

Research Committee Issues Brief: Examining Communication and Interaction in Online Teaching



Written by

Cathy Cavanaugh

Susan Lowes

Donna Scribner

Michael Barbour

Allison Powell

Julia Van der Molen

Regina Brown

Ray Rose

Daryl Diamond

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Research Committee Issues

Brief: Examining Communication and Interaction in Online Teaching

Online teaching is a complex professional practice. In addition to their content knowledge and pedagogical skill, online teachers must be qualified in methods of teaching the content online and have experience in online learning.

This document examines some of the aspects of online teaching, specifically those related to communication and interaction. This examination draws guidance from the literature on quality online teaching, school policies regarding online teaching practices, and professional development programs for online teachers.

Guidance from Literature on K-12 Online Teaching

The effectiveness of distance education on learning may be moderated by several factors, and these factors lie within a very complex web of educational, technological, and social dynamics (Cavanaugh, 2005). These factors include the design of the distance learning system, the demands for its content, both the abilities and disabilities of its participants, and the quality and effectiveness of the teacher. Davis and Roblyer (2005) suggest that as the demand for and the expansion of virtual schools increase, so too will a “parallel need for teachers who are prepared to teach at a distance from their students” (p. 401). They point out that such preparation will demonstrate that the role of an online instructor requires a paradigm shift pertaining to instructional time and space, techniques in virtual management, and how to engage students through virtual communications.

Zucker and Kozma (2003) conducted research on the Virtual High School (VHS) and concluded that when VHS courses succeed, the success was due more than anything else to the effort and art of capable and effective teachers and site coordinators. To overcome the technological, logistical, and motivational challenges facing online students, they found teachers need to design relevant content and use the medium to present it effectively. Teachers should use a variety of instructional methods and structure situations to engage students in deep intellectual dialogue. By presenting clear objectives and providing timely feedback, online teachers can monitor student progress while encouraging their efforts.

Highly effective online teachers are the result of an effective instructional delivery model aligned with the selection and preparation of effective teachers. Researchers have determined that highly effective virtual teaching requires a highly interactive classroom (Friend & Johnston, 2005; Cavanaugh, 2005; Zucker & Kozma, 2003). Distance-learning research indicates that this instructor-learner interaction is the most important ingredient in student success. Diamond (2007) describes

a highly facilitating virtual teacher as one capable of designing substantive, engaging, and fulfilling work for children. Virtual teachers must be able to orchestrate arrays of opportunities for students, to continually learn, to model effective practice, to provide guidance and leadership, to set standards and help students assess themselves, to intervene when necessary, and to maximize the potential of every student. In spite of observations that virtual high school students engage in self-directed learning, teachers are still needed to carefully direct instruction.

Highly facilitated interaction implies the use of emails, frequent phone conversations, the use of collaborative tools such as threaded discussions and synchronous chats. It infers that students are closely connected to their teachers. When this occurs on a one-on-one basis, it enables more individualized attention than is actually possible in the traditional classroom. Therefore, an effective teacher can be identified by the ability to make individual connections with students. Such an effective teacher would be seen as a motivator, a guide, a mentor, and a listener.

Highly facilitated instruction also suggests being highly responsive. Effective online teaching practices must include a fast turn-around to student and parent inquiries. Developing a disciplined approach to keeping the lines of communication open is part of the daily routine of an online teacher. Specifically, this approach includes welcome phone calls from the teacher greeting the student to minimize circumstances that might prevent successful course completion. It also begins the process of building a rapport between teacher and student that will continue throughout the course.

Online teachers must become adept at using web-based technologies to offer students activities that make use of the web's powerful tools for collaborative learning. Online learning environments that are designed to use the many available collaborative communication tools can offer a more active, constructive, and cooperative experience than classroom learning. In addition to traditional teaching attributes and teaching with digital content, virtual school teachers need to be proficient at helping children acquire a skill set which includes autonomous learning and self-regulation.

Regardless of whether online instruction is delivered synchronously or asynchronously as an instructional model, online educators must be trained in both. Synchronous instruction brings teacher and students together simultaneously in virtual spaces. This implies that virtual teachers need to become skillful at using chat rooms and collaborative software. Asynchronous instruction may be delivered without any specific timetable, requiring teachers to become knowledgeable about offering postings online and discussion boards.

One of the most critical aspects for those interested in delivering quality online learning is the identification of specific knowledge, skills, and dispositions that are required for "highly effective" online teachers. Because teachers in public virtual schools are generally required to meet the same qualifications as public school teachers, the need grows for structured, required, rigorous teacher development, both in-service and pre-service, for this unique learning environment.

Both the rapid growth trend in online schooling and the current accountability environment surrounding education suggest that traditional colleges and schools of education will need to develop programs for virtual school teacher preparation. The dynamic context in which online education occurs and the rapid change in distance learning technologies add to this complexity, indicating that the "preparation of teachers needs to account for more of this complexity and needs to