j	How do you feel about your job security as a virtual teacher?
8	From your perspective, in what ways, if any, is virtual schooling changing the nature of teaching and schooling, compared with traditional face-to-face schools?
8a	What changes, if any, do you perceive in the teacher-student relationship?
8b	What changes, if any, do you perceive in the parent-teacher relationship?
8c	What changes, if any, do you perceive in the peer relationships among teachers?
8d	What changes, if any, do you perceive in the teacher-administrator relationship?
8e	What changes, if any, do you perceive in the relationship between teachers and community?
8f	What changes, if any, do you perceive in your instructional practice(s)?
8g	What changes, if any, do you perceive in your assessment practice(s)?
9	What do you view as the purpose and mission of virtual schooling?
9a	What do you view as the purpose and mission of traditional face-to-face schooling?
9b	Should all virtual school students experience a common curriculum?
9c	How would you describe a successful virtual school graduate?
9d	For what futures are virtual school students being prepared after graduation?
9e	In what ways, if any, must students be prepared, before joining a virtual school, in order to be successful as virtual students?
9f	What approaches to teaching, if any, are enabled by virtual schooling?

### 3.7 Analysis & Interpretation

An ethnographic approach to understanding the experiences of a virtual teacher was hindered by the degree of access to the virtual community, by only being able to interact with teachers while outside the virtual schooling community. Therefore, a modified email questioning approach, including follow-up questioning, had been chosen as more appropriate for understanding the experiences of virtual teachers working in multiple virtual schools. Since several questions had been asked in each part of the back-and-forth conversation, some participants had viewed this methodology as a survey or as a questionnaire rather than as an interview, providing many short responses, as will be discussed in the next chapter. However, the traditional use of a survey to collect data for statistical analysis was not intended, nor could it be achieved due to the small number of participants involved.

Subsequent data analysis using this approach can be viewed as interpretive and constructivist, rather than as statistical; it recognizes that efforts to move beyond a purely descriptive account of information shared by participants, toward recognizing important patterns, and toward developing understandings of participants' experiences, do not reveal an objective reality, but rather an interpretation constructed by the researcher. In this model, follow up questions allow the researcher to seek clarifications that would either support or reject the researcher's emerging perceptions and interpretations.

Responses from participants were coded and organized into a data analysis table, presented in the following chapter, following a transcript of actual responses. The coded data analysis table permitted common responses, indicating common experiences, to be more easily



recognized and identified. This, in turn, enabled theorizing about the experiences of virtual teachers, and about the phenomenon of virtual teaching at the K-12 level.

One challenge for creating the data analysis table was the abundance of follow-up questions that had been individualized for each of the different participants. A systematic labeling system was developed and used during analysis to track the different follow-up questions by participant and by round of questioning, but this produced a format for the data table that was cumbersome for publication. Subsequent re-labeling for follow-up questions during editing referred to the original question number; while producing a more compact data table, this approach did not emphasize that different follow-up questions were asked to the different participants for the same original question.

## **4. DATA AND ANALYSIS**

### **4.1 Participants**

Four (4) teachers participated in the study; the names “Patty”, “Mary”, “Jane”, and “Sue” will be used for them, even though one of the participants was male. One of the four, “Sue”, did not complete the full series of questions, but allowed her responses thus far to be included in the study. Collectively, these four participants report bringing a total of 80 years of face-to-face, K-12 classroom teaching experience to their participation in this study of their virtual teaching experiences; at least two of the participants have already been teaching for K-12 virtual schools for 10 years or more, and at least one other participant has been teaching in virtual schools for 5 years. All four participants reported having at least fifteen (15) years of face-to-face teaching experience at the K-12 level before beginning to teach for K-12 virtual schools. Three (3) of the four (4) participants reported that they were no longer teaching K-12 students face-to-face, having retired from face-to-face teaching. One of the participants was a self-described “pioneer” during the early, first years of K-12 virtual teaching, 12-14 years ago.

All four participants reported teaching K-12 students in one or more virtual school settings at the time of the study. Collectively, the scope of participants’ virtual teaching experiences encompasses teaching for seven (7) different virtual schools, and teaching virtual students in 3<sup>rd</sup> through 12<sup>th</sup> grades; none of the participants reported that they had discontinued teaching for any particular K-12 virtual school. Six (6) of the seven (7) schools serve K-12 students. The seventh school focuses on adult education. Participants share in common the experience of teaching for one particular K-12 virtual school of the seven; this school will be called “Virtual School A”, and the other virtual schools will be similarly named B through F, in order to emphasize that no specific K-12 virtual school is the focus of this study. Two (2) of the

participants reported teaching students younger than 6<sup>th</sup> grade virtually: one teaching virtual students as young as 3<sup>rd</sup> grade, the other, teaching virtual students as young as age 10 (4<sup>th</sup> grade – 5<sup>th</sup> grade). Three (3) of the four (4) participants reported teaching virtual students from at least 6<sup>th</sup> grade through 12<sup>th</sup> grade; only one of the participants reported that they had not taught virtual students above the 8<sup>th</sup> grade.

Before hearing from these teachers in their own words, describing their virtual teaching experiences, before highlighting the apparent commonalities and divergences among their experiences, before discussing the implications of their experiences, brief individual introductions are in order.

Patty had taught face-to-face in traditional K-12 classroom settings for 20 years before beginning to teach for virtual schools; she no longer teaches in traditional face-to-face classrooms. She has been teaching for virtual schools for 5 years; she became one of the first virtual teachers in the US who was certified to teach “online” through a University-based credentialing program, which was, itself, a virtual, online program. She is the only teacher participating in this study who has taught full-time for one K-12 virtual school, while also teaching part-time for another K-12 virtual school. Patty’s virtual teaching is concentrated in the subjects of language arts & literature (AP, American, British, world, gothic), but also includes some history and art history; she teaches students in 6<sup>th</sup> through 12<sup>th</sup> grade.

Mary had taught face-to-face in traditional K-12 classroom settings for 30 years before beginning to teach part-time for a virtual school; she is retired from teaching in traditional face-to-face classrooms. She has been teaching in a K-12 virtual school for 10 years; she is the only teacher participating in this study who teaches for only one K-12 virtual school. Mary’s virtual teaching is concentrated on teaching writing for students in 3<sup>rd</sup> grade through 8<sup>th</sup> grade.

Jane had taught face-to-face in traditional classroom settings for 15 years before beginning to teach for virtual schools; she is retired from teaching in traditional face-to-face classrooms. She has been teaching for virtual schools for at least 12-14 years, and describes herself as one of the “pioneers” during the first years of K-12 virtual schooling. She has taught for four (4) different K-12 virtual schools, the largest number of any of the participants in this study. Jane’s virtual teaching is concentrated in the subject of history, including AP European History; she has taught students in 6<sup>th</sup> through 12<sup>th</sup> grade.

Sue had taught face-to-face in traditional K-12 classroom settings for 15 years before beginning to teach part-time for virtual K-12 schools; she is the only participant in this study who continues to teach full-time, face-to-face in a traditional, private, K-12 classroom setting. She is one of two participants in this study who hold a certificate for teaching “online” from a University-based credentialing program. She is the only participant in the study who also reported teaching for a virtual school that serves adult students as well as teaching for two K-12 virtual schools. Sue’s virtual teaching for K-12 students is concentrated in the subject of science, including AP science; her virtual teaching for adults is concentrated in health.

The transcripts are provided below – organized in parts, as the questions were posed via email. Follow up questions were also organized by parts (rounds of questioning), referring back to specific prior questions in the preceding round of questioning.

## 4.2 Transcripts

The transcripts for questioning of participants are compiled in a table format. Follow-up questions, which differed for each participant, are noted both in *italics* and also with the use of 2c.0, 2c.1, 2c.2, etc., for example, in response to the original 2c question; follow-up responses are also shown in *italics*. Patty's responses to the questions are found in Table III. Likewise the responses of Mary, Jane, and Sue will follow in Tables IV, V, and VI, respectively.

TABLE III: Transcript for Patty

Question(s)		Response
<b>Part I</b>		
1	For which Virtual School(s) have you taught courses?	I work for [Virtual School A] and [Virtual School B].
1a	For which traditional, face-to-face schools, if any, do you also teach?	none
2	How would you describe the nature of your employment status relationship(s) with virtual school(s)?	I am a private contractor. I do not receive any benefits. [Virtual School A] takes out money for taxes; [Virtual School B] does not.
2a	Do you consider yourself to be employed full-time as a faculty member by one virtual school?	I am a full-time employee of [Virtual School B].
2b	Do you consider yourself to be employed part-time as a faculty member by one or more virtual schools?	I am a part-time employee of [Virtual School A].
2c	How many virtual courses do you teach at the same time?	I have approximately 85 courses with [Virtual School B] and 3 with [Virtual School A].
2c.0	<i>In 2c you described teaching about 85 courses with one virtual school.</i>	
2c.1	<i>Could you clarify the degree to which these courses are taught by you simultaneously? Are the courses available to students simultaneously for largely independent work?</i>	<i>Like [Virtual School A], we have a rolling enrollment so students can start courses whenever they want. It sounds like a lot of courses, but I only have maybe 3-7 students in the vast majority of the courses. They are all at different points in the course.</i>
2c.2	<i>How much of your time and attention are devoted to each course? Is your time devoted primarily to any particular role such as conducting assessments, or responding one-on-one to student questions?</i>	<i>This varies. The vast majority of my time is spent grading lessons and providing guiding feedback. I do conduct one-to-one student sessions using Skype or Adobe Connect or the telephone. It just depends on what the student needs in order to be successful.</i>
2d	Can your work with virtual school(s) lead to a long-term employment commitment or guarantee comparable to “tenured” faculty status?	Not at my current schools.
2d.0	<i>In 2d you mentioned that a long term commitment was not available at your *current* virtual schools.</i>	
2d.1	<i>Are you aware of any *other* virtual schools that do provide such long-term commitments to virtual teachers?</i>	<i>There are some state-run online programs, which hire virtual teachers in the same fashion and with the same benefits as a classroom teacher. [Virtual School H and Virtual School I] are both examples of this. However, these schools also set more direct parameters on teacher's time.</i>
2e	Do you consider yourself to be an “adjunct” faculty instructor without guarantees of further virtual teaching assignments?	I consider myself to be an independent contractor.

Question(s)		Response
2f	Do you consider yourself to be working as an independent contractor?	Yes
2g	Do you consider yourself to be a temporary employee on assignment?	No
2h	Do you consider yourself to be employed “at-will” without a contract?	No
2i	Are you represented by any organization for collective bargaining?	No
<b>Part II</b>		
3	Have you provided virtual tutoring, virtual mentoring, or virtual teaching directly to students outside the organization of a virtual school?	No
3a	Do you serve home-schooled students?	Yes
3b	Do you provide test-preparation services for students?	Yes
3c	Do you consider yourself to be engaged in private practice?	Yes
3d	Do you consider yourself to be self-employed?	No
3e	Do you consider yourself to be an entrepreneur?	No
4	How did you first begin working as a virtual teacher?	I first began working for [Virtual School A] in 2008 when my husband and I moved back to the US after being in the UK for 6 years. I was in the process of writing my Master’s thesis and decided to take that year off to finish that. Additionally, we arrived in our city after the start of the school year, and I have never enjoyed having to take over a classroom after the beginning of a year.
4a	What professional preparation for virtual teaching, if any, did you have before you began working as a virtual teacher?	I was one of the first teachers in the US to obtain online certification through [University-based Online Teaching Credential Provider A]. I did this as professional development while living in the UK. It was an online program.
4b	What certification program(s) for virtual teaching, if any, did you complete before you began working as a virtual teacher?	See 4a.
4c	What educational institution(s), organization(s), agencies, or entities provided any certification program or virtual teaching credential?	At the time, [University-based Online Teaching Credential Provider A] was the only organization to provide online certification.
4d	What certification(s) did you hold for traditional face-to-face teaching in a K-12 school before becoming a virtual teacher?	6-12 English, K-8 Language Arts, Humanities, Gifted Education, Educational Technologist
4e	How much experience did you have teaching in a traditional face-to-face K-12 school before becoming a virtual teacher?	20 years

Question(s)		Response
<b>Part III</b>		
5	Which virtual courses have you taught?	I have taught too many courses to list. They were primarily English (English Fundamentals, American Lit, British Lit, AP Lit and Language, World Lit, etc.), some history, and a variety of electives such as Music Appreciation, Art History, Gothic Lit, etc.
5a	For the virtual courses that you have taught, what were the ages and / or grade levels of the students?	Grades 6-12
5b	For the virtual courses that you have taught, how would you describe the purpose of the course?	Most of the courses are core courses which means they are mandatory for graduation. I have taught a few elective courses, but not as many of those.
5c	Did your virtual course(s) serve students in need of credit recovery (repeating a course)?	No
5d	Did your virtual course(s) serve students seeking advanced coursework or enrichment that was not locally available to students?	The courses I teach for [Virtual School A] are for enrichment / supplemental to enhance their traditional learning experiences.
5e	What was the class size for the virtual courses that you have taught?	This varies because both of the schools I teach for have a rolling enrollment so students can enroll year-round at almost any time.
6	For which of the virtual courses that you have taught, if any, have you designed the course curriculum yourself?	I have designed the course curriculum for all of the courses I teach through [Virtual School A] and for my customized English students at [Virtual School B].
6a	For which of the courses that you have taught, if any, have you modified a pre-existing course curriculum?	I modify pre-existing curriculum for most of my [Virtual School B] students to accommodate their learning styles.
6b	How did you make decisions about the curriculum for your courses?	This was determined by the focus of the course and the Common Core Standards I was trying to use.
6c	What professional preparation for curriculum design, if any, did you have before you began designing or modifying course curricula?	I have taken 4 courses in curriculum design.
6d	What policies, if any, restricted the curriculum that you designed or implemented?	None
6e	What additional curricular possibilities could you implement with the available technology in the absence of any other restrictions?	I'm not sure what you're asking here. I didn't really have limitations on my curriculum design beyond having to utilize online resources.
<b>Part IV</b>		
7	How would you describe the working conditions that you encountered as a virtual teacher?	



Question(s)		Response
7a	How would you describe teacher-student communications in a virtual school?	I feel I have a much better, closer relationship with most of my students in the virtual world compared with in the traditional setting. In the virtual world, when a student asks a question that student has my entire attention and focus because I'm not having to also keep an eye on 30+ other students in the same room. Additionally, online, shy students who wouldn't otherwise ask a question because they'd have to speak in front of a group are more likely to do so.
7b	How would you describe parent-teacher conferences and communications in virtual schools?	We don't have "official" parent-teacher conferences. You communicate with parents as much as they want or as much as is needed.
7c	How would you describe the teacher's role in the community in a virtual school?	That depends on your school. Some online schools don't have a real sense of community. I think we do because we have virtual clubs, school-wide symposiums and other opportunities for interaction.
7d	How would you describe peer collaboration and mentoring among teachers in a virtual school?	There isn't much peer collaboration and mentoring in the virtual world. You're pretty much on your own.
7e	How would you describe administrator mentoring and evaluation of teachers in a virtual school?	Evaluation tends to be based on the quality of feedback provided to students and on the timeliness of a teacher's grading lessons and responding to families and other personnel.
7e.0	<i>In 7e, you replied that your evaluation tended to be based on the quality of your feedback to students and on the timeliness of your grading and communications.</i>	
7e.1	<i>How is the quality of your feedback to students measured? Is there some form of objective measure? Is there some form of rubric? Or is it based on student-created evaluations or parent created evaluations? Is evaluation of your feedback to students primarily (or entirely) subjective?</i>	<i>Quality of feedback is measured mostly subjectively. However, we have been provided with professional development on what constitutes quality feedback. Quality feedback is not saying "nice job" on a lesson--what was nice about the work? Quality feedback is telling the student exactly what they did well and what needs improvement and may also involve providing thinking questions. For example, if I grade a lesson in which a student has done a really thorough job with their answers, I will tell them exactly that "You did a really great job with this lesson. Your answers were very thorough." That lets the student know exactly what it was they did well in that lesson. Additionally, if a student has done poorly, I can really focus and target the areas where they were lacking . . . and then provide them with an opportunity to revise that work to earn a higher grade --something which is almost never done in the traditional classroom. We provide this type of feedback based on student and parent surveys which have indicated they find it very helpful.</i>

Question(s)		Response
7e.2	<i>What is considered timely communication? How is it measured? Does this expectation vary in some objective, quantifiable way with the number of students, parents, or colleagues, with whom you need to communicate with at one time?</i>	<i>School policy is that teachers respond to families within 24 hours. Teachers are to respond via whatever method the family has requested- if they ask you to call, then you call (exceptions are made for international students, in those cases most of us use Skype). I'm not sure what you're asking in the 2nd part. I've never been asked to contact all of my families within a certain time frame.</i>
7f	How were you evaluated and held accountable as a virtual teacher?	Answered in 7e.
7g	What professional development supports, if any, were in place for you to continue to improve your virtual teaching practice?	My school offers periodic meetings focusing on areas of perceived weaknesses in the teachers. For example, at the beginning of the year, we're reminded what good, solid feedback is and what it is not to make sure that's fresh in our minds.
7h	What constraints, if any, were you working under as a virtual teacher?	I'm not sure what you're asking here.
7i	How do you feel about your job satisfaction as a virtual teacher?	I love my job. I love being a virtual teacher more than I did being a traditional teacher, and I was in the classroom for 20 years before leaving.
7j	How do you feel about your job security as a virtual teacher?	This varies. I would feel more secure if I were not a contract employee. However, I also know that I am a valued teacher at both of my schools so I don't feel too concerned.
7j.0	<i>In 7j, you mentioned knowing that you are valued, contributing to your sense of job security.</i>	
7j.1	<i>How do(es) the school(s) communicate to you that they value your work? If this is done through formal evaluations, could you describe what these evaluations entail and address? Do they include any objective measures?</i>	<i>My admin tells me frequently how much they appreciate my work. This is also communicated via our evaluations. No, I cannot tell you what the evaluations entail.</i>
7j.2	<i>Other than continued employment, do the school(s) provide you with any tangible recognition or reward (compensation differential) for being considered a good teacher? Is there any form of career ladder in place for more expert virtual teachers?</i>	<i>No to both questions.</i>
<b>Part V</b>		
8	From your perspective, in what ways, if any, is virtual schooling changing the nature of teaching and schooling, compared with traditional face-to-face schools?	

	<b>Question(s)</b>	<b>Response</b>
8a	What changes, if any, do you perceive in the teacher-student relationship?	<p>I definitely feel there's a much closer teacher-student relationship with virtual education. I know more about what's going on with my students and their lives than I ever did in the traditional classroom. In the traditional classroom, when a student asked a question it was either in front of the entire class, at my desk but still with people around to listen in, or maybe between classes in the hall. Students would share some of what was going on in their lives, but, often, students didn't want other listening in.</p> <p>In the virtual setting, when a student asks a question or needs to talk, they're having a private conversation with just me. No one else is there to eavesdrop or think the student is asking a stupid question. If the student is emailing, they know they have my undivided attention for the course of that written conversation- I don't have to keep an eye on 30 other students while trying to listen to what the one in front of me wants.</p>
8b	What changes, if any, do you perceive in the parent-teacher relationship?	This is both better and worse. I have more interactions with parents asking course questions than I did in the traditional classroom, but I have fewer interactions with parents overall. There are no set parent-teacher conference days, but parents tend to reach out faster when they perceive their student is struggling with an issue.
8c	What changes, if any, do you perceive in the peer relationships among teachers?	The only real difference is there is less teacher-to-teacher interaction. This is primarily because we're not walking into an actual building, walking by each other's rooms to say hi or anything like that. However, it should be noted that I feel there is an increase in teachers being willing to ask another teacher who seems to have some authority for help or suggestions in how to help a particular student than I saw in the traditional setting. In the traditional setting, we tend to teach in boxes and don't really reach out to other teachers when we're having issues or need help (at least we didn't in the settings I worked in). In the virtual world, I have a lot more people I can lean on for assistance.
8d	What changes, if any, do you perceive in the teacher-administrator relationship?	No change.
8e	What changes, if any, do you perceive in the relationship between teachers and community?	The primary change is just that the community isn't at all involved in virtual education. I think this will be something that will change more in the future as virtual learning becomes more widespread and popular.

Question(s)		Response
8f	What changes, if any, do you perceive in your instructional practice(s)?	I'm a much better teacher online because I can, literally, work one-on-one with a student without having to give up "after school" time and without having to try to do so while monitoring 30+ kids. In the traditional setting, it's extremely difficult to differentiate curriculum to meet the needs of a small number of students within a class because you can't teach 2 different things at the exact same time, but you can do that in the virtual setting. If David has already read Macbeth, in the online setting, I can easily have him read Hamlet instead while everyone else carries on with Macbeth. I just send David alternate assignments, and no one else ever has to get involved. If I see that Mary is struggling with her writing, I can set up some times for she and I to get together in my iClassroom and do some writing lessons in a live session. It's much harder to set aside that time in the traditional classroom without everyone in the room knowing that Mary is having some kind of issue.
8g	What changes, if any, do you perceive in your assessment practice(s)?	I think assessments are more realistic and relevant in the virtual classroom. If I know beyond a doubt that David has mastered a particular standard, I can move him forward faster and not have him do multiple practices of that standard. I can design assessments that are tailored for individual students rather than making a test that 30+ kids all have to take regardless of what their abilities may be.
<b>Part VI</b>		
9	What do you view as the purpose and mission of VIRTUAL schooling?	
9a	What do you view as the purpose and mission of TRADITIONAL face-to-face schooling?	The purpose of school, in general, is to prepare students for successful futures in whatever endeavor they undertake.
9b	Should all virtual school students experience a common curriculum?	I actually think that, to a degree, all students - virtual and traditional - should experience a common curriculum.
9c	How would you describe a successful virtual school graduate?	The same as I would any school graduate- someone who is a contributing member of society.
9d	For what futures are virtual school students being prepared after graduation?	They're prepared for whatever task they choose. I have students in state universities, Harvard, Princeton, Oxford, etc., and I also have students who have chosen alternate paths and are not going to college.
9e	In what ways, if any, must students be prepared, before joining a virtual school, in order to be successful as virtual students?	Students in the virtual world have to be more proactive and self-motivating than in the traditional setting. They also need good time-management skills and a very strong home support team.
9f	What approaches to teaching, if any, are enabled by virtual schooling?	In the virtual setting, it's much easier to really meet the needs of each, individual student.

TABLE IV: Transcript for Mary

Question(s)		Response
<b>Part I</b>		
1	For which Virtual School(s) have you taught courses?	[Virtual School A]: Creative Writing and Poetry
1a	For which traditional, face-to-face schools, if any, do you also teach?	I DID teach for many years in the suburban . . . area [of a major city], both public and parochial schools.
1a.0	<i>In 1a, you responded that you *DID* (formerly) teach.</i>	
1a.1	<i>Are you now retired? Or do you have a non-teaching job at present?</i>	<i>I am retired from the classroom but have been teaching online for [Virtual School A] since 2003.</i>
2	How would you describe the nature of your employment status relationship(s) with virtual school(s)?	2b
2a	Do you consider yourself to be employed full-time as a faculty member by one virtual school?	No
2b	Do you consider yourself to be employed part-time as a faculty member by one or more virtual schools?	Yes
2c	How many virtual courses do you teach at the same time?	Three
2c.0	<i>In 2c you responded that you taught 3 virtual courses and in 2B you responded that you were a part-time virtual teacher.</i>	
2c.1	<i>How many virtual courses would you need to teach in order to be considered full time?</i>	<i>I don't know what would be considered full-time at [Virtual School A].</i>
2d	Can your work with virtual school(s) lead to a long-term employment commitment or guarantee comparable to “tenured” faculty status?	No
2e	Do you consider yourself to be an “adjunct” faculty instructor without guarantees of further virtual teaching assignments?	Yes
2e.0	<i>In 2e and 2f you responded that you were an adjunct or an independent contractor.</i>	
2e.1	<i>Would you be able to describe the process(es) by which you secure further virtual teaching assignments?</i>	<i>I selected it as the best answer among those given. I have only done virtual teaching at [Virtual School A] and am likely to continue there until I ‘really’ retire.</i>
2f	Do you consider yourself to be working as an independent contractor?	Yes
2g	Do you consider yourself to be a temporary employee on assignment?	No
2h	Do you consider yourself to be employed “at-will” without a contract?	No
2i	Are you represented by any organization for collective bargaining?	No

Question(s)		Response
<b>Part II</b>		
3	Have you provided virtual tutoring, virtual mentoring, or virtual teaching directly to students outside the organization of a virtual school?	I make myself available to the students after they leave the official course [for Virtual School A]. I do this on my own, for no pay. I've observed that about half of my students [for Virtual School A] are home-schooled. I consider myself to be self-employed.
3a	Do you serve home-schooled students?	[See 3 above]
3b	Do you provide test-preparation services for students?	
3c	Do you consider yourself to be engaged in private practice?	
3d	Do you consider yourself to be self-employed?	[See 3 above]
3e	Do you consider yourself to be an entrepreneur?	
4	How did you first begin working as a virtual teacher?	
4a	What professional preparation for virtual teaching, if any, did you have before you began working as a virtual teacher?	I had won recognition from [University C]'s iCollaboratory for an online project that I created: Brainy Matters. I learned by doing as I implemented that project in our middle school. I had no specific training.
4b	What certification program(s) for virtual teaching, if any, did you complete before you began working as a virtual teacher?	None
4c	What educational institution(s), organization(s), agencies, or entities provided any certification program or virtual teaching credential?	No response.
4d	What certification(s) did you hold for traditional face-to-face teaching in a K-12 school before becoming a virtual teacher?	K-12 Music, Spanish, and Language Arts
4e	How much experience did you have teaching in a traditional face-to-face K-12 school before becoming a virtual teacher?	30 years—loved it!
<b>Part III</b>		
5	Which virtual courses have you taught?	Writing Workshop – grades 3-5; Writing Workshop—grades 6-8; Poetry Workshop—grades 6-8.
5a	For the virtual courses that you have taught, what were the ages and / or grade levels of the students?	Grades 3 - 8
5b	For the virtual courses that you have taught, how would you describe the purpose of the course?	To allow students to create a story (anthology of poems) from its inception through editing and publication, with mentoring from the teacher and input from their peers.
5c	Did your virtual course(s) serve students in need of credit recovery (repeating a course)?	No
5d	Did your virtual course(s) serve students seeking advanced coursework or enrichment that was not locally available to students?	Enrichment

Question(s)		Response
5e	What was the class size for the virtual courses that you have taught?	Between 8 and 27 over the years.
6	For which of the virtual courses that you have taught, if any, have you designed the course curriculum yourself?	All
6a	For which of the courses that you have taught, if any, have you modified a pre-existing course curriculum?	None
6b	How did you make decisions about the curriculum for your courses?	Initially, I used my many years of classroom teaching as a guide. As I continue online, I make changes that will make the course even better by soliciting feedback from students and their parents.
6c	What professional preparation for curriculum design, if any, did you have before you began designing or modifying course curricula?	A few courses.
6d	What policies, if any, restricted the curriculum that you designed or implemented?	None of importance
6e	What additional curricular possibilities could you implement with the available technology in the absence of any other restrictions?	I used Blackboard as it fit my needs, and Adobe Connect for chats.
<b>Part IV</b>		
7	How would you describe the working conditions that you encountered as a virtual teacher?	The working conditions are of my own making . . jammies and a cup of tea sometimes.
7a	How would you describe teacher-student communications in a virtual school?	It is excellent and often more likely one-on-one that in a classroom of 25+ students with 2 minutes for passing periods, etc. Email is great, and we have work areas where students can give and receive input from teacher and peers.
7a.0	<i>In your response to 7a, you mentioned "work areas where students can give and receive input from teachers and peers."</i>	
7a.1	<i>Could you describe the work areas in more detail? Are they discussion forums, or shared whiteboard spaces, or some other form of collaborative software environment? Could you give an example of how they are used?</i>	<i>Student work areas are in a discussion forum. Students post their writing and I, and their peers, leave comments for them there. They begin by brainstorming and then arranging their brainstorming into consecutive order before writing their stories.</i>
7b	How would you describe parent-teacher conferences and communications in virtual schools?	I communicate often with parents and students via email. Parents are welcome at our online chats and are specifically invited mid-session and at the end of the session. I welcome their suggestions and questions.
7c	How would you describe the teacher's role in the community in a virtual school?	I haven't experienced my role as affecting a local community. We are our own community while the class is in session, and I allow students to keep contacting me with their writing and questions even after the session ends.

Question(s)		Response
7d	How would you describe peer collaboration and mentoring among teachers in a virtual school?	My writing and poetry classes are based on both. I consider myself a writing mentor, observing and commenting as they write during the 9-week session. We have a means of both teacher and students' leaving comments and questions for their peers, all along the way, and we have frequent online chats discussing their work.
7d.0	<i>In your response to 7d, you responded (a) that your school had a means for both teachers and students to leave comments and questions for their peers and (b) that your classes were based on both peer collaboration and mentoring.</i>	
7d.1	<i>Could you clarify whether you were saying that teachers can leave comments and questions for other teachers about the work of teachers (planning, instruction, assessment, etc) -- or were other teachers only commenting and questioning another teacher's students' work?</i>	<i>Teachers and students comment on student work.</i>
7d.2	<i>Could you describe the "means" of leaving comments and questions in more detail? Is it through a discussion forum or some other collaborative software environment?</i>	<i>Covered above. [see 7a.1]</i>
7d.3	<i>Can you clarify whether you saying that you mentor other teachers, or students of other teachers, or whether a group of teachers was mentoring students, or whether students were peer mentoring each other, or some other arrangement?</i>	<i>I am mentoring the writers, and we are all collaborating on the writing of these stories.</i>
7e	How would you describe administrator mentoring and evaluation of teachers in a virtual school?	The mentoring in my situation is excellent in that there are regular online workshops for the teachers. There is no administrative evaluation of which I am aware, but parents are urged to fill out an evaluation at the end of their child's session. If serious questions are raised, they are discussed with the teacher.
7f	How were you evaluated and held accountable as a virtual teacher?	The parent and student comments and evaluations, and the number of students enrolling for subsequent sessions of my class, have caused admin to say that my course is the flagship of their program. I'm just being honest...I am grateful that I am so fortunate as to be a teacher.
7f.0	<i>In 7f, you mentioned that future, continuing, enrollments of students were an indicator that your online (virtual) teaching was successful.</i>	
7f.1	<i>Do the same students enroll repeatedly in your course(s) and/or for a series of courses?</i>	<i>Most students take the course once; however, I've had a hefty number of students who come back, some until they 'age out' of the program.</i>
7f.2	<i>Are you expected to attract (responsible for attracting) new students? -- is your enrollment sustained through word of mouth about your teaching?</i>	<i>I think there is quite a bit of word of mouth from my students and their parents. I always encourage present students to come back, if they'd like.</i>



Question(s)		Response
7g	What professional development supports, if any, were in place for you to continue to improve your virtual teaching practice?	Answered in 7e, I believe. In addition, there is frequent email communication between admin and teachers addressing important issues, offering learning opportunities, sharing research, etc.
7h	What constraints, if any, were you working under as a virtual teacher?	It is very time-consuming and the pay is a very small percentage of what the parents pay—the classes are quite expensive, in my opinion, and I personally know of students who couldn't participate because their parents could not afford it. The price keeps going up, but not our pay, and I might speculate that parents' belief is probably that the major percentage of their tuition goes to the teacher, rather than to the administration of the program.
7h.0	<i>In 7h, you mentioned that you only receive a small percentage of what parents pay for students.</i>	
7h.1	<i>How did you come to know that you were only receiving a small part of what parents and students pay?</i>	<i>I asked my 'boss' what parents were paying.</i>
7h.2	<i>Are you willing and able to give a ballpark percentage?</i>	24%
7h.3	<i>Can you identify where the rest of the money goes? Can you elaborate on the percentage consumed by administrative costs, administrative salaries, technology costs, advertising, other overhead costs, etc.?</i>	<i>I don't know.</i>
7i	How do you feel about your job satisfaction as a virtual teacher?	I love teaching. I love mentoring young writers. I enjoy the online interactions with students, parents, my 'boss', and occasionally with the other teachers.
7j	How do you feel about your job security as a virtual teacher?	I feel secure in that they are very happy with my work.
7j.0	<i>In 7j, you mentioned that you felt secure in your job in that they were happy with your work.</i>	
7j.1	<i>Can you clarify which "they" you meant -- the school? -- the parents?</i>	<i>Parents, students, the people in charge of the program.</i>
7j.2	<i>How many complaints from unhappy parents (customers) would it take for you to lose your sense of job security?</i>	<i>I've had a handful of complaints in eleven years and many kudos. I believe that considerable complaints for one teaching session would cause the program to work with the teacher, perhaps eventually to let the teacher go.</i>
<b>Part V</b>		
8	From your perspective, in what ways, if any, is virtual schooling changing the nature of teaching and schooling, compared with traditional face-to-face schools?	

Question(s)		Response
8a	What changes, if any, do you perceive in the teacher-student relationship?	It is more personal, believe it or not. There are no distractions, other students passing by, clothing and appearance differences to affect the relationship. The focus is on the work but, because the work is creative writing, it is very personal to the student. They let me in, so to speak, and we communicate about something that matters to them very much.
8b	What changes, if any, do you perceive in the parent-teacher relationship?	It is more remote, but I invite parents to come to chats, and I am known as The Email Queen. I communicate frequently with them, and with the students. I often receive emails from parents who are asking questions, making suggestions, expressing themselves about something they don't like. I treat them with respect, seriously consider their points, and answer clearly and promptly.
8c	What changes, if any, do you perceive in the peer relationships among teachers?	I don't feel like we have a relationship, although [Virtual School A] does provide web workshops for us, and I find them knowledgeable and likable.
8d	What changes, if any, do you perceive in the teacher-administrator relationship?	It's more personal, too, which sounds crazy. I don't have to have an appointment to talk—just send off an email, which is always promptly answered.
8e	What changes, if any, do you perceive in the relationship between teachers and community?	I do feel like there is a community of families out there somewhere whose students have written in my workshop and found the experience growthful and enriching. I am proud that two of my students have self-published and are selling quite a few books in the wider community.
8f	What changes, if any, do you perceive in your instructional practice(s)?	Except for doing it all online, my feelings about what I do, and my approaches to students and teachers, are quite consistent with the way I functioned in the school setting.
8g	What changes, if any, do you perceive in your assessment practice(s)?	Students do not receive grades in this enrichment course. I write a commentary on their writing progress which is reviewed by my supervisor and then sent to the parents.
<b>Part VI</b>		
9	What do you view as the purpose and mission of VIRTUAL schooling?	Virtual schooling allows students learning resources, no matter where they may live. In some cases, classes may be less expensive than similar on-site classes. The environment is less likely to involve being treated differently because of differences in dress, voice, appearance, and so on, that may make learning miserable for many students, especially adolescents. Students can often work at their own pace, within reason, and can spend as much time as they need to accomplish work online.
9a	What do you view as the purpose and mission of TRADITIONAL face-to-face schooling?	To educate in a community setting.

<b>Question(s)</b>		<b>Response</b>
9b	Should all virtual school students experience a common curriculum?	No. All virtual schools should be closely monitored and accredited and meet standard requirements, but there should be room for creativity and the use of computer/online tools in open-ended classes.
9c	How would you describe a successful virtual school graduate?	I haven't given it any thought, since I just teach enrichment courses.
9d	For what futures are virtual school students being prepared after graduation?	Employment, service, and a fulfilling life.
9e	In what ways, if any, must students be prepared, before joining a virtual school, in order to be successful as virtual students?	By taking enrichment-type courses they can become familiar with the online environment.
9f	What approaches to teaching, if any, are enabled by virtual schooling?	I've found that all that I valued about interactions with the students happens, sometimes in different ways, in the virtual class. I have included details in previous questions that you asked.

TABLE V: Transcript for Jane

Question(s)		Response
<b>Part I</b>		
1	For which Virtual School(s) have you taught courses?	
1a	For which traditional, face-to-face schools, if any, do you also teach?	Currently retired from F2F.
2	How would you describe the nature of your employment status relationship(s) with virtual school(s)?	Excellent
2a	Do you consider yourself to be employed full-time as a faculty member by one virtual school?	No
2b	Do you consider yourself to be employed part-time as a faculty member by one or more virtual schools?	Yes [Virtual School C], [Virtual School A], [Virtual School D], [Virtual School E]
2c	How many virtual courses do you teach at the same time?	LOL 16
2c.0	<i>In 2c, when you were asked how many virtual courses you teach at the same time you replied with "LOL."</i>	
2c.1	<i>Could you elaborate on why that question made you laugh?</i>	<i>Teaching 14 classes seems a bit overwhelming when looked at in a pristine situation such as a open question presented on a questionnaire such as you presented.</i>
2c.2	<i>How many courses (and / or students) would you need to teach -- at any of the 4 virtual schools that you identified -- in order to be considered full-time?</i>	<i>None of the virtual schools employ full time virtual teachers.</i>
2d	Can your work with virtual school(s) lead to a long-term employment commitment or guarantee comparable to "tenured" faculty status?	While I have been consistently employed by online schools since 2001, I consider it long-term employment but have no commitments.
2e	Do you consider yourself to be an "adjunct" faculty instructor without guarantees of further virtual teaching assignments?	No
2f	Do you consider yourself to be working as an independent contractor?	Both. One school I am employed as an independent contractor the others as part time.
2g	Do you consider yourself to be a temporary employee on assignment?	No
2h	Do you consider yourself to be employed "at-will" without a contract?	I have a contract but it is renewed yearly.
2i	Are you represented by any organization for collective bargaining?	No

Question(s)		Response
<b>Part II</b>		
3	Have you provided virtual tutoring, virtual mentoring, or virtual teaching directly to students outside the organization of a virtual school?	No
3a	Do you serve home-schooled students?	Yes
3b	Do you provide test-preparation services for students?	Yes
3c	Do you consider yourself to be engaged in private practice?	No
3d	Do you consider yourself to be self-employed?	Yes
3e	Do you consider yourself to be an entrepreneur?	Yes
4	How did you first begin working as a virtual teacher?	Online discussion with a colleague.
4a	What professional preparation for virtual teaching, if any, did you have before you began working as a virtual teacher?	We were innovators. There was no preparation. It was all trial and error. Started in 1999
4a.0	<i>In 4a, you indicated that "we" were (among the first) "innovators" (or pioneers?) in virtually teaching K-12 students.</i>	
4a.1	<i>Could you elaborate on who comprised the "we"?</i>	<i>My initial experiences with virtual learning came in collaboration with [a colleague]. We met in an online AP European History listserv. We joined together to integrate isolated students with a larger group of metropolitan students. [The colleague] and I went on to create an online AP European History class. More on that later if you wish.</i>
4a.2	<i>To your knowledge, what are the qualifying credentials for newly-hired teachers to teach K-12 students virtually at the schools where you teach?</i>	<i>[Virtual School C] has an initial teacher training course. [Virtual School A] and [Virtual School D] have an intense interview.</i>
4b	What certification program(s) for virtual teaching, if any, did you complete before you began working as a virtual teacher?	None
4c	What educational institution(s), organization(s), agencies, or entities provided any certification program or virtual teaching credential?	None
4d	What certification(s) did you hold for traditional face-to-face teaching in a K-12 school before becoming a virtual teacher?	National board certification and [state] master teacher
4d.1	<i>Does your National Board certification and / or Master Teacher certification satisfy / meet the qualifications for teaching online?</i>	<i>As far as teaching content yes. Both certifications have no relevance to online teaching necessities.</i>
4e	How much experience did you have teaching in a traditional face-to-face K-12 school before becoming a virtual teacher?	15 Years

	Question(s)	Response
4e.1	<i>Based on your experience, what should be the qualifications for newly-hired teachers to teach K-12 students virtually?</i>	<i>Apprenticeship (my words) with an experienced teacher.</i>
4e.2	<i>Can you provide any examples of what you learned "from trial and error" about teaching K-12 students virtually? (This may be a better question for a live conversation, later.)</i>	<i>Agreed. Better in live discussion. I would advise that you allow plenty of time for our discussion because there are many anecdotal experiences.</i>
<b>Part III</b>		
5	Which virtual courses have you taught?	
5a	For the virtual courses that you have taught, what were the ages and / or grade levels of the students?	Courses were taught to students from grades 6-12.
5b	For the virtual courses that you have taught, how would you describe the purpose of the course?	The purposes varied from credit recovery to advanced placement to scheduling conflicts among others.
5c	Did your virtual course(s) serve students in need of credit recovery (repeating a course)?	Yes
5d	Did your virtual course(s) serve students seeking advanced coursework or enrichment that was not locally available to students?	Yes
5e	What was the class size for the virtual courses that you have taught?	From 1 to 85
6	For which of the virtual courses that you have taught, if any, have you designed the course curriculum yourself?	I have created or been a part of creating all the courses I teach.
6a	For which of the courses that you have taught, if any, have you modified a pre-existing course curriculum?	All
6b	How did you make decisions about the curriculum for your courses?	Experience, collaboration with colleagues
6c	What professional preparation for curriculum design, if any, did you have before you began designing or modifying course curricula?	Attendance at various AP institutes and workshops as well as attendance at various credit recovery workshops and institutes. I also presented at various workshops and institutes.
6c.0	<i>In your responses to 5b and 6c, you mentioned preparing to teach, and teaching AP courses as part of your virtual teaching.</i>	
6c.1	<i>Can you elaborate on whether the College Board's requirements constrain or supercede your own judgment or decision-making, as an expert teacher, about rigorous college-level course design?</i>	<i>I wrote the course(s) then checked college board requirements and found no constraints.</i>
6c.2	<i>Are you allowed to add on to, subtract from, substitute a portion of, or modify a portion of the AP curriculum based on your own expertise as an instructor, without jeopardizing the College Board's approval of, and formal listing of, your course?</i>	<i>Yes</i>

Question(s)		Response
6c.3	<i>Other than poor performance of your (a virtual AP teacher's) students on AP exams, what might trigger a College Board audit of a virtual AP course offering?</i>	<i>All college board courses require audit approval prior to being accepted.</i>
6c.4	<i>Can you comment on how you distinguish your own offering of an AP course from courses with the same title offered by other AP Instructors?</i>	<i>It is a matter of particular design. My course and the course of another teacher would have obvious differences yet both be approved by college board auditors</i>
6c.5	<i>If the AP curriculum is the same regardless of the teacher, how do you persuade students to take the course with you instead of with another instructor?</i>	<i>I do no recruiting per se. I only suggest possibilities to interested students.</i>
6d	What policies, if any, restricted the curriculum that you designed or implemented?	None
6e	What additional curricular possibilities could you implement with the available technology in the absence of any other restrictions?	Any available
<b>Part IV</b>		
7	How would you describe the working conditions that you encountered as a virtual teacher?	Working conditions physically are of my own design. Working conditions virtually are sometimes a bit dicey do to the fact that most of the administrators have not had experience in teaching a virtual course nor have they had experience administering in a virtual environment.
7a	How would you describe teacher-student communications in a virtual school?	Depending on the teacher the communication is much better than at a face-to-face school.
7b	How would you describe parent-teacher conferences and communications in virtual schools?	I have a parent teacher conversation via phone prior to the student beginning work. In that conversation I reiterate the importance of communication and invite the parent to participate throughout the course.
7c	How would you describe the teacher's role in the community in a virtual school?	Facilitator
7d	How would you describe peer collaboration and mentoring among teachers in a virtual school?	No response.
7e	How would you describe administrator mentoring and evaluation of teachers in a virtual school?	Poor to miserable.
7f	How were you evaluated and held accountable as a virtual teacher?	Skype and phone
7g	What professional development supports, if any, were in place for you to continue to improve your virtual teaching practice?	Access to INACOL symposium and workshops.
7h	What constraints, if any, were you working under as a virtual teacher?	Particular directives from each school
7i	How do you feel about your job satisfaction as a virtual teacher?	I feel extremely satisfied.
7j	How do you feel about your job security as a virtual teacher?	I feel very secure in my positions as a virtual instructor.

Question(s)		Response
<b>Part V</b>		
8	From your perspective, in what ways, if any, is virtual schooling changing the nature of teaching and schooling, compared with traditional face-to-face schools?	
8a	What changes, if any, do you perceive in the teacher-student relationship?	That depends on the teacher. The relationship can be stronger than in f2f if there is open communication between the student and the teacher.
8b	What changes, if any, do you perceive in the parent-teacher relationship?	In my experience it is much stronger. Again because there is much more communication involving the parent.
8c	What changes, if any, do you perceive in the peer relationships among teachers?	In my experience, none.
8d	What changes, if any, do you perceive in the teacher-administrator relationship?	There is a strain in the relationship between the teacher-administrator in my experience because there is a much more top down style of administration than I feel there should be.
8e	What changes, if any, do you perceive in the relationship between teachers and community?	I think if the community embraces online learning the relationship could be stronger.
8f	What changes, if any, do you perceive in your instructional practice(s)?	My instructional practices are constantly open to change but at this time I do not see a change in my instructional practices.
8g	What changes, if any, do you perceive in your assessment practice(s)?	My assessment practices are varied and I perceive no changes at present but I am open to new options.
<b>Part VI</b>		
9	What do you view as the purpose and mission of VIRTUAL schooling?	To provide equal educational opportunities for all students.
9a	What do you view as the purpose and mission of TRADITIONAL face-to-face schooling?	To provide educational opportunities for students in a particular geographic location.
9b	Should all virtual school students experience a common curriculum?	No
9c	How would you describe a successful virtual school graduate?	A viable productive citizen of the community.
9d	For what futures are virtual school students being prepared after graduation?	I think they are being prepared for all futures. Virtual schooling provides a presentation of traditional content via current (and constantly changing technology.
9e	In what ways, if any, must students be prepared, before joining a virtual school, in order to be successful as virtual students?	Basic computer useage which in my opinion most students have by the time they are in middle-school.
9f	What approaches to teaching, if any, are enabled by virtual schooling?	I believe all approaches to teaching are enabled by virtual schooling.



TABLE VI: Transcript for Sue

Question(s)		Response
<b>Part I</b>		
1	For which Virtual School(s) have you taught courses?	[Virtual School F] -- [Virtual School A] -- [Virtual School G]
1a	For which traditional, face-to-face schools, if any, do you also teach?	[Private School A], [northeastern state] I have taught for other private schools previously to [Private School A] – I have been teaching science at [Private School A] for about 6 years
2	How would you describe the nature of your employment status relationship(s) with virtual school(s)?	very positive!
2a	Do you consider yourself to be employed full-time as a faculty member by one virtual school?	No
2b	Do you consider yourself to be employed part-time as a faculty member by one or more virtual schools?	Yes
2c	How many virtual courses do you teach at the same time?	7 – 9 depending on season – more in summer!
2c.0	<i>In 2c you described teaching 7-9 virtual courses at the same time, more in summer.</i>	
2c.1	<i>Just to clarify, was the 9 for the summer, or was the summer more than 9 and the 7 was for fall, winter, spring?</i>	<i>9 for summer and the 7 for the fall/winter/spring</i>
2c.2	<i>Was 9 the greatest number of virtual courses that you have taught at the same time, including during the summer? If not, what was the greatest number of virtual courses that you have taught at one time (during the summer)?</i>	9
2c.3	<i>Could you clarify how those 7-9 courses were typically spread among more than one virtual school at the same time? (Please also confirm or clarify whether these virtual courses were in addition to the courses that you teach face-to-face for a traditional school?)</i>	<i>Yes, they are in addition to the face2face classes. Some of the courses only have 1– 2 students so are not time-consuming. Developing and setting up the courses initially was time-consuming, of course, but the actually running of a course for 1 -2 students isn't. The courses are spread across 3 schools. [Virtual School G] courses are 6-weeks and I teach 10 – 20 students for a 6 week period 1 – 3 times per year. [Virtual School A] courses start either every month with 0 – 2 students added per month to the high school science courses. More students tend to take the courses during the summer. [Virtual School A] enrichment courses run for 9 weeks Fall, Winter, Spring, and Summer and have 1 – 10 students each – usually more in the summer. [Virtual School F] courses are about 30 students in the fall, 30 students in summer, and 5 – 10 in the spring.</i>

Question(s)		Response
2c.4	<i>May I ask how many virtual courses you would need to teach in order to receive compensation comparable to what you receive from your traditional full-time teaching position?</i>	<i>I'm about there now!</i>
2d	Can your work with virtual school(s) lead to a long-term employment commitment or guarantee comparable to “tenured” faculty status?	Probably not
2d.0	<i>In 2d, you responded that your virtual teaching would probably not lead to a long-term employment commitment or guarantee comparable to tenure.</i>	
2d.1	<i>Would you be able to describe the process(es) by which you secure future virtual teaching assignments from virtual school(s)?</i>	<i>[Virtual School F] and [Virtual School A] are ongoing and I am offered ongoing assignments. [Virtual School G] sends me a teaching invitation about 2 months prior to a class they want me to teach.</i>
2e	Do you consider yourself to be an “adjunct” faculty instructor without guarantees of further virtual teaching assignments?	NO – I really don’t have concerns about future teaching assignments, but I probably would be considered an adjunct.
2f	Do you consider yourself to be working as an independent contractor?	NO, because I am paid as a salaried employee, with taxes withheld from my paycheck. I have taught on independent contractor status in the past, but right now all my paychecks have the taxes withheld.
2f.0	<i>In 2f, you described taxes being withheld from your paycheck as an employee</i>	
2f.1	<i>May I also ask whether you can receive health or retirement benefits (deducted from your paycheck) from a virtual school for teaching a threshold number of courses? (Alternatively, what would be considered a “full-time” virtual teaching load at any virtual school in order to be considered full-time to receive benefits?)</i>	<i>I don’t because I have health benefits from my husband’s job, I’m maxed out on retirement benefits from my own face2face teaching job. I have been offered retirement benefits by [Virtual School F] (TIAA Plan) but haven’t used it because I am already maxed out.</i>
2g	Do you consider yourself to be a temporary employee on assignment?	No
2h	Do you consider yourself to be employed “at-will” without a contract?	Yes and No – for most of my teaching assignments I sign a contract
2i	Are you represented by any organization for collective bargaining?	No
<b>Part II</b>		
3	Have you provided virtual tutoring, virtual mentoring, or virtual teaching directly to students outside the organization of a virtual school?	
3a	Do you serve home-schooled students?	Yes
3b	Do you provide test-preparation services for students?	No

Question(s)		Response
3c	Do you consider yourself to be engaged in private practice?	No
3d	Do you consider yourself to be self-employed?	No
3e	Do you consider yourself to be an entrepreneur?	No
4	How did you first begin working as a virtual teacher?	I earned a certificate in online teaching from [University-based Online Teaching Credential Provider B]. I originally took the courses for the certificate to enrich my face-2-face teaching and to learn more about online resources. One of the teachers for the courses asked me to teach a pilot online course for teachers – and I was hooked!
4a	What professional preparation for virtual teaching, if any, did you have before you began working as a virtual teacher?	Certificate in Online Education from [University-based Online Teaching Credential Provider B]
4b	What certification program(s) for virtual teaching, if any, did you complete before you began working as a virtual teacher?	Certificate in Online Education from [University-based Online Teaching Credential Provider B]
4c	What educational institution(s), organization(s), agencies, or entities provided any certification program or virtual teaching credential?	[University-based Online Teaching Credential Provider B]
4d	What certification(s) did you hold for traditional face-to-face teaching in a K-12 school before becoming a virtual teacher?	[A major western state] Community College Credential
4e	How much experience did you have teaching in a traditional face-to-face K-12 school before becoming a virtual teacher?	About 15 years
<b>Part III</b>		
5	Which virtual courses have you taught?	
5a	For the virtual courses that you have taught, what were the ages and / or grade levels of the students?	10 -18 for [Virtual School A] and [Virtual School F], and adult learners graduate level for [Virtual School G] course.
5b	For the virtual courses that you have taught, how would you describe the purpose of the course?	Science content and process knowledge and College Board AP Exam preparation for [Virtual School A] and [Virtual School F] and health information for credential purposes for [Virtual School G] course.
5c	Did your virtual course(s) serve students in need of credit recovery (repeating a course)?	Sometimes
5d	Did your virtual course(s) serve students seeking advanced coursework or enrichment that was not locally available to students?	Yes – this was the primary target audience for [Virtual School A] and [Virtual School F] courses.
5e	What was the class size for the virtual courses that you have taught?	Class size varies from 1 – 35 students.
6	For which of the virtual courses that you have taught, if any, have you designed the course curriculum yourself?	All

Question(s)		Response
6a	For which of the courses that you have taught, if any, have you modified a pre-existing course curriculum?	No response.
6b	How did you make decisions about the curriculum for your courses?	Some based on my experience with teaching science and some based on College Board AP Course Descriptions.
6b.0	<i>In 6b, you mentioned basing some of your decisions on College Board AP Course Descriptions.</i>	
6b.1	<i>Can you elaborate on whether the College Board's requirements constrain or supercede your own judgment or decision-making, as an expert science teacher, about rigorous college-level course design?</i>	No Response.
6b.2	<i>Are you allowed to add on to, subtract from, substitute a portion of, or modify a portion of the AP science curriculum based on your own expertise as a science instructor, without jeopardizing the College Board's approval of, and formal listing of, your course?</i>	No Response.
6b.3	<i>Other than poor performance of your (a virtual AP teacher's) students on AP exams, what might trigger a College Board audit of a virtual AP course offering?</i>	No Response.
6b.4	<i>Can you comment on how you distinguish your own offering of an AP Science course from courses with the same title offered by other AP Instructors?</i>	No Response.
6b.5	<i>If the AP curriculum is the same regardless of the teacher, how do you persuade students to take the course with you instead of with another instructor?</i>	No Response.
6b.6	<i>How to you engage your virtual (online) students in the required AP labs? Do you arrange for hands-on labs with real lab equipment and materials in addition to computer-based simulations?</i>	No Response.
6c	What professional preparation for curriculum design, if any, did you have before you began designing or modifying course curricula?	[University-based Online Teaching Credential Provider B] course in curriculum design for online courses.
6d	What policies, if any, restricted the curriculum that you designed or implemented?	No response
6e	What additional curricular possibilities could you implement with the available technology in the absence of any other restrictions?	No Response
<b>Part IV, V, IV</b>		No Response

### 4.3 Analysis of Transcripts

The transcripts for Patty, Mary, Jane and Sue are summarized in Table VII. The table is organized so that patterns can begin to emerge for analysis.

TABLE VII: Summary Analysis of Transcripts

Abbreviated Question(s)		Patty	Mary	Jane	Sue
<b>Part I</b>		<b>Responses</b>			
1	Which Virtual School(s)?	v-school a, v-school b	v-school a	No response <from 2b:> v-school c, v-school a, v-school d, v-school e	v-School a, v-School f, v-School g
1a	Teaching face-to-face?	no f2f	no f2f; <from M1A:> retired	no f2f; retired	yes: full-time; private school a
2	Nature / status of employment relationship(s) with virtual school(s)?	private contractor, no benefits -- v-school a: taxes withheld; v-school b: no taxes withheld	See 2b	excellent	very positive
2a	Full-time as a faculty member by one virtual school?	yes v-school b	no	no; <from J1B:> not available	no
2b	Part-time at one or more virtual schools?	yes v-school a	yes v-school a	yes; 4 v-schools: v-school c, v-school a, v-school d, v-school e	yes; <from 1a:> 3 v-schools: v-school f, v-school a, v-school g
2c	Number of virtual courses taught?	v-school b: about 85; v-school a: 3	3	16 LOL	7-9
2c.1		P1A) how is 85 possible? only 3-7 studs / vast majority of courses; start anytime, diff progress	M1B *) How many courses to be full-time? Don't know	J1A) why LOL? Seems overwhelming	S1A) seasonal variation? 9 summer; 7 fall, winter, spring

Abbreviated Question(s)		Patty	Mary	Jane	Sue
2c.2		P1B) how spend time? grading, feedback, one-on-one		J1B) number of courses to be full time? None of the v-schools hire full-time	S1B) most at once? 9
2c.3					S1C) beyond f2f courses taught? yes; Courses distrib. across 3 schools; setting up courses is time consuming, but running courses for 1-2 students is not time consuming
2c.4					S1D) how many courses to be full time? I'm [nearly] there now <from 2c:> (7-9)
2d	Tenure possible?	not at my current v-schools;	no	no; consistently employed by v-schools since 2001; considers it long-term	probably not;
2d.1		P1C) tenure possible at other v-schools? yes: v-school h, v-school i			S1F) how do you secure further work? ongoing for v-schools a, f; v-school g invites 2 mo. before course
2e	"Adjunct" faculty status without guarantees of further teaching assignments?	[no] independent contractor	yes	no	no, but I probably would be considered -- I really don't have any concerns about future teaching assignments
2e.1			M1C** below		

Abbreviated Question(s)		Patty	Mary	Jane	Sue
2f	Independent contractor status?	yes	yes	yes; both one school: independent contractor; another school: part-time	no [and yes]; b/c I am paid as a salaried employee with taxes withheld; but I have taught on independent contractor status in the past
2f.1			M1C **) how do you secure further work? selected best choice		S1E) benefits? v-school f offered TIAA
2g	Temporary employee status?	no	no	no	no
2h	“At-will” without a contract employee status?	no	no	no; contract renewed [yearly]	yes and no; [sometimes] for most of my teaching assignments, I sign a contract
2i	Union representation?	no	no	no	no
<b>Part II</b>		<b>Responses</b>			
3	Outside virtual-school tutoring, mentoring, or teaching?	no	[yes] volunteered -- available after course, not for pay	no	[no response]
3a	Serve home-schooled students?	yes	[no response] <from 3:> yes I’ve observed [that] about half of my students are home-schooled	yes	yes
3b	Provide test-preparation services?	yes	[no response]	yes	no
3c	Engaged in private practice?	yes	[ no response]	no	no
3d	Self-employed?	no	[no response] <from 3:> yes, I consider myself to be self-employed	yes	no
3e	Entrepreneur?	no	[no response]	yes	no



Abbreviated Question(s)		Patty	Mary	Jane	Sue
4	How began virtual teaching?	alternative to taking over f2f classroom mid-year when returning to teaching from out of US, from year off completing MA	invited / recruited -- recognized for work -- online curriculum project; I had no special training	networking -- online discussion with a colleague	invited / recruited -- by university-based credential provider b -- to teach a pilot course for teachers
4a	Professional preparation for virtual teaching?	one of the 1 <sup>st</sup> US teachers to obtain online certification while living in the UK through university-based credential provider a; it was an online program	<from 4:> no special training; learned by doing	an innovator -- there was no preparation; it was all trial and error; we [were] the innovators; started in 1999	certificate in online education from university-based credential provider b
4a.1				J1C (J2C) who was the "we" who innovated? [colleague]	
4a.2				J1D (J2D) What are the requirements for new virtual teachers at your virtual schools? v-school c: training course; v-schools a, d: an intensive interview	
4a.3				J1F (J2F) What should preparation be? apprenticeship (Jane's words) with an experienced teacher	

Abbreviated Question(s)		Patty	Mary	Jane	Sue
4a.4				J1G (J2G) examples of learning by trial and error? many anecdotes --better q. for live interview	
4b	Virtual teaching certification?	<from 4a:> online certification – completed online	none	none	certificate in online education from university- based credential provider b
4c	Providers of virtual teaching certification credential?	<from 4a:> university- based credential provider a	[no response]	none	university- based credential provider b
4d	Previous face-to-face certification?	6-12 english; K-8 language arts, gifted, humanities, ed. technology	K-12 music, Spanish, language arts	National Board Certified; [state] Master Teacher	[state] community college credential
				J1E (J2E) Do your certifications satisfy the requirements for virtual teaching? for content: yes; no relevance to virtual teaching	
4e	Previous face-to-face K-12 experience?	20 years	30 years	15 years	15 years [private k-12? college?]
<b>Part III</b>		<b>Responses</b>			
5	Virtual courses taught?	too many to list: English; literature (AP, American, British, world, gothic; some history / art history	[creative] writing, poetry	[no response] <from J1C:> AP History, European History	[no response] <from S1C, 5b, and 6b:> science
5a	Ages and / or grade levels of the students?	[grades] 6-12	[grades] 3-8	[grades] 6-12	[age] 10-18 for v-school a, and v-school f; adult, graduate for v-school g

Abbreviated Question(s)		Patty	Mary	Jane	Sue
5b	Purpose of the course?	core courses, mandatory for graduation; fewer electives	to allow students to create story or poem from inception to publication with mentoring	varied from credit recovery to advanced placement (AP) to [resolving] scheduling conflicts	science content & process knowledge, AP exam prep for v-school a and v-school f; health info [credentialing] for v-school g
				J3A ***) do College Board requirements constrain your decisions about course design? no	S3A ****) do College Board requirements constrain your decisions about course design? [no response]
				J3B ***) are you allowed to add to, subtract from, substitute in, or modify the College Board's AP curriculum? yes	S3B ****) are you allowed to add to, subtract from, substitute in, or modify the College Board's AP curriculum? [no response]
				J3C ***) what might trigger a College Board audit of your course? all AP courses audited prior to Board approval	S3C ****) what might trigger a College Board audit of your course? [no response]
				J3D ***) how is your AP course distinct from those of other teachers? designs differ for different instructors, but are still Board approved	S3D ****) how do you distinguish your AP course from those of other teachers? [no response]

Abbreviated Question(s)		Patty	Mary	Jane	Sue
				J3E ***) how do you recruit students to your AP course? Does not recruit	S3E ****) if the AP course curriculum is the same regardless of instructor, how do you recruit students to your course? [no response]
5c	Purpose: credit recovery?	no	no	yes	sometimes [yes]
5d	Purpose: advanced coursework or enrichment that was not locally available to students?	yes; v-school a enrichment, supplemental	[yes] enrichment	yes	yes; this was the primary target audience for v-school a, v-school f
5e	Class size?	varies; rolling enrollment, students [join course] almost anytime	8-27	1-85	varies; 1-35
6	Designed the course curriculum yourself?	yes; for all courses at v-school a, for one course at v-school b	[yes]; all courses	[yes]; all courses designed on own or collaboratively	[yes]; all
6a	Modified the course curriculum?	yes; for most courses at v-school b	[no]; none	[yes]; all courses	[no response]
6b	Basis for your curriculum decisions?	common core standards; course focus	initially, based on [f2f] classroom experience; continuing, based on feedback from students and parents	[f2f] experience and collaboration with colleagues <from J3A:> checked AP College Board requirements after deciding	[f2f] experience teaching science; AP College Board course descriptions
					S3A ****
					S3B ****
					S3C ****
					S3D ****
					S3E ****
					S3F) how do you provide AP science labs virtually? hands-on or simulation? [no response]

Abbreviated Question(s)		Patty	Mary	Jane	Sue
6c	Professional preparation in curriculum design?	4 courses in curriculum design	a few courses	AP institutes and workshops, attending and presenting; credit recovery workshops	one (1) course in curriculum design for online courses from university-based credential provider b
				J3A ***	
				J3B ***	
				J3C ***	
				J3D ***	
				J3E ***	
6d	Any policies restricting your curriculum design decisions?	<from 6e:> no; except required use of online resources	none of importance	none	[no response]
6e	Possibilities without restrictions?	[question unclear]	BlackBoard, Adobe Acrobat	any available	[no response]
<b>Part IV</b>		<b>Responses</b>			
7	Working conditions?	[no response]	[teacher controls]; of my own making;	[teacher controls]; of my own design physically; virtually: "a bit dicey" because most virtual administrators have no virtual experience teaching or administrating	[no response]
7a	Teacher-student communications?	better than f2f; shy students more likely to ask questions; student has teacher's entire attention	excellent; often more likely to be one-on-one than f2f	much better than f2f, depending on the teacher	[no response]
7a.1			M4A) describe work areas? collaboration software and discussion forums		

Abbreviated Question(s)		Patty	Mary	Jane	Sue
7b	Parent-teacher communications?	no “official” parent-teacher conferences; communicate as much as parents want	email often; parent suggestions welcome; parents welcome at online chats; invited at midterm and end of term;	conversation by phone before course; invites parents to participate throughout course	[no response]
7c	Teacher’s role in the community?	depends on v-school: some v-schools don’t have community; “we” [school] do because we have virtual sympos[ia], virtual clubs, and other opportunities for interaction	[no role] in local [geographic] community; “we” [class] are our own community while class is in session; [class alumni] community extends after course	facilitator	[no response]
7d	Peer collaboration and mentoring?	there isn’t much ... in the virtual world; you’re pretty much on your own	classes based on mentoring, and peer collaboration; teacher’s role is writing mentor	[no response]	[no response]
7d.1			M4B) clarify whether students or teachers collaborate? both		
7d.2			M4C) what is the means of collaborating ? <from 7a:> collaboration software and discussion forums		
7d.3			M4D) clarify who mentors and who is mentored? teacher(s) and students		

Abbreviated Question(s)		Patty	Mary	Jane	Sue
7e	Administrator mentoring and evaluation?	evaluations tend to be based on quality of feedback to students and timeliness of grading work and responding to [messages]	excellent; regular online workshops; discuss any concerns from parent evaluations; not aware of any [direct] evaluation by administrator	poor to miserable	[no response]
7e.1		P4A) how is quality measured? subjectively			
7e.2		P4B) How is timeliness measured? does the expectation vary by the number of students? within 24 hours; have never been asked to communicate with all students in a short time			
7f	Teacher evaluation and accountability?	<from 7e:> tend to be based on quality of feedback to students and timeliness of grading work and response to [messages]	parent and student comments / evaluations; number of students enrolling in subsequent classes	Skype and phone	[no response]
7f.1			M4E) do students enroll repeatedly? [many do]		
7f.2			M4F) do you recruit? new students by word of mouth? [much word of mouth]		

Abbreviated Question(s)		Patty	Mary	Jane	Sue
7g	Professional development support?	periodic meetings to focus on perceived weaknesses in the teachers, such as providing good feedback to students	<from 7e:> regular online workshops; also frequent email among administrators and teachers	Access to iNACOL sympos[ia] and workshops	[no response]
7h	Constraints?	[question unclear]	very time-consuming and very low pay; only a small part of parents' cost goes to the teacher	particular directives from each school	[no response]
7h.1			M4G) how do you know only a small part of the cost goes to the teacher? asked my boss		
7h.2			M4H) ballpark percentage? 24%		
7h.3			M4I) where does the rest of the money go? don't know		
7i	Job satisfaction?	[extremely satisfied] love my job; more than f2f	[extremely satisfied] loves teaching, mentoring; online interactions	extremely satisfied	[no response]
7j	Job security as a virtual teacher?	varies; comes from knowing that the schools value their teaching; would feel more secure if they weren't a contract employee	[secure]; comes from knowing that the schools value their work; I feel secure in that they are very happy with my work	very secure	[no response] <from 2e> no concerns; [secure]; I really don't have any concerns about future teaching assignments.



Abbreviated Question(s)		Patty	Mary	Jane	Sue
7j.1		P4C) how told that the school values your work? formal objective evaluations? administrators tell me [often]; also through evaluations; can't say what the evaluations entail	M4J) who is the "they"? parents, admin., the people in charge		
7j.2		P4D) recognition? career ladder? no to both question	M4K) how many complaints would it take to lose your sense of security? a few over time are no cause for worry; if there were many complaints in one session, administrators could let the teacher go		
<b>Part V</b>		<b>Responses</b>			
8	Perceived changes in the nature of teaching and schooling?	[no response]	[no response]	[no response]	[no response]
8a	Perceived changes in the teacher-student relationship?	much closer than f2f; enabled by one-on-one, private, confidential, commun.	more personal; no other distractions, by others, by appearances, by clothing, focus is on the work	depends on the teacher; can be stronger than f2f if there is open communication	[no response]

Abbreviated Question(s)		Patty	Mary	Jane	Sue
8b	Perceived changes in the parent-teacher relationship?	both better and worse; more questions from parents than f2f; but fewer interactions overall; no set parent-teacher conferences, but parents contact teacher quickly	more remote; often parents email with questions and suggestions, [complaints, micro-managing]	much stronger because there is much more communication involving the parent	[no response]
8c	Perceived changes in the peer relationships among teachers?	less teacher-to-teacher interaction; but an increase in teachers being willing to ask a colleague for help compared to f2f (teaching in boxes) in the virtual world, I have a lot more people I can lean on for assistance	[no peer relationship]; I don't feel like we have a relationship	none	[no response]
8d	Perceived changes in the teacher-administrator relationship?	no change	it's more personal, too, which sounds crazy; can talk via email without an appointment	[more] strained because there is a much more top-down style of administration than I feel there should be	[no response]
8e	Perceived changes in the relationship between teachers and community?	the community isn't at all involved in v-schooling; predicts this will change as v-schooling becomes more widespread and popular	there is a community of alumni of the teacher's course	could be stronger if the community embraces online learning	[no response]

Abbreviated Question(s)		Patty	Mary	Jane	Sue
8f	Perceived changes in your instructional practice(s)?	much better teacher online [v-school]; because of one-on-one & differentiated instruction; f2f setting this is extremely difficult	consistent with f2f practice; doing it all online	don't see a change at this time; open to change	[no response]
8g	Perceived changes in assessment practices?	more realistic and relevant in v-school than f2f; can tailor [customize] to individual students; can advance students at their own pace [mastery learning]	courses are not graded; students receive written comments [narratives] about progress	no change at present; open to new options	[no response]
<b>Part VI</b>		<b>Responses</b>			
9	Purpose and mission of virtual schooling?	[no response]	provides learning resources no matter where students live [otherwise unavailable locally]; students are less likely to be treated differently [minimizes physical, cultural, ethnic, class cues]; students can work at their own pace; may be less expensive than f2f;	to provide equal educational opportunities for all students	[no response]
9a	Purpose and mission of traditional face-to-face schooling?	prepare students for successful futures	to educate in a community resources	to provide educational opportunities in a particular geographic location	[no response]

	Abbreviated Question(s)	Patty	Mary	Jane	Sue
9b	Common curriculum for all?	yes; to a degree: both virtual and f2f	no; there should be room for creativity; but v-schools should be closely monitored and accredited to meet standard requirements	no	[no response]
9c	Successful graduate characteristics?	same as f2f; a contributing member of society	haven't given it any thought; courses are enrichment	a viable productive citizen of the community	[no response]
9d	Graduates are prepared for what futures?	what ever task they choose: college or not	employment, service, and a fulfilling life	for all futures; v-schooling provides a presentation [delivery] of traditional [f2f] content via constantly changing technology	[no response]
9e	Prior student preparation?	students need to be more proactive and self-monitoring than f2f; also need good time-management skills and a very strong home support team [intact two-parent family]	taking enrichment courses online	basic computer usage; most students have this by middle school	[no response]
9f	Enabled approaches to teaching?	[customization ] in v-school it's easier to meet the needs of each individual student	[v-schooling preserves] all that I valued about interactions with students, sometimes in different ways	all approaches	[no response]

## 5. DISCUSSION AND CONCLUSIONS

### 5.1 Methodological Influences On Data

Before discussing the substance of the information gathered through participants' responses, I must address the potential influence of factors related to the limitations of the particular data collection protocol utilized. One such limitation was the requirement imposed by the IRB that the questions be pre-approved in advance, as if a non-interactive survey instrument were being constructed; this requirement stood in opposition to the essential purpose of the study: to not only understand the experiences of virtual teachers through interactive dialog, but to also determine what questions should be asked, and need to be asked, about the new and unfamiliar phenomenon of virtual teaching and virtual schooling – a phenomenon which might also constitute an entirely new paradigm. As the investigator, one of the greatest challenges that I faced during the study was attempting to, somewhat blindly, anticipate the most revealing questions to ask, based on my own understandings and experiences within the old paradigm of traditional, face-to-face schooling.

This challenge, and my own naiveté, was underscored by Jane's response to a seemingly innocuous question early in the exchange. When asked "How many virtual courses do you teach at the same time?," Jane replied with "LOL" [Laughing Out Loud] before quantifying "16"; when I followed-up by asking her to elaborate on why that question had prompted laughter, she explained that . . .

*"teaching 14 classes seems a bit overwhelming when looked at in a pristine situation such as a[n] open question presented on a questionnaire such as you presented."*

I interpret Jane's comment to imply that my question was devoid of understanding of *what it means to teach a course in the virtual schooling context*; my question was instead rooted in my

“old paradigm” understanding of what teaching a course means in a traditional, face-to-face schooling context, in which teaching 5 or 6 courses at the same time would rarely be exceeded as a maximum. This point was also underscored by Patty’s report of teaching 85 virtual courses.

In order for me to understand that teaching a large number of virtual courses at the same time was possible, I needed to understand more about the new paradigm by asking significantly different questions. For example, it may have been more fruitful to ask, “what is involved in teaching a virtual course in comparison to teaching a face-to-face course?” Yet, the pre-approved IRB list of questions constrained my ability to ask new, unapproved, significantly different questions. Instead, I was limited to attempting to develop an understanding of this issue by piecing together clues from responses to other questions; I will discuss the specific issue, used here as an example, of distinguishing virtual *courses* from virtual *classes* consisting of cohorts of students, later in this chapter. This same participant, Jane, had also offered to engage in a much longer conversation in the form of a live interview, via phone or Skype, in order to share accounts of the trial and error experiences, and resulting wisdom, she had accumulated as one of the first pioneers in the early days of K-12 virtual schooling.

The inability to further explore, in this study, such a remarkable perspective results from, and underscores, a further limitation arising from IRB-imposed constraints; despite contacting the IRB in writing to request an additional approval for a departure from the previously-approved research protocol, in order to accommodate a live interview with Jane, no IRB response was received, and, therefore, no IRB approval for the proposed protocol variation was granted. Since the previously-approved data-collection protocol was limited to pre-approved questions posed via email, the opportunity to explore her experiences and expertise further, in greater detail, was lost. I can only hope that, at some point in the future, Jane might be willing to participate in

another study to capture an oral history of virtual schooling, that might also capture the lessons she learned along the way.

One final influence on the data, that is potentially attributable to the data collection protocol, is the notable brevity of many of the responses from participants. While the use of email as a medium for communication allows for responses to be practically as long as participants wish, an overwhelming majority of responses were shorter than the 160-character limit on the length of a message that had typically been imposed by the early implementations of the now-common (SMS) technology associated with text messaging. Over three (3) times as many responses were less than, or equal to, 160 characters in length compared to responses longer than 160 characters; 185 short responses (comprising  $\frac{3}{4}$  of the responses) were received versus only 57 long responses (comprising  $\frac{1}{4}$  of the responses). The number of yes-no responses accounts for only a part of this discrepancy. The same proportion appeared even when follow-up questions were asked, with only 10 responses longer than 160 characters out of 39 responses (29 responses, nearly  $\frac{3}{4}$  of the responses, were 160 characters or shorter in length).

At the time that the interview-via-email methodology was developed by ethnographers to study virtual communities, the practice and habit of text messaging was much less commonplace than it is today; text messaging had only begun in 1992. I interpret the abundance of short replies to questions to be at least partly influenced by the now-common practice and habit of sending short messages, and quick replies, by text message – or by the even-more-recent medium of “tweeting” (with its even-shorter 140-character limitation on “tweet” length). The interview-via-email methodology may have been more effective at eliciting longer responses at the time of its inception, when habits and etiquette called for less-instantaneous, longer replies.

One natural question to consider is whether participants were actually using a technology that imposed limitations on message length as they replied to the questions, rather than merely acting out of habit. This appears not to be the case, since longer responses were included and distributed seemingly at random throughout the different rounds of questions and among the different participants. Further, participants replied to a series of questions for each round of questions in one single email, rather than replying to each question separately in an individual message. That said, newer technology does allow for longer text messages to be sent without encountering the 160-character limit by separating a longer message into shorter parts to be sent separately, then re-assembled upon receipt. This means that a long text message could have the appearance of an email upon receipt.

Another potential explanation for the short responses is that participants viewed or interpreted the questions as survey questions, which they also viewed or interpreted as customarily calling for brief responses. Surveys often include selected response (multiple choice) questions with correspondingly brief choices for responses; when constructed response (open-ended) questions are included in surveys, the survey form may itself provide only small spaces in which participants can write a response, necessitating short responses.

There is some evidence that participants viewed the *interview* questions in this study as *survey* questions. Upon deciding to end her participation, Sue stated that she had decided to drop out of the “*survey*”. Jane had also used the term “questionnaire” in explaining what had provoked laughter in response to a previous question. Asking more than 3-4 questions in each round of questioning may have contributed to perceptions that the questions comprised a survey or questionnaire rather than an interview. This leads to the question of whether participants felt a burdensome imposition of time from the questions; if so, this may explain why they provided



many more short responses than long responses. I was acutely aware that participants have a limited amount of time to devote to responses. In some instances, participants took more than a week to reply to a round of questions, leading me to send gentle reminders via email. Sue, who was the only participant teaching full-time in a traditional face-to-face setting, had lagged behind the other participants in replying at the time that she had decided to drop out; she had also just received a somewhat long list of follow-up questions to one round of questions, to which she did not reply. After Sue dropped out of the study, I admittedly became a bit cautious, deterred from asking too many follow-up questions out of fear that other participants would drop out as well if the imposition on their time became too great.

## 5.2 Common Experiences Among Virtual Teachers

The goal of this study is to construct an understanding of the phenomenon of virtual schooling and virtual teaching while remaining rooted in the available data; the descriptions of the situated experiences of these few virtual teachers constitute the data. As a constructivist, I am mindful that my perceptions of patterns, in the form of commonly-coded experiences, may be illusory, and that future data may contradict the patterns that I perceive; I am also mindful that the positivist goal of determining any absolute “reality” or “truth” is unobtainable. Yet, while considering the specific experiences of these teachers, some common experiences do appear to emerge from the data; this recognition, in turn, fuels some theorizing.

### 5.2.1 Terms Of Employment Among Virtual Teachers

One of the most striking, and seemingly contradictory, commonalities emerges from an effort to understand the nature of the employment relationship that virtual teachers have with virtual schools, as well as the corresponding degree of legally-protected job security, or lack

thereof. On the one hand, participating virtual teachers report a high degree of job satisfaction and a sense of job security; this will be discussed further below. On the other hand, they describe a legal employment status that provides little, if any, security beyond contract work for a short, temporary time period.

Only one virtual teacher, Patty, reported teaching full-time for a virtual school, while all four (4), including Patty, reported working part-time for one or more virtual schools. Three (3) of the four (4) participants reported teaching for more than one virtual school, with two (2) of these involving *only* part-time work at each virtual school. Whether or not they were part-time *employees* of the school is a question that will be addressed below. Jane, a pioneer among virtual teachers, experienced with publicly-funded and privately-funded virtual schools, reported that, to her knowledge, *none* of the virtual schools hired full-time teachers. I would interpret this to mean, at least, that full-time virtual teaching at the K-12 level, such as Patty reports, is still an uncommon, if not rare, employment situation. One participant, Mary, reported that she didn't know how many courses she would need to teach in order to be considered full-time; that status may not be available to her at all. Mary further reported that her low pay comprised only a small portion of the per-student cost to provide virtual instruction, 24%, while parents likely believed that virtual teachers received a much larger portion; she could not identify how the other 76% of the per-student cost was accounted for in her virtual school. Only one participant, Sue, reported being offered benefits by a virtual school in the form of retirement benefits with a major annuity company. Even though Patty was teaching full-time for a virtual school, she reported that her full-time employment did *not* include being offered a package of benefits.

None of the participants in this study reported that any form of tenure was available at any of the virtual schools for which they worked, even for those virtual schools that were

publicly-funded. One participant, Patty, reported that she believed that tenure was possible at two other virtual schools, Virtual School H and Virtual School I; these were among the largest of the state-supported virtual schools. Jane reported that she had been continuously employed by virtual schools since 2001, a 12-year span; based on her other responses, this “continuity” appears to consist of a series of “rehirings” under renewed contracts. None of the participants reported having any form of union to collectively bargain on their behalf with virtual school employers, or to protect their seniority.

All four (4) of the participants described their employment status at virtual schools as having the status of an “independent contractor”; three (3) of the four (4) reported more than one different status. Jane reported being an independent contractor for one virtual school, while being “part-time” at another. Sue, had been an independent contractor in the past, but reported currently being a salaried employee with taxes withheld. Sue was the only participant currently teaching full-time in a face-to-face, traditional K-12 school, while also teaching part-time for virtual schools. Patty reported that Virtual School A, where she taught full-time, withheld taxes from her pay, while Virtual School B, where she taught part-time, did not withhold taxes from her pay. Three (3) of four (4) also referred specifically to contracts, as discussed in more detail below; only one reported sometimes working as an “at will” employee without a contract.

In my experience, the legal distinction between “independent contractor” and “part-time, temporary employee” is one that both employers and the Internal Revenue Service have considered carefully; independent contractors are paid without having payroll taxes withheld from pay, while part-time, temporary employees do have payroll taxes withheld from their pay by their employers. In my experience, employers had been able to avoid paying their share of payroll taxes by hiring independent contractors rather than part-time, temporary employees. In

my experience, the IRS had imposed rules designed to curtail this employer tax-avoidance tactic by defining criteria to clearly distinguish between workers who were actually part-time, temporary employees under contract, from workers who were genuinely independent contractors. Among those distinctions were: 1) that independent contractors kept the profits from their self-employed labor, while the profits generated by employees' labor accrued instead to the employer; 2) independent contractors used their own tools and equipment, while employees used the tools and equipment that were the capital and property of the employer; 3) independent contractors set their own work hours and worked without close supervision from an employer, while employees had their work hours scheduled by employers and also worked under the close supervision of the employer; 4) independent contractors maintained their own place of doing business as a workspace, while employees worked in the workplace of the employer.

For the new industry of virtual schooling, each of these distinctions needs to be considered. 1) Some virtual schools are operated by a for-profit school-management company, such as the company K-12; while the participants in this study do not appear to have experience with such companies, it seems unlikely that any profits generated would be owned by the teachers rather than by the company employer. In such a case, virtual teachers would likely not be viewed by the IRS as independent contractors.

2) Whether virtual teachers or the virtual schools own the tools and equipment to provide virtual schooling appears to be a grey area. Arguably, teachers may be using their own personal computers and their own subscriptions for internet connections through internet service providers for communicating with students; however, the course management software and school administration software commonly in use would almost certainly be owned by the school. The schools would also likely own any materials used for marketing and recruitment of students as

customers. The mere fact that virtual school employers required teachers to use their own computers and internet connections, would likely be interpreted by the IRS as an employer-mandated, work-related expense for an employee, but not as evidence of the teacher being an independent contractor.

3) The scheduling of work hours and supervision of work would appear to be another grey area. While at least two (2) of the participants reported that their physical working conditions were within their own decision-making authority, scheduling of any “class” meetings with students was not specifically addressed. Participants described use of email for communication as well as postings to electronic workspaces, both of which imply flexibility in the timing for usage. Even if virtual teachers do flexibly schedule their own time for working, the question still arises regarding employer supervision of their work. On the one hand, participants report administrative monitoring of quality and timeliness of communication from teachers to students; on the other hand participants report that evaluation is largely based on parent and student (customer) evaluations at the conclusion of a course.

To further cloud the issue, participants did not report that administrators visited their virtual classrooms or directly observed their virtual teaching. Virtual school employers might argue that any decision to offer, or to not offer, a new contract to a virtual teacher, based on customer complements or complaints under the last contract, would not constitute “supervising” that teacher during their contract work; this would support the view that the teacher was only an independent contractor, not an employee. Such an argument would be problematic in that the school would then be comprised of “unsupervised” teachers; this seems implausible, if not indefensible. So, again, it seems more likely that teachers are being supervised, and would then

be viewed as employees with flexibly-scheduled work hours by the IRS rather than as unsupervised independent contractors.

4) The question of workplace and workspace is another grey area due to the contrast between the physical environment and the electronic internet environment. At least one participant, Mary, described an electronic workspace shared by teachers and students as part of the course management software provided by the virtual school employer. Yet, participants did not mention physically reporting to an employer-owned school building as a workplace. Even though virtual teachers may be physically working from their own homes, or home-offices, it seems likely that they would still be viewed as employees tele-commuting to work by the IRS rather than as independent contractors.

Based on all of these considerations, my interpretation is that these virtual teachers are more likely to be part-time, temporary employees employed through short-term, temporary, employment contracts, rather than *bona fide* independent contractors. Even with a contract, employees may be easily denied future work by simply not being rehired under a new contract, placing teachers at risk of being disposable.

Surprisingly, none of the participants reported that they considered themselves to be temporary employees. Jane's experience and perspective may shed light on this seeming contradiction; Jane reported that she had been continuously employed by virtual schools over a span of 12-years, and that she considered her employment to be long-term employment. She also reported that her contracts were renewed yearly, constituting a series of "rehirings". Her success in being rehired over a long period of time likely influences her perception that she is not a temporary employee, and also influences her perception of feeling secure in her job. Conversely, Patty reported that she "would feel more secure if [she] were not a contract employee", which I

interpret to mean “not [*only*] a contract employee”, as evidence of her recognition that being a contract employee was a less-secure status due to the pre-defined end date for that employment, implying no guaranteed continuity of employment. In my experience, contract employees only have a reasonable assurance of further employment until the end of the contract, and not thereafter. Among employees, only being employed “at will” would provide less security than being a temporary contract employee, as discussed below.

For academic workers, especially for instructors teaching at the university level, a temporary, contract employee who teaches as a faculty member is referred to as an Adjunct. In my experience, adjuncts may be hired to teach as little as only one course for only one semester or term; yet adjuncts would need to teach many more courses than tenure-track or tenured faculty in order to achieve a comparable level of compensation. In terms of status and security, adjuncts do not have the status and security of a tenure-track or tenured faculty member in terms of assurances of continued employment. Surprisingly, only one participant, Mary, identified herself as an adjunct, while one other, Sue, acknowledged that she would probably be regarded as an adjunct, after first asserting that she was not an adjunct. Sue reported that with 7-9 virtual courses she was “almost there” in terms of obtaining compensation comparable to full-time face-to-face teaching. Sue was the only participant who reported teaching in a university-affiliated virtual school for adult students, Virtual School G; this university-affiliated teaching experience may explain her acknowledgement of adjunct status. Sue was also the only participant who reported teaching full-time for a traditional, face-to-face, private, K-12 school; in my experience, this type of school also commonly hires teachers on temporary, annual contracts.

Sue was also the only participant who reported that she had taught for a virtual school on an “at will” basis, without a contract, for some of her virtual teaching work; she reported that

“for *most* of [her] teaching assignments, [She] signed a contract.” In my experience, an “at will” employee can have their employment terminated at any time, at the will of the employer, for any reason or for no reason, without the employer needing to show legal cause or to provide any severance compensation. In contrast, in order to terminate a contract employee, an employer would need to show legal “good cause” to breach an employment contract or face legal ramifications that may involve greater liability than what was owed to the employee under contract; in my experience, with a contract, in the event of a termination of employment, an employee is more likely to at least recover some form of severance compensation as payment for what they would be owed under contract.

#### 5.2.2 Sense Of Job Security And Satisfaction Among Virtual Teachers: Being Valued

In order to reconcile what I view to be the tenuous, temporary nature of the participants’ employment in virtual schools, with their reported sense of job security and satisfaction, other factors need to be considered. Of the three (3) participants who described their satisfaction with virtual teaching, all three (3) reported being extremely satisfied with their virtual teaching work; one, Patty, reported being more satisfied as a virtual teacher than she had been with her face-to-face teaching work. Patty was the only participant currently teaching full-time for a virtual school. Three (3) out of four (4) participants reported feeling secure about their employment as virtual teachers, having no concerns about obtaining [contracts for] future teaching assignments.

Two (2) of the participants identified the source of their sense of security as knowing that their schools valued their teaching work. Although two (2) others did not explicitly identify the source of their sense of security, both referred to being employed for a long, continuous period of time, having “ongoing” teaching assignments; I interpret this continuity to consist of a series of



rehirings under a series of contracts. Regarding knowing that they are valued by their schools, Patty explains . . .

*“I would feel more secure if I were not [only] a contract employee. However, I also know that I am a valued teacher at both of my schools so I don’t feel too concerned.” . . . “My admin tells me frequently how much they appreciate my work. This is also communicated via our evaluations.”*

Mary echoes that . . .

*“I feel secure in that they . . . parents, students, the people in charge of the program . . . are very happy with my work.” . . . “the parent and student comments and evaluations, and the number of students enrolling for subsequent sessions of my class, have caused admin to say that my course is the flagship of their program.”*

Being valued, in terms of being respected, may matter more to virtual teachers than being valued in terms of compensation. The low pay for virtual teachers had been directly described by Mary, including the small portion of the per-student cost that was devoted to teacher pay: 24%. Three (3) of four (4) participants reported teaching a large number of virtual courses, compared to what would be considered full-time for traditional face-to-face schools. Sue had reported that the 7-9 virtual courses that she teaches “almost” allows her to be compensated comparably to a full-time, traditional, face-to-face teaching position. Jane had reported teaching 16 virtual courses without being considered full-time. Patty reported the highest number of courses taught, 85 for just one of her virtual schools, but she explained that “it sounds like a lot of courses, but [she] only [has] maybe 3-7 students in the vast majority of the courses”.

Since three (3) of the four (4) participants reported being retired from face-to-face teaching, it may be the case that the income from virtual teaching only represents extra retirement income for them rather than a family-supporting, primary paycheck during one’s prime work years. If that were the case, the low pay would be of little practical consequence; such low pay, however, may not attract new talent to teaching. Likewise, benefits such as health

insurance or retirement plans may not be essential for those who have already retired from teaching for a traditional face-to-face school. Patty had reported that she did not receive benefits, even though she was working full-time for one virtual school. When asked whether her schools provided any tangible form of recognition for valued, “good”, expert, virtual teachers, such as a compensation differential (often called merit pay) or a career ladder of differentiated roles and responsibilities (such as a lead teacher role), Patty had also reported that neither of these distinctions were available from her schools. This would seem to divorce the sense of being valued from any conveyance of anything of actual monetary value or from position status.

Another component of being valued and respected is being *invited* to join the virtual school to teach courses initially, and being re-invited to teach subsequent courses. Two (2) of four (4) participants reported that they had begun virtual teaching as the result of being invited to do so, while a third reported that professional networking with a colleague had led them to begin teaching virtually. Since not all teachers are so invited, those who are invited have been sought out and “selected” by virtual schools, a form of recognition; the basis for this selection appears to be respect for their prior work and experience, rather than any specific professional credential, training, or coursework. Mary specifically reported that she had been recognized for a curriculum project related to online learning through a university that also housed the virtual school; Sue reported being invited to teach an online, virtual pilot course by the same university-based credential provider that had provided her online virtual teaching credential.

Only two (2) of the four (4) participants reported participating in any formal training as preparation for teaching online in a virtual school, in the form of coursework that resulted in obtaining a professional credential for online virtual teaching; both of these credentials were provided by a university-based credential provider. It is unclear whether these courses

specifically addressed teaching K-12 students virtually, or only addressed teaching adult, college-level students, since online learning and virtual schooling have been much more widely implemented for college-level students. The other two participants specifically reported not having any special prior training or preparation for online virtual teaching; both reported learning by doing, learning by trial and error. One, Jane, specifically reported that possession of traditional certification for face-to-face teaching had no direct relevance for teaching virtually, other than competence with particular subject matter content knowledge. Still, three (3) of the four (4) participants reported holding traditional certification for face-to-face K-12 teaching, while the fourth reported holding a community college teaching credential.

All four (4) of the participants, however, shared in common many years of successful face-to-face teaching experience before beginning to teach virtually: Patty, 20 years; Mary, 30 years; Jane, 15 years; and Sue, 15 years. It is this experience that appears to have been respected and valued by virtual schools. None of the virtual teachers in this study were entry-level, novice teachers beginning their teaching careers in the virtual classroom, without first having taught in traditional face-to-face classrooms successfully for prolonged periods of time.

Before discussing the rehiring of virtual teachers, I should underscore the questions raised about entry-level qualifications and credentials for virtual teachers. At a time when elevated professional standards are being widely implemented for face-to-face teaching in traditional classrooms, an important question to ask is whether any new, additional professional knowledge, or any new, additional professional skills are required for virtual teaching of K-12 students. This is tantamount to asking whether the nature of K-12 teaching has changed in the virtual classroom in comparison with the traditional classroom; this possibility will be discussed further below. If so, then credentialing programs specific to the professional knowledge and

skills needed for successful virtual teaching of K-12 students should be required of all virtual teachers; the experiences of the teachers in this study do not reflect such a requirement.

Moreover, the credentialing programs for online, virtual teaching that participants did complete, may not have focused specifically on K-12 students, but instead may have addressed adult, college-level students learning online; at least one of these credentialing programs was associated with a university extension program serving adult students. Likewise, these credentialing programs may not have included an experience comparable to supervised student teaching in a K-12 virtual school setting. The opposite view, that the required professional knowledge and skills for virtual teaching are no different than those required for traditional, face-to-face classroom teaching, seems to be contradicted by Jane's view that traditional teacher certification has no relevance for teaching in a virtual school.

Jane's perspective would also imply that not every successful face-to-face teacher will be successful teaching K-12 students in a virtual school; if the professional knowledge base and skill set were the same, one might expect that all traditional, face-to-face K-12 teachers would be successful teaching K-12 students in a virtual school, and that a traditional, face-to-face teaching credential would be a sufficient qualification. Either way, another question raised is whether newly-certified, novice teachers could be qualified to teach in virtual schools, without the many years of face-to-face teaching experience possessed by the participants in this study. Jane also reported that, in her experience of practice, virtual teacher hiring did not rely on possession of a traditional face-to-face teaching credential, but relied instead on intensive interviews [to assess experience, knowledge, and skills], and on the completion of an [in-house] training course. Jane further offered her view that the qualifications for virtual teaching should include completion of an apprenticeship (her words) with an experienced virtual teacher. Since virtual teachers are

already teaching K-12 students across state lines, establishing uniform professional standards for K-12 virtual teaching along with uniform credentialing requirements, seems to be both a necessity and an urgent priority.

Another component of being valued and respected is being *repeatedly re-invited* and rehired after each academic term. Unlike long-term teachers in traditional public schools, whose continued employment is commonly protected by tenure rights, the continued re-employment of virtual teachers, through renewed short-term contracts, appears to strongly depend on positive evaluations of their current, recent work. A virtual teacher with a track record of being repeatedly re-invited and rehired back to teach again has had their value to the virtual school, and the virtual school's respect for their work, reconfirmed by each instance of rehiring. Being repeatedly rehired also means that virtual teachers are still "in demand" as expert providers of services; this may be particularly important for teachers who have already retired from face-to-face teaching, who might otherwise feel that their expertise has become obsolete amid technological changes in teaching. This may also fuel participating virtual teachers' views of themselves as providing valued services as independent contractors (all 4), as self-employed individuals (2 of 4), as a private practitioner (1 of 4), and even as an entrepreneur (1 of 4), all securing repeat business from client virtual schools.

The evaluations upon which rehiring is based appear to be primarily provided by the parents and students as customers, rather than being conducted directly by the virtual school administrators. Among the participants in this study, two (2) described how they were evaluated as virtual teachers in greater detail. Patty explained that . . .

*"Evaluation tends to be based on the quality of feedback provided to students and on the timeliness of a teacher's grading [of] lessons and responding to [communication from] families and other personnel" . . . "Quality feedback is measured mostly subjectively" . . . "School policy is that teachers respond to*

*families within 24 hours” . . . [but] “I’ve never been asked to contact ALL of my families within a certain time frame” [emphasis added]*

What constitutes quality feedback will be explored further in conjunction with a later discussion of virtual classroom interactions. Patty also reports that while she is told that she is valued through evaluations, in addition to being told by administrators, she “cannot [say] what evaluations entail.” Likewise, Mary reports that “there is no administrative evaluation of which [she] is aware, but parents are urged to fill out an evaluation at the end of their child’s [course]”; she further reports that “parent and student comments and evaluations, and the number of students enrolling for subsequent [offerings] of [her] course” have caused administrators to say that they greatly value her work as a “flagship of their program.”

I interpret these experiences to represent a customer satisfaction model for judging a teacher’s performance, including attracting both repeat business and new customers. Mary reports that she has had “a hefty number of students who come back” to learn with her again, and also that she “think[s] that there is quite a bit of word of mouth from my students and their parents” that leads to new students enrolling in her course, generating new customers for the virtual school. Since virtual schools do not have a captive audience of guaranteed customers, as do traditional public schools whose students reside within a defined attendance area, attracting and retaining students as customers becomes a vital, existential concern for virtual schools; traditional schools, in contrast, do not need to compete for customers in order to continue to exist, since most students within their attendance area have no viable, affordable alternatives.

In a customer satisfaction model, customer complaints could jeopardize a teacher’s continuing employment via future contracts following the conclusion of a current short-term contract. Mary shared that “a handful of complaints in eleven (11) years” was not a cause for worry, but that “[she] believes that considerable complaints for one [academic term] would cause

the [virtual school] to work with the teacher, perhaps eventually to let the teacher go.” Given that the virtual teacher is employed through a short-term contract, however, the virtual school has no significant obligation to work with the teacher to improve performance before choosing to not offer that teacher a further contract.

Among the implications of a customer satisfaction model for virtual teacher evaluation is that, while such a model is seemingly results-oriented, it constitutes neither a standards-based measure of effective teaching nor a standards-based measure of student learning achieved; a customer satisfaction model implies that anyone who can satisfy the parents and students as customers could be considered a successful professional virtual teacher, undermining efforts to establish professional standards for teachers teaching in traditional face-to-face classrooms. The SREB guidelines notwithstanding, the experiences of the participating teachers appears to reflect and indicate that virtual schools have not yet clearly defined objective professional standards for virtual K-12 teaching against which to judge a teacher’s performance; I would support the notion that virtual teacher evaluations should be based on clearly defined objective best practices for virtual teaching, not on subjective parent and student evaluations.

Another implication of a customer service model for evaluation of virtual teaching is that parents and students could “vote with their feet” if they were dissatisfied; for publicly-funded virtual school students, this could open the door to the Heritage Foundation’s virtual voucher vision, discussed previously, that would allow funding to move with the virtual student on a piecemeal, pro-rated, per student, *per course* basis. This would allow for proportionately more of the total, public, per-student funding amount to move with and follow the student as the student enrolled in more virtual courses; in the absence of new, additional, per student funding, the student’s local attendance area school district would lose a corresponding amount of per student

funding. Such a gradual, backdoor voucher plan may set the precedent that opens the door to the type of full voucher plan that had been proposed in the past.

The voucher model presupposes the existence of multiple service providers, beyond solely public service providers, including private and parochial service providers allowed to accept and utilize the public funds represented by the voucher, all competing against each other for student customers; a single, state-wide virtual school, functioning as if it were a single state-wide district, could assure that funds remain in the public domain, while also having the added benefit of equalizing per student funding throughout the state, solving the long-standing problem of inequitable funding between different local districts arising from differences between each districts' local tax base and property tax revenue.

Before discussing further the ways that virtual teachers are valued and respected, I must underscore the contrast between the experiences of virtual teachers and the experiences of traditional teachers in terms of rehiring; in my experience, long-term teachers in traditional public schools are commonly assured of continued employment regardless of the actual or perceived quality of their teaching work, and regardless of whether parents and students are satisfied as customers, unless the teachers' work can be legally demonstrated to be incompetent, a rare occurrence. This means that in traditional schools, there is a decoupling between the degree to which a teacher is respected and valued and their continued employment; in this case, continued employment is not by itself an indication of being respected or valued.

One notable exception to this decoupling occurs in situations involving Reductions in Force (RIFs) or school closings, as have recently occurred on a large scale in Chicago (Chicago Tribune, 2013). In my experience, traditional teachers impacted by RIFs or school closings are invited to re-apply for different teaching positions at other schools in the affected school district,



but are not assured of being re-hired, despite previous tenure and seniority rights. Those few who are rehired, could be viewed as those who were most valued and respected among the group of teachers who had been let go.

### 5.2.3 Curriculum Decision-Making: Being Trusted With Autonomy As An Expert

A final component of being valued and respected is being given the autonomy to make curriculum decisions. Another striking common experience that emerges from the data is that all four (4) participants reported that they had designed their own virtual courses, while two (2) also reported modifying pre-existing virtual courses that had originally been designed by others. This degree of autonomy may further explain participating virtual teachers' views of themselves as operating independently and as being their own boss, not only as independent contractors (all 4), but also as self-employed individuals (2 of 4), as a private practitioner (1 of 4), and even as an entrepreneur (1 of 4), all designing their own curriculum product and providing their own instructional service for virtual students.

Surprisingly, when participants were asked how they had made their decisions about curriculum to design their virtual courses, *none* reported relying on knowledge gained from professional school training or coursework, even though three (3) of the four (4) reported having completed courses in curriculum design, and one reported having completed coursework specific to curriculum design for an online, virtual course. Among the curriculum design coursework that participants might have been expected to rely upon as they made curriculum decisions designing their own virtual courses, Patty had completed four (4) courses in curriculum design, Mary had completed "a few" courses, and Sue had completed a course specific to curriculum design for online, virtual courses, as part of a credential program for online virtual teaching. Two (2) of the four (4) had completed a credentialing program for teaching virtual courses online.

Instead, three (3) of the four (4) reported relying on their own experience as the basis for their judgment in making decisions about curriculum, while also citing an additional basis. Mary had also based her decisions on feedback from students and parents, a form of trial and error, after initially relying on her own experience; Jane had also referred to trial and error collaboration with colleagues as pioneers. Sue and Jane had also relied on College Board AP (Advanced Placement) requirements and course descriptions, as discussed below. Only Patty had not specifically cited relying on experience, but instead had relied on common core standards and the focus of the course. One question raised by this seeming contradiction is the extent to which the curriculum design coursework that the participants had experienced had provided practical knowledge and skills related to school curriculum design, or the extent to which the curriculum coursework had primarily focused on curriculum theory disconnected from school-based teaching practice.

Of particular interest are the experiences of the two (2) participants who reported teaching virtual AP (Advanced Placement) courses, a branded, standardized curriculum of the College Board that is available to students globally; this particular curriculum offers the opportunity to discuss the potential conflict between local decision-making and global decision-making concerning curriculum decisions. In my experience, the College Board had initiated a pre-approval audit process for schools and instructors offering courses using the AP brand name, as a quality control measure, in order to ensure uniformity of quality course offerings, and to ensure that local AP instructors were following the *approved curriculum*; Jane refers to this pre-approval audit, stating “All College Board courses require audit approval prior to being accepted.” In my experience, this audit process arose out of a concern that some local AP instructors had not been following the *approved curriculum*, and that some local AP course

offerings had therefore been AP *in name only*; the College Board concerns, that some local AP course offerings were failing to adequately prepare students for global, standardized, AP exams, were based on the low performances of groups of students from particular local schools and courses. In my experience, even established courses could be subject to an audit triggered by low student AP test scores, an example of a results-oriented evaluation model; any courses, and any instructors, not producing high AP test scores were suspect and subject to closer examination through a College Board audit.

Surprisingly, participants teaching AP courses still reported being free to design their own courses; neither reported being particularly constrained by decisions made by the College Board. Jane, in particular, reported that she had only checked the College Board requirements after making her own curriculum decisions: “I wrote the course(s) then checked College Board Requirements and found no constraints.” When asked, “how do you distinguish *your* AP course from the AP courses offered by other instructors?”, Jane further explained that “[Her] course and the course of another teacher would have obvious differences, yet both be approved by College Board auditors.” Jane’s experience illustrates an apparent balance being achieved between the decision-making authority of local instructors and the decisions that one might expect to be dictated by a branded, standardized curriculum, such as the College Board’s globally-available AP Curriculum. This degree of autonomy on the part of individual virtual teachers will be discussed further below, in the context of considering customized curriculum and instruction.

The reported autonomy experienced by the participating virtual AP instructors is even more surprising in view of the fact that the College Board holds their own AP curriculum design training courses called AP Institutes; Jane also refers to attending and presenting at these AP Institutes and workshops. The question raised by these AP-curriculum-specific training institutes

is whether they provide the same professional knowledge and skills that would be addressed in a more general curriculum design course within a university-based professional program; it may be the case that they only serve to indoctrinate teachers into delivering the approved AP curriculum. In my own experience attending AP Institutes, these intensive courses address both AP College Board curriculum expectations and instructional methodologies, including, for example, required college-level laboratory experiences for AP Science courses. Unfortunately, Sue, an AP Science teacher, had chosen to drop out of this study at the point at which she was asked follow up questions regarding her own virtual AP science teaching experience. Among the questions to which she did not respond, was the question of whether she had provided students with the required AP science labs in a hands-on manner in a virtual course, or whether she had relied solely on simulated labs.

A final surprising aspect of participant's experiences teaching virtual AP courses was that neither of them specifically mentioned that evaluations of their teaching performance depended on the scores achieved by their students on the standardized AP exams. As part of a results-oriented, customer satisfaction evaluation model that I described above, one might expect that virtual AP teachers would also be judged by their success, or lack thereof, in producing virtual students who achieve high scores on AP exams. As I described above, in my experience, the College Board had established a results-oriented evaluation system at the global level through its audit process, prompted by instances of clusters of low student test scores in particular locales; through that audit process, local AP course providers could lose the right to use the AP brand name, to call their courses AP courses, if the College Board determined that the approved curriculum was not being followed and implemented by local instructors, resulting in low student scores on standardized AP exams. While I would expect individual virtual schools to evaluate

their own AP instructors based on their results, in the form of student AP test scores, the participants in this study did not specifically describe the importance of their students' AP test scores in their own evaluation process.

The reported degree of autonomy experienced by virtual teachers when making curricular decisions may have a number of possible explanations; included among these are: 1) the courses that they design often form only a supplemental, elective, additional enrichment curriculum for students, rather than comprising a whole, entire, required curriculum for students that would replace or displace an existing mandatory curriculum; and 2) the teachers participating in this study bring many years of experience to their teaching, and may consequently be trusted to exercise their own judgment to a degree that may not be the case for less experienced novice teachers. While the years of teaching experience associated with the participating teachers has been previously addressed, and will be addressed further below, the supplemental nature of the courses that participating teachers teach requires further elaboration.

All four (4) participants reported that their courses served the purpose of providing advanced coursework and enrichment, in contrast to a more fundamental, required curriculum. Sue reported that “this [students seeking advanced coursework and enrichment] was the primary target audience” for two of the virtual schools, V-School A and V-School F. Only full-timer Patty reported teaching more required “core courses [that] are mandatory for graduation”, and fewer elective courses: “I have taught a few electives, but not as many of those.”

All four (4) of the participants also reported serving home-schooled students through their virtual teaching. One, Mary, further reported, “I’ve observed that about half of my [Virtual School A] students are home-schooled.” Parents who home-school their children appear to be supplementing the curriculum that they can personally provide to their children, based on their

own knowledge, by accessing and engaging the services of additional, non-local expert teachers through virtual schooling. Parents who home-school their children can retain a degree of decision-making control concerning their child's learning, while selecting individual, *a la carte* virtual courses as a supplemental component. In a sense, parents can hire virtual teachers in the role of sub-contractors responsible for a component part of the curriculum, while the parents themselves take on the role of general contractor. These roles may align with both the previously discussed Heritage Foundation plan for prorated, partial vouchers in order to assist parents in paying for their choice of virtual teaching for their student, and also with the previously discussed customer satisfaction model for evaluating the work of virtual teachers.

In the event that home-schooling parents were to choose to engage a virtual school to provide a *complete* curriculum for their student, the virtual school would then serve in the role of general contractor while virtual teachers continued to serve in the role of subcontractors, providing component parts, in much the same way as subcontractors provide component parts for factory assembly lines. This raises the possibility that, as virtual schools scale up to serve more customers, they may adopt practices comparable to those of a franchise or factory for mass-production, delivering a common curriculum for all students; multiple suppliers (virtual teachers) could be engaged as subcontractors for each component part of the curriculum, each competing against each other for a greater share of the available work, each providing interchangeable component parts that are identical within specified quality control tolerances. In franchises and factories, such a uniform, mass-production model allows subcontractors to be easily replaced; in virtual schools, such a model could allow virtual teachers to be easily replaced. Such a model would not value virtual teachers as autonomous, expert decision-makers.

#### 5.2.4 Experiences In Virtual Course-rooms: Tele-Mentoring, Creating Customized Curriculum, And Implementing Individualized Instruction

In addition to making curriculum decisions by designing their own courses, virtual teachers also report having the autonomy to customize the curriculum for individual students and to personalize instruction. Patty, a full-time virtual teacher of 85+ virtual courses, begins by explaining how virtual schooling enables her to customize curriculum for students in her virtual classroom more easily than she could for students in her traditional, face-to-face classroom:

*“In the traditional setting, it’s extremely difficult to differentiate curriculum to meet the need[s] of a small number of students within a class because you can’t teach 2 different things at the exact same time, but you can do that in the virtual setting. If David has already read MacBeth, [previously], I can easily have him read Hamlet instead while everyone else carries on with MacBeth. I just send David alternate assignments, and no one else ever has to get involved. If I see that Mary is struggling with her writing, I can set up some times for she and I to get together in my [virtual classroom] and do some writing lessons in a live session. It’s much harder to set aside that time in the traditional classroom without everyone in the room knowing that Mary is having some kind of issue.”*

Patty continues by explaining that virtual schooling enables her to engage students in her virtual classroom in private, one-on-one conversations, with both an academic focus and a personal focus, in a way that was not possible in her traditional face-to-face classroom:

*“I definitely feel that there’s a much closer teacher-student relationship with virtual education. I know more about what’s going on with my students and their lives than I ever did in the traditional classroom. In the traditional classroom, when a student asked a question it was either in front of the entire class, at my desk but still with people around to listen in, or maybe between classes in the hall. Students would share some of what was going on in their lives, but, often, students didn’t want others listening in.*

*In the virtual setting, when a student asks a question or needs to talk, they’re having a private conversation with just me. No one else is there to eavesdrop or think the student is asking a stupid question. If the student is emailing, they know they have my undivided attention for the course of that written conversation – I don’t have to keep an eye on 30 other students while trying to listen to what the one in front of me wants.”*

*“... online, shy students who wouldn’t otherwise ask a question because they’d have to speak in front of a group are more likely to do so.”*

*“I ... conduct one-to-one student sessions using Skype or Adobe Connect or the telephone. It just depends on what the student needs in order to be successful.”*

Mary echoes Patty’s explanation that she is able to engage in a more personalized interaction with students in her virtual classroom than in her traditional face-to-face classroom, adding that there are fewer distractions from focusing on the student’s work in the virtual classroom:

*“[Student-teacher communication] is excellent and more likely one-on-one [than] in a classroom of 25+ students with 2 minutes for passing periods, etc. Email is great, and we have work areas where students can give and receive input from teacher and peers”*

*“[The teacher-student relationship] is more personal, believe it or not. There are no distractions, other students passing by, clothing and appearance differences to affect the relationship. The focus is on the work . . . it is very personal to the student. They let me in, so to speak, and we communicate about something that matters to them very much.”*

Patty further explains that she is also able to customize assessment of student learning in her virtual classroom more easily than she could in her traditional face-to-face classroom:

*“I think assessments are more realistic and relevant in the virtual classroom. If I know beyond a doubt that David has mastered a particular standard, I can move him forward faster and not have him do multiple practices of that standard. I can design assessments that are tailored for individual students rather than making a test that 30+ kids all have to take regardless of what their abilities may be.”*

Patty adds that a primary component of her virtual teaching is the individualized commentary providing guiding feedback from the teacher about the student’s work, a form of formative assessment, which can lead to revisions and resubmissions of work:

*“The vast majority of my time is spent grading lessons and providing guiding feedback.”*



*“Quality feedback is not saying “nice job” on a lesson – what was nice about the work? Quality feedback is telling the student exactly what they did well and what needs improvement and may also involve providing thinking questions. For example, if I grade a lesson in which a student has done a really thorough job with their answers, I will tell them exactly that ‘You did a really great job with this lesson. Your answers were very thorough.’ That lets the student know exactly what is was they did well in that lesson.*

*Additionally, if a student has done poorly, I can really focus and target the areas where they were lacking...and then provide them with an opportunity to revise that work to earn a higher grade – something which is almost never done in the traditional classroom.”*

Mary adds that summative assessments of progress are similarly narrative in form, emphasizing that traditional grading of student work is not the focus of her efforts:

*“Students do not receive grades in this enrichment course. I write a commentary on their ... progress which is reviewed by my supervisor and then sent to the parents.”*

The described degree of individualized communication between teacher and student, focused on improving student work, is reminiscent of, if not characteristic of, a mentor-apprentice relationship; the practice of virtual teaching may consist largely of what I will call *tele-mentoring*. Mary provides a direct description of herself as serving in the role of a mentor for her virtual students:

*“ My . . . classes are based on both [peer collaboration and mentoring]. I consider myself a . . . mentor, observing and commenting [on their work]. We have a means for both teacher and students [to leave] comments and questions for their peers, all along the way, and we have frequent online chats discussing their work.”*

In my experience, the described degree of individualized communication and mentorship is uncommonly observed in a traditional face-to-face classroom with 30+ students, or in a typical larger-scale lecture hall; Patty speaks to the importance of class size for enabling her to engage students one-on-one in her virtual teaching:

*“I’m a much better teacher online [virtually] because I can, literally, work one-on-one with a student without having to give up ‘after school’ time and without having to try to do so while monitoring 30+ kids.”*

This raises the question of whether the individualized virtual teaching interactions described can persist as virtual schools are scaled up to serve larger numbers of virtual students, employing larger classes, and larger student-teacher ratios. In order to address this question, possible explanations for the reported individualized virtual teaching interactions need to be explored. One possible explanation is that small class sizes may be primarily responsible.

While Patty reported teaching more than 85 virtual *courses* at the same time, she also reported very small numbers of students in each *course* (notably not referring to each *course* as a *class*): “I have maybe 3-7 students in the vast majority of the *courses*. They are all at different parts of the *course*. [emphasis added]” Patty further explained “We have a rolling enrollment so students can start *courses* whenever they want . . . they can enroll year-round at almost any time. [emphasis added]” So, it appears that even within such small “*class*”-sizes, students were not all experiencing the same lesson at the same time as a unified “*class*” cohort, but were instead progressing through any particular *course* in an individualized, self-paced way.

Rather than being explained by small class size alone, the ability to customize curriculum, personalize instruction, and provide mentorship may at least partially be explained by this distinction between participating in a virtual *class* and participating in a virtual *course*. This may also explain why virtual teachers report being able to teach so many *courses* at the same time; instead of planning and delivering *class* lessons from day to day for each cohort of students, they are mentoring students who are progressing through a pre-determined *course* of learning activities in an individualized way.

In my view, the arrangement described above may challenge the very concept of a “*class*” within a virtual school, and may also challenge the concept of virtual schooling as consisting of a series of class experiences for learners. It may be a common occurrence that a virtual “class”, in the sense of students studying the same subject, does not consist of a cohort group of students participating in the same lessons at the same time. If students are studying the same subject matter, but are currently at different points in an established progression, or are currently each following a different, customized path as they progress through the subject matter, then perhaps the terms “*virtual study group*” or, more broadly, “*virtual learning community*” might be more appropriate than the term virtual “class.”

While distinctions have previously existed between synchronous communication, and asynchronous communication, in the context of distance education and online education, I do not view those distinctions as capturing the absence of a cohort group moving together through a series of lessons. While the term “asynchronous” may describe the lack of live, real-time communication, it still implies the existence of a cohort group communicating by other means. Likewise, the term “differentiation” does not seem to be an adequate description, since it does not capture the potential for a large portion of students to each experience customized, individualized instruction in the virtual setting.

Similarly, this arrangement may also challenge the concept of “*teaching*” within a virtual school as preparing and providing a series of day-to-day lessons to be experienced by a cohort of students as a class. Virtual teaching may instead consist of *tele-mentorship* with an expert teacher-as-mentor for each area of study. Rather than considering either the number of courses taught by the virtual teacher, or even the virtual teacher’s class-sizes for virtual courses as a possible explanation for a virtual teacher’s ability to provide mentorship, customize curriculum

and personalize instruction, the overall student-teacher ratio may be the more relevant consideration, regardless of the number of virtual courses that teacher may “teach.” As the student-teacher ratio increases, it seems likely that a teacher would be less able to provide the same degree of customization and individualization for each student; as virtual schools seek to scale up to mass-production to serve growing numbers of students via larger class sizes and larger student teacher ratios, it seems likely that student-teacher interactions may be pushed away from mentorship and toward traditional lecturing of class cohorts.

Another possible explanation is that the type of telecommunications technology available is responsible for the personalized, customized teaching interactions; this raises the question whether particular kinds of technology are needed to support the individualized virtual teaching interactions described, compared to that needed to support class cohorts meeting for a shared, teacher-led lesson experience. Old distinctions between synchronous and asynchronous communication technology may distinguish the presence or absence of a desirable degree of interactivity for a class cohort meeting for a shared, teacher-led lesson experience, but such distinctions may be less relevant for one-on-one communication for tele-mentoring. The technology required to support one-on-one interactions for tele-mentoring does not appear to be the same as the technology needed to support meetings of classes for a cohort of students for a series of planned and taught lessons; the synchronous communication technology needed to enact traditional classroom interactions in the virtual environment may not be necessary nor helpful for virtual schooling via one-on-one tele-mentoring.

A virtual class cohort might benefit from multi-user, multi-site video conferencing technology to support class meetings, but virtual students working individually, communicating one-on-one with a virtual teacher for tele-mentoring, would not necessarily need nor benefit from

that synchronous technology. Instead, one-on-one tele-conferencing technology, and asynchronous tele-collaboration technology could be sufficient for supporting tele-mentorship and individualized student work, even in the absence of cohort class meetings. Mary described the use of collaboration technology for mentoring in her virtual class.

Historically, it may have been the case that technology limited the type of interaction, leaving one-on-one interactions between virtual teacher and virtual student as a prevalent form of interaction; in my experience, older technologies had supported large-scale lecture broadcasts, but with very little ability for students to interact with the lecturer. At present, however, this does not appear to be the case; technology appears to be available for any desired type of classroom interaction, including the ability to support tele-meetings of cohort classes. If the available technology enables a wide variety of teaching approaches, but some approaches are being preferentially implemented, there must be a reason for this state of affairs. One possible reason is suggested by Mary:

*“I’ve found that all that I valued about interactions with the students happens, sometimes in different ways, in the virtual class.”*

*“Except for doing it all online, my feelings about what I do, and approaches to students and teachers, are quite consistent with the way I functioned in the [face-to-face] school setting.”*

It appears that the currently available technology enables and preserves all that was valued from face-to-face interactions between students and teachers; it appears that virtual teachers didn’t lose anything of value by teaching in the virtual setting.

This raises the question, what aspect of the classroom interaction, which may have been lost by teaching in the virtual setting, was not perceived as valuable? Based on previous responses, one missing-but-not-missed aspect of face-to-face teaching appears to be the need to monitor 30+ students simultaneously for behavior; when teachers in face-to-face classrooms

devote their attention and time to classroom management practices, their attention and time is, by necessity, taken away from focusing on the work and the needs of individual students, as discussed in previous responses. The most valued teaching interactions with students appear to be the one-on-one interactions for individualized teaching and mentoring. Cohort class meetings do not appear to be the most-valued aspect of face-to-face schooling, nor do they appear to be a necessity that must be replicated or reproduced for virtual schooling.

The virtual teachers in this study do not appear to be waiting or wanting for any particular new technology in order to teach in the ways that they view as being most valuable: working one-on-one with students, providing mentorship, customization and individualization. I have often heard colleagues express a perceived limitation for the widespread adoption of virtual schooling, citing the lack of necessary technology as a reason that virtual schooling would be curtailed to little more than a small niche within the educational landscape. If the currently-available technology already allows and supports the types of interactions that virtual teachers find most valuable, then the wide-spread adoption of virtual schooling as a practice would not be limited by available technology. Instead, the Heritage Foundation, as discussed previously, may have already identified and addressed the most likely remaining obstacle for widespread adoption of virtual schooling: decoupling funding from local school district attendance, allowing funding to follow each student to virtual schools, via its prorated, partial voucher proposal.

The need for virtual schools to scale up to serve larger numbers of students may drive the use of mass-production lectures, rather than interactive class cohorts; as a result, even though technology has become available to support interactive class cohort meetings for virtual schooling, such technology may not be utilized, while instead technology to support mass-broadcast lecturing may be widely used. If it were the case that available technology was the

only factor limiting class cohort interactions, we might expect to see more class cohort interactions in the future as technology becomes available. Conversely, if the one-on-one interactions were not valued, we might expect to see fewer one-on-one interactions as technology became available to support more interactive tele-meetings of class cohort interactions. We might also expect to see an increase in teacher-less independent study using mass-produced virtual curriculum materials, if one-on-one interactions with teachers were not valued.

### 5.2.5 Experiences In Virtual Schooling Communities

Beyond the interactions that take place within a virtual course between virtual teachers and virtual students, participants describe additional interactions that appear to create a sense of community, despite geographic separation, made possible by the currently available communications technology.

Mary explains how an extended community emerges from her virtual course:

*“We are our own community while the class is in session, and I allow students to keep contacting me with their [work] and questions even after the [course] ends.”*

*“I make myself available to the students after they leave the official . . . course. I do this on my own, for no pay.”*

*“I do feel like there is a community of families out there somewhere whose students have [produced work] in my [course] and found the experience growthful and enriching.”*

The mentorship that Mary had previously described providing for students during her course, focused on students’ work, also appears to provide the basis of a continuing relationship after the course, for at least some period of time, as a community of course alumni. Over time, course alumni likely become geographically dispersed “out there somewhere”, drifting away from the community of course alumni; while formal reunions may not be held, the common mentorship experience that they have shared may support further networking and collaboration.

Patty further explains that it is the interactions outside of the courses that comprise a virtual schooling community: “Some [virtual] schools don’t have a real sense of community. I think we do because we have virtual clubs, school-wide sympos[ia] and other opportunities for interaction.” Although she refers to community as something that schools either do, or do not, “have”, I would suggest, instead, that community is something that virtual schools can build or develop, a set of interactions beyond a menu of virtual courses that may informally extend the curriculum, and that may include additional mentoring.

In contrast, Patty and Jane both use the term “community”, with a different apparent meaning, as they describe the lack of connection between a virtual school and a local, geographic community, external to the school. Patty reports, “. . . the community isn’t at all involved in virtual education. I think this will be something that will change more in the future as virtual learning becomes more widespread and popular.” Jane echoes, “I think if the community embraces [virtual] learning the relationship [between virtual teachers and the community] could be stronger.” A distinct boundary between members of a virtual schooling community and members of a larger community external to the school may exist, but may also be difficult to clearly identify, given the absence of geography as a criterion.

Other interactions outside of courses involve virtual teachers interacting with other adults rather than students; this includes interactions among teaching colleagues, interactions with administrators, and interactions with parents as external customers of the virtual school. Patty describes her interactions with virtual teaching colleagues as seeking informal support for her virtual teaching, rather than as formal mentoring or collaboration:

*“... there is less teacher-to-teacher interaction. This is primarily because we’re not walking into an actual building, walking by each other’s rooms to say hi or anything like that. However, it should be noted that I feel there is an increase in teachers being willing to ask another teacher who seems to have some*



*authority for help or suggestions in how to help a particular student than I saw in the traditional setting. In the traditional setting, we tend to teach in boxes and don't really reach out to other teachers when we're having issues or need help (at least we didn't in the settings I worked in). In the virtual world, I have a lot more people I can lean on for assistance."*

*"There isn't much peer collaboration and mentoring in the virtual world. You're pretty much on your own"*

In my view, Patty's experience supports the notion that community is something built or developed by interacting outside what Patty describes as the classroom "boxes" in which traditional teachers teach; from such a perspective, many traditional face-to-face schools may lack a community of teaching colleagues. It may be the case that in the *virtual world*, teachers can more easily ask for support from colleagues for a number of potential reasons: 1) the newness of the virtual teaching world may allow virtual teachers to do so without the risk of being perceived as incompetent or a sense of imposing on colleagues; 2) the lack of formal peer mentoring that Patty identifies, may lead virtual teachers to seek the support of colleagues perceived to be more expert, despite the availability of workshops for professional development discussed previously; 3) the lack of the need to physically intrude may allow virtual teachers to do so without violating any perceived boundaries of independence or privacy around another teacher's classroom space, and avoid any possibility of interrupting or disturbing another teacher's preparation time or classroom instruction – in much the same way as making a contact via email rather than in person allows a response at the convenience of the person contacted.

Patty's repeated use of the term "*virtual world*" is notable; she has also echoed this term in her responses to other questions: "In the *virtual world*, when a student asks a question that student has my entire attention and focus . . ." Jane appears to support the notion that virtual schooling represents a whole new world; she distinguishes between the experiences of virtual school administrators in one world, the world of traditional face-to-face schools, and their task of

administering in another world, the world of virtual schools: “Working conditions virtually are sometimes a bit dicey [due] to the fact that most of the administrators have not had experience in teaching a virtual course nor have they had experience administering in a virtual environment.”

Jane had also reported that certification for traditional teaching was essentially irrelevant to virtual teaching practice. Viewing virtual schooling as a new world underscores the need for professional schools to prepare both teachers and administrators specifically for professional life in this new world; while exploring the role of virtual school administrators is beyond the scope of this study, Jane’s comment would seem to imply that instructional leaders for virtual schools would benefit from experience as teachers within virtual schools more than they would from experience as traditional school administrators or managers.

If virtual school administrators are operating beyond their experience base, this may explain the degree to which parents are reportedly actively engaged in the virtual school community, *consulting* with teachers directly. As discussed previously, home-schooling parents, who reportedly form a large portion of virtual schooling parents, may be retaining the role of general contractor, coordinating directly with teachers as subcontractors, rather than relying on virtual school administrators as intermediaries, minimizing the role of virtual school administrators as managers.

Rather than holding traditional, regularly scheduled parent-teacher *conferences*, participants describe communication with parents as being comprised of irregularly scheduled *consultations*, often at the initiative of the parent, to discuss any issues as they may arise. Mary shares that although parents are physically more remote, they engage in a dialogue concerning the teacher-made decisions that comprise the course curriculum:

*“...I invite parents to come to [virtual] chats [and] I communicate frequently with them, and with the students by email. I often receive emails*

*from parents who are asking questions, making suggestions, expressing themselves about something they don't like. I treat them with respect, seriously consider their points, and answer clearly and promptly."*

Patty echoes this experience, concentrated around instances of struggling students:

*"...I have more interactions with parents asking course questions than I did in the traditional classroom, but I have fewer interactions with parents overall. There are no set parent-teacher conference days, but parents tend to reach out faster when they perceive their student is struggling with an issue."*

*"We don't have 'official' parent-teacher-conferences. You communicate with parents as much as they want or as much as is needed."*

Jane agrees that strong parent-teacher relationships in the virtual schooling community emerge from frequent communication in the virtual schooling community: "In my experience, [the parent-teacher relationship] is much stronger. Again because there is much more communication involving the parent."

Parental involvement in the communities that surround virtual courses may be particularly important for understanding a virtual teacher's role in the community, and, as will be discussed further below, for explaining the decision-making authority that virtual teachers reportedly exercise; virtual teachers may be making decisions about curriculum and instruction on behalf of parents acting with the status and role of *in loco parentis*.

### 5.3 Do Virtual Classrooms Share Common Characteristics with One-Room Schoolhouses?

In an effort to understand the decision-making role of virtual teachers, and their ability to customize curriculum and individualize instruction, it may be helpful to ask whether the experiences of teachers in virtual schools share some common characteristics with teachers in once-common, now-rare, one-room schoolhouses. Doing so may reveal more similarities with the experiences that teachers have described, teaching virtual courses within virtual schools, than

would making comparisons with the more familiar, more widely-shared experiences within traditional classes and schools providing mass-produced education.

The virtual teachers participating in this study have described a world in which a course does not necessarily consist of a series of teacher-led group learning experiences called classes; they have described students beginning a series of lessons in the same course at different times, and progressing at different paces, rather than completing the same course lessons as a cohort at the same time, all while still interacting with the same teacher. They have also described students in the same course working on different, parallel lessons and assignments, tailored to their different prior experiences. The descriptions provided by virtual teachers do not resemble my experiences in a more familiar world of a factory-model school designed to serve very large numbers of students, providing mass-production of education. Instead, these descriptions bring to my mind a world in which one teacher in a one-room schoolhouse serves students from different grade levels simultaneously, providing lessons and assignments tailored to each student's grade level experience; in the world of a one-room schoolhouse, students share a common teacher, but do not necessarily progress as a cohort through the same lessons at the same time.

The role of the virtual teacher in the virtual school may resemble the role of the teacher in the one-room schoolhouse in other ways as well. The one-room schoolteacher could be regarded as an expert, hired by a community of local parents, to act in the place of the parents, often being brought to the community from a great distance. The virtual teacher could also be regarded as an expert, hired to act in the place of the parents to teach and mentor students, imported to the community by means of telecommunications technology. While local parents may or may not have been capable of teaching their own children at a level of fundamental literacy and numeracy, the one-room schoolteacher likely was capable of teaching children at a more

advanced level, beyond the experience, knowledge, and understanding of the local parents. While local parents likely consulted with the one-room schoolteacher often, they likely also trusted the one-room schoolteacher to make decisions and to act on their behalf, drawing upon the one-room schoolteacher's expertise.

Virtual teachers have also described parents consulting with them frequently, while still being trusted to draw upon their own experience and expertise to make decisions. In the same way that acting "in place of the parent", *in loco parentis*, endows the one-room schoolteacher with a degree of decision-making authority to tailor both the curriculum and the instruction to each student, a virtual teacher's role and status as *in loco parentis* may explain the virtual teacher's reported decision-making authority and ability to customize and individualize; they are respected as imported experts, consulting with parents often, and entrusted with the authority to make decisions on behalf of the parents about curriculum and instruction as they mentor students. The virtual teacher may exercise the judgment of an expert craftsman creating custom, hand-made items, unlike a factory worker assembling one part of one product.

In order to emphasize the importance of the virtual teacher's expertise, allowing the virtual teacher to provide mentoring beyond that which the parents alone could provide, it might be appropriate to expand upon *in loco parentis*; without being an expert in the Latin language, I would suggest including *peritus eminus*, which I understand to mean "expert from a distance." Alternatively, "expert teacher" or "expert instructor" would include either the Latin *doctor* or *magister*. *Doctor* might be especially appropriate in order to emphasize that the consultations between parents and virtual teachers may resemble the consultations that are commonly associated with "hiring" (engaging the services of) doctors.

Virtual teachers had described interactions with both virtual students and parents that were not only individualized, but also private; these resemble the private, individual consultations that would occur between a patient and a doctor. They had also described a lack of privacy in the traditional school setting when attempting to engage students in one-on-one conversations; in the one-room schoolhouse, while the one-room teacher might individualize lessons for students, communication would likely still occur without the privacy of a one-on-one conversation. The virtual student may well be afforded a greater degree of privacy when communicating with the virtual teacher than would be afforded to a student in a one-room schoolhouse, as if the virtual student were engaged in private lessons from a private tutor. It may be the case that virtual courses are in some ways comparable to private lessons, with multiple students receiving private lessons from the same instructor in parallel.

#### 5.4 Do Virtual Schools Share Common Characteristics With Provider Networks?

From a student's perspective, participating in multiple virtual courses, may resemble accessing a network of doctors, as service providers with different specialties; while medical service providers may either be engaged in private practice, or part of a medical group, or part of a large-scale hospital, the comparable options for virtual teachers may be not yet be equally-well developed. Practice as part of a group, through virtual schools, may be more common for virtual teachers than individual private practice. The largest-scale virtual schools may be more comparable to hospitals if they provide individualized service; otherwise, they may be more similar to factories or franchises mass-producing products or services. Those virtual teachers who teach many different courses may be functioning as generalists, while others may be functioning as specialists focusing their practice on teaching fewer courses.

A world in which learners access networks of teacher-mentors is reminiscent of the worlds described by Illich and Holt; as discussed in a previous chapter, they imagined such networks as operating outside the organizational structures associated with traditional schooling, at a time when the telecommunications technology was not yet available to overcome the geographic limitations for creating such networks beyond local communities. In comparing their visions with the experiences of virtual teachers, one question that arises is whether curriculum decisions are being made primarily by the virtual teacher based on experience and expertise, or by the virtual student through choosing to join a particular teacher's virtual course, or jointly by both virtual student and virtual teacher.

Another key question for the future of virtual schooling is whether individualized interaction with an expert teacher will remain central to the learning process; alternative futures could involve minimal interactions with an expert teacher, including receiving lecture broadcasts, even with polling technology, or pursuing some form of teacher-less, independent, self-study using mass-produced curriculum materials. Minimally interactive virtual learning experiences will more likely occur: 1) when virtual teachers teach too many different courses, dividing a teacher's attention among too many parallel lessons or consultations; 2) when virtual teachers have too many students per teacher, as would be the case for a large-scale lecture broadcast, and, as a result, are unable to schedule one-on-one consultations; and 3) when virtual teachers design virtual courses as independent study experiences, to be "taught" passively, "on autopilot", in which students seldom seek interactions with the teacher in a customer service support role. When virtual schools scale up to provide mass-delivery of services as a franchise, these conditions are more likely to arise. Small-scale virtual schools may preserve the one-on-one interactions between virtual students and an expert teacher; small-scale virtual schools may

be the last bastion of the expert teacher-as-decision-maker and mentor, customizing curriculum and individualizing instruction.

#### 5.5 The Purpose Of Virtual Schooling: Accessing A Curriculum Of Expert Teachers

The act of employing a teacher represents one step beyond either home-schooling or being self-taught. If parents were experts in all areas of potential, desired study, then parents would be the only teachers necessary; additional teaching by additional teachers would not be necessary. Since parents cannot be experts in all areas of desired study, they seek supplemental teaching and mentorship. Since locally available teachers are not likely to be the most expert teachers available, parents may turn instead to expert virtual teachers to mentor their students.

The purpose of virtual schooling, in my view, is to provide access to expert mentors as teachers; in the case of public schooling more specifically, it is to provide access to expert mentors for those students whose families cannot afford access on their own by either paying tuition for private schooling to access a private school faculty, or by paying for private lessons from individual private instructors. The Heritage Foundation voucher plan discussed previously suggests a means to enable parents to pay for access to expert virtual teachers as mentors.

Previous efforts to provide access to expert teachers: 1) only provided a small number of expert teachers for a large number of students in each class; 2) focused on brick-and-mortar places to meet for local class cohorts, rather than on providing access to the most expert teachers available anywhere; and 3) pooled funds to pay for expert teachers only within local districts, creating inequities of funding for access to experts between districts. It may be a fundamental paradigm shift to suggest that funding for public schooling, pooled at the state level, should not



be used to construct and operate brick-and-mortar buildings as places for classes to meet, but should instead be used to pay for expert teachers for all students via virtual schooling.

A problem arises as growing numbers of students require teachers, both as one-room schoolhouses give way to large-scale, factory-model, shopping-mall-sized schools, and as virtual schools grow: the supply of experts is not likely to be sufficient to meet the demand; the degree of customization and personalization made possible by expert teachers, and described by participants, is not likely to be replicable on a large scale in the near future without a substantial increase in the numbers of expert teachers.

If curriculum is envisioned as a series of decisions about learning experiences, based on expertise, experience, and judgment, the consequences of a scarcity of expert teachers-as-deciders can be explored, along with the possible futures of virtual schooling. When an expert teacher is available for each and every student, each expert teacher can enact “a” curriculum custom tailored to each student; when not enough expert teachers are available, then decisions made by other experts serve as a substitute for the decisions of the expert teacher, enabling a non-expert to enact “the” prescribed, even scripted, curriculum. The decisions that substitute for the decisions of an expert teacher can be considered the curriculum. One can only hope that these substitute decisions are made by experts in content and pedagogy, and are based on a shared professional knowledge base including research and best practices. While these substitute decisions could be regarded as a set of guardrails to guide the non-expert on the winding road, restricting choices, the expert teacher would already possess this professional knowledge.

It is possible to imagine three possible futures for virtual schooling. In the first of these, decisions would be made by an abundance of virtual teacher-experts, each providing tele-mentoring, “a” customized curriculum, and individualized instruction for each student. In the

second of these, the mass-production, mass-delivery, franchise model would prevail, with decisions being made globally by rare experts, creating “the” same curriculum for everyone, to be imposed locally on non-expert teachers, parents, and students. This model holds the potential for greater profits for providers.

In a third possible future, both of these possibilities persist, each serving a different group of students. The custom world would be available to those who could afford the higher cost of one-on-one interaction with an expert virtual teacher; this would be a first-class schooling experience for the 1%, the prime rib steak of schooling. Meanwhile the one-size-fits-all world of the mass-delivered lecture or the mass-produced curriculum materials would be available cheaply; this would be the second-class, or perhaps steerage, schooling experience for the 99%, the ground beef burger of schooling.

## 5.6 Final Reflections: Further Questions for the Future

Many questions have been raised about K-12 Virtual Schooling, both prior to data collection and following data collection; further questions for future discussions and continuing research are explored below. One set of questions surrounds the status of virtual teachers in K-12 schools. Participants describe being treated as independent contractors with considerable decision-making autonomy, but little tangible job security; these reports prompt further questions concerning implications for the future of the teaching profession, as growing numbers of students attend virtual schools, and as growing numbers of teachers teach in virtual schools.

First, what are the implications for virtual schooling of treating teachers as independent contractors? Is it desirable and beneficial for teachers to be treated as independent contractors? Who benefits from treating teachers as independent contractors? Do students and parents benefit

as customers? Do administrators benefit by claiming a larger share of per-student expenditures for executive salaries, and by avoiding statutory obligations to employees? Will virtual teacher recruitment, attrition, and turnover be harmed by the lack of long-term job security? How will virtual schools be able to maintain a stable faculty? Will all-star teachers enjoy free-agency? Will autonomy be sufficient to attract and retain virtual teachers? Can comparisons be made with the experiences of other professionals?

Does virtual schooling support or undermine teaching as a profession? Is it desirable and beneficial for teaching as a profession that teachers be treated as easily replaceable, disposable, outsource-able workers? Does virtual schooling promote teachers as highly knowledgeable, highly skilled professionals exercising decision-making authority based on professional judgment? This is sometimes referred to as the “brain surgeon” model of teaching in which teachers are rare experts. Or does virtual teaching regard teachers as low-knowledge, low-skill, non-professional laborers, akin to assembly line workers? This is often described as the idea that anyone can teach. The latter view leads to teacher-proofing of scripted, prescribed curricula, to be followed by non-deciders, that provide a substitute for the exercise of professional judgment.

Are the work experiences of professional virtual teachers at risk of becoming comparable to the experiences of non-professional laborers elsewhere in the economy? Is virtual teaching demanding more labor for less compensation in return? Will virtual teachers only be hired part-time? Will virtual teachers be denied health benefits? Will virtual teachers be denied retirement benefits? Will virtual teachers be denied union representation to protect against wrongful firings? Will even the most accomplished and successful virtual teachers be denied long-term employment and job security in the form of tenure?

Does professional decision-making autonomy necessarily come at the price of job security? Is professional autonomy inherently risky? Is autonomy a reward for entrepreneurial individuals for embracing risk-taking? Can risk-averse individuals also succeed as professional virtual teachers? Must virtual teachers choose between professionalism and solidarity? Does the profession need to transition from a labor union model to a professional association model?

Will the reported autonomous experiences be typical of the experiences of future virtual teachers, as virtual schools scale up to serve larger numbers of students, hiring larger number of virtual teachers in the process? Do the reported virtual teaching experiences run counter to trends for the experiences of teachers in traditional, face-to-face, factory-model public schools serving large numbers of students? Will the advent of either factory-model virtual schools or franchise model virtual schools demand standardization and quash autonomy for virtual teachers? Will virtual teachers become subcontractors supplying interchangeable component parts of a single standardized curriculum? Will virtual teaching become commoditized, turning the delivery of virtual instruction into a commodity of indistinguishable quality to be produced and provided anywhere at the lowest cost?

Is virtual schooling the last bastion of autonomy for teachers amid a rising tide of standardization? Can virtual schooling oppose standardization of prescribed, scripted, teacher-proof curricula? As centralized authorities tighten their grip on the curriculum for local schools, can virtual teachers slip through their fingers? Will virtual schooling support for home-schooling families provide another refuge for autonomy? Will virtual teachers, who provide a supplemental curriculum of *ala carte* courses for home-schooled students, be permitted greater autonomy by parents acting as general contractors, than would be allowed by factory-model or franchise-model schools providing an entire curriculum?

What are the implications of increasing numbers of home-schooled students enrolling in courses offered by virtual teachers through virtual schools? Will virtual teachers hired for *ala carte* courses continue to exercise autonomy to provide higher-quality, customized curricula for individual home-schooled students? What will happen when virtual programs are not only providing supplemental programs as component parts of a curriculum, but begin to form the entire curriculum for home-schooled students? Will the reported autonomy enjoyed be lost? Will virtual schooling become just a new delivery system for one monolithic curriculum? Will the Problem of Pre-requisites and Sequences quash autonomy when virtual teachers are hired *ala carte* to teach component parts of a standardized curriculum to home-schooled students?

Will virtual schooling and home-schooling form a symbiotic relationship that benefits both practices? Will home-schooling parents benefit by avoiding the need to be an expert in all desired areas of curriculum, by instead being able to hire specialized experts in every subject. Will home-schooled students benefit, both from the continued customization of curricula, and from access to more-expert teachers than would otherwise be available to them locally?

Will the reported experiences and autonomy be typical as the number of virtual teachers increases to serve growing numbers of virtual students? Will enough expert teachers be available to meet the demand for virtual teachers? What will happen when more and more of the virtual teachers are not experienced veteran teachers, as were the teachers in this study, but instead inexperienced rookie teachers? Will they still be afforded autonomy? Will only veteran teachers enjoy autonomy? Will only all-star teachers enjoy autonomy?

As virtual teachers begin to enter virtual teaching directly from professional education schools, without face-to-face classroom experience, should we rethink what they must know and be prepared to do, and how they must be prepared to do it? Do virtual teachers require new or

different professional knowledge and skills compared to face-to-face teaching? Is any previous professional knowledge no longer relevant? Is technology proficiency alone sufficient?

What is involved in teaching a virtual course? Are daily lesson plans written? Are daily lessons taught to class cohorts? Is classroom behavior management of over 30 students important? Is virtual teaching more analogous to seeing and diagnosing individual patients rather than to conducting a triage for large numbers of patients? Is teaching a course different from teaching a class? If so, will such a distinction persist as technology evolves and as more students are served? Will virtual schooling challenge the concept of teaching a class? Is curriculum design more important for virtual teachers than for traditional face-to-face teachers? Does virtual teaching represent a paradigm shift? Is the unsettled vocabulary and terminology evidence of a paradigm shift? What aspects of face-to-face schooling are missing in virtual schooling, but not missed (gladly abandoned)? Are any aspects of face-to-face schooling perceived as valuable, but lost in virtual schooling?

What are the implications of virtual teaching for the professional preparation and credentialing of teachers in pre-service professional programs? How should pre-service teachers be prepared to teach in virtual schools? Are the qualifications for virtual teaching different from f2f teaching? Will a teaching certificate or license for face-to-face teaching be sufficient for virtual teaching? What will be the entry-level qualifications for virtual teaching? Will face-to-face teaching experience be required?

Will pre-service teachers be required to conduct student teaching in a virtual school environment? Will virtual student teaching involve cohorts of students engaged in the same lesson? Should professional preparation of virtual teachers emphasize the preparation of daily lesson plans? Should it emphasize the delivery of daily lessons to class cohorts? Should it

emphasize classroom behavior management for large cohorts of students? Should it emphasize more rigorous assessment (diagnosis) of individual students?

Should professional preparation for virtual teachers emphasize course-level curriculum design? How will virtual teachers be prepared to make curriculum decisions to design their virtual courses? Is existing curriculum coursework in professional schools of education useful and practical for virtual teachers?

Will professional schools of education be bypassed as programs for preparing and evaluating virtual teachers? Will professors of education be replaced as experts for preparing and evaluating virtual teachers? Should independent contractor teachers be credentialed differently from public-employee teachers? Do professional teaching standards need to be modified more extensively for virtual teaching? Will existing national-level standards for teaching support virtual schooling and facilitate the outsourcing of teaching? Will a marketplace model separate professional credentialing from virtual teaching practice? Who will evaluate virtual teachers once they begin practicing virtual teaching?

What are the implications for supervision and evaluation of virtual teachers by school administrators of a customer satisfaction evaluation model? Will virtual teachers be supervised if they are independent contractors? Will administrators need to distinguish between exemplary teaching and incompetent teaching by any means other than customer complaints and customer satisfaction surveys? Will virtual administrators need to review the lesson plans of virtual teachers? Will virtual administrators need to base evaluations on administrative observations of virtual teaching? Will they need to observe lessons delivered live to class cohorts? Will virtual administrators need to evaluate a virtual teacher's ability to diagnose (assess) individual virtual

students? How will administrators be prepared to evaluate virtual teaching? Will administrators supervising virtual teachers be required to have successful experience as virtual teachers?

What are the implications for the teaching profession of a customer satisfaction model for evaluation of virtual teachers? Are doctors, lawyers, and other professionals evaluated by a customer satisfaction model? How will parents and students recognize and distinguish highly knowledgeable and skilled teachers engaged in successful, accomplished teaching from incompetent teachers and ineffective teaching? On what criteria will parents and students base their judgments and evaluations of virtual teachers and virtual teaching? What criteria will be most important to customers for recognizing the best teachers? What will happen if and when parents and students judge and evaluate teachers based on their bedside manner rather than by their use of the best research-based teaching practices? Given the choice, would parents and students as customers choose friendly but incompetent teachers over rude but expert teachers?

Are there implications for the concept of curriculum resulting from the practice of virtual schooling? When parents choose virtual teachers, are they also choosing the curriculum? Will virtual schooling redefine the central question of curriculum as “with whom is it worthwhile to interact in order to learn?” Do the virtual teachers prescribe the curriculum by designing their own courses as a series of self-paced activities in the same manner that doctors might prescribe medication for self-administration by patients? Will an expert teacher remain central to schooling? Is the purpose of schooling to provide access to expert teachers, rather than to provide standardized curriculum and student credentialing? Will access to expert teachers resemble the provider networks that provide access to doctors and health care providers? Will access to expert teachers resemble private practitioners operating one-room schoolhouses? Will the visions of radical school reformers such as Illich and Holt be realized in the realities of virtual schooling?



How will the different schools of thought among curriculum theorists seek to lay claim to the landscape of virtual schooling?

Is curriculum what is needed when an expert teacher is unavailable for direct personal consultation? Can curriculum be understood as a substitute for the series of decisions made by an expert teacher and mentor about learning experiences? Is there a curriculum decision-making progression from self-teaching, to parent teaching via home schooling, to private lessons from a teacher hired directly by parents, to individualized lessons from a communal teacher hired collectively for the virtual school, or for the historical one-room schoolhouse, to standardized cohort lessons in the factory model school?

Does virtual schooling have the potential to de-industrialize our schooling practices, moving away from standardized curricula? Will *ala carte* selection of virtual courses and teachers separate student credentialing and diploma granting from school attendance? Will standardized testing replace local credentialing? Will references from reputable virtual teachers become more critical than completion of a whole curriculum? Will collaboration on authentic, project-based and problem-based tasks become a critical component of student credentialing?

What are the social implications of virtual schooling for students? Are virtual schools forming their own communities, detached from geographic communities? Are virtual schools forming communities that extend beyond individual academic courses to include extracurricular activities? Will virtual students experience one school community or be tracked into separate sub-community experiences? Will tracking to prepare for different future roles in the economy prevail? Is there a hidden curriculum within virtual schooling? Can all students succeed through virtual schooling? Is there an expectation that only students who are highly self-disciplined and

highly self-motivated will succeed through virtual schooling? Is there an expectation that only students with intact, highly supportive families will succeed through virtual schooling?

Will virtual schooling provide students with equitable access to high-quality teachers, curriculum, and schooling practices? How could schooling experiences continue to be inequitable when geographic location within a district no longer limits available options? Will vouchers overcome district-based financing of schooling? Will virtual schools be able to charge more per student than the value of a voucher? Will affluent parents be able to add their own financial resources to the value of a voucher in order to afford more expensive virtual schools? Will the affluent 1% always have access to better quality schooling, consisting of first-class customized private teaching, than the schooling experiences provided to the 99%, consisting of steerage-class mass-produced lectures and curriculum materials? Can all students have a first-class schooling experience? Can the children of the masses be educated in the same manner as the children of the few? What are the implications for our democracy and for our society of allowing class-based schooling segregation to persist? Should a single pool of expert teachers exist within each state, with the responsibility to ensure through virtual teaching that all of the students in the state have access to first-class schooling? Should a cadre of expert teachers be established at the national level with the same responsibility for all of the students in the country? If local district and attendance area boundaries persist as a means of segregating students into schools with inequitable funding, and quality schooling experiences, will this occur by choice, and not due to the lack of a technological means to redress inequity?

How will virtual schooling be studied in the future? What are the obstacles for studying virtual schooling? How will access to virtual schools be secured for further research? Will only virtual school insiders with vested interests be able to collect data and report on virtual schooling

practices? Will independent university-based researchers be permitted access to virtual schools to conduct studies? If and when access to virtual schools is denied, can the Freedom Of Information Act be utilized to pry open the doors of publicly-funded virtual schools?

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## **APPENDIX**

UNIVERSITY OF ILLINOIS  
AT CHICAGO

Office for the Protection of Research Subjects (OPRS)  
Office of the Vice Chancellor for Research (MC 672)  
203 Administrative Office Building  
1737 West Polk Street  
Chicago, Illinois 60612-7227

**Approval Notice  
Continuing Review**

March 13, 2014

Dennis Federico  
Curriculum and Instruction  
1040 W Harrison  
M/C 147  
Phone: (708) 839-0448

**RE: Protocol # 2012-0947**  
**“Virtual Schooling at the K-12 Level: A Study of Curricular and Instructional Decision-Making by Teachers”**

Dear Mr. Federico:

Your Continuing Review was reviewed and approved by the Expedited review process on March 5, 2014. You may now continue your research.

Please note the following information about your approved research protocol:

**Protocol Approval Period:** March 5, 2014 - March 5, 2015  
**Approved Subject Enrollment #:** 10 (limited to data analysis from 4 enrolled subjects)

**Additional Determinations for Research Involving Minors:** These determinations have not been made for this study since it has not been approved for enrollment of minors.

**Performance Sites:** UIC

**Sponsor:** None

**Research Protocol(s):**  
a) Dissertation Chapter 1 (no footer; submitted with Initial Review application)

**Recruitment Material(s):**  
a) N/A: Limited to data analysis only

**Informed Consent(s):**  
a) N/A: Limited to data analysis only

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific category(ies):

(7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

**Please note the Review History of this submission:**

Receipt Date	Submission Type	Review Process	Review Date	Review Action
02/28/2014	Continuing Review	Expedited	03/05/2014	Approved

Please remember to:

→ Use your **research protocol number** (2012-0947) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the OPRS website at,  
**"UIC Investigator Responsibilities, Protection of Human Research Subjects"**  
 (<http://tiger.uic.edu/depts/ovcr/research/protocolreview/irb/policies/0924.pdf>)

**Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.**

**Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.**

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 355-0816. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Alison Santiago, MSW, MJ  
 IRB Coordinator, IRB # 2  
 Office for the Protection of Research

Subjects

cc: Kimberly Lawless, Curriculum and Instruction, M/C 147  
 William Watkins (Faculty Sponsor), Curriculum and Instruction, M/C 147

## VITA

NAME: Dennis Carl Federico

EDUCATION: B.S., Earth, Atmospheric, & Planetary Sciences, Massachusetts Institute of Technology, Cambridge, MA, 1989

M.A., Science & Math Education, Columbia University Teachers College, New York, NY, 1991

Ph.D., Curriculum and Instruction, University of Illinois at Chicago, Chicago, IL, 2014

HONORS: Selected as Mellon Fellow at Columbia University Teachers College

UNIVERSITY  
TEACHING  
EXPERIENCE

Department of Elementary and Middle Level Education, Chicago State University: Methods of Teaching Science and Methods of Teaching Math

Department of Chemistry and Physics, Chicago State University: Practical Physics (for pre-service teachers, using PSET/PET) and General Physics

Center for Talent Development, Northwestern University: Robotics

Department of Teacher Education, DePaul University: Secondary Science Teaching Methods and Elementary Science Teaching Methods

Department of Natural Sciences, Loyola University Chicago: Physical Sciences -- Motion (for pre-service teachers) and Planetary Astronomy

Center for Science Education, Loyola University Chicago: Provided In-service professional development for Active Physics for Chicago Teachers

Department of Curriculum & Instruction, University of Illinois at Chicago: Methods of Teaching Elementary Science

Department of Physics, Illinois Math & Science Academy: Physics

Department of Science, Mississippi School for Math & Science, Mississippi University for Women: Physics and Computer Programming

Department of Science, Indiana Academy for Math, Science, Humanities, Ball State University: Physics, Electronics, and a project-based course.

Department of Math, Indiana Academy for Math, Science, Humanities, Ball State University: Computer Programming and Computer Applications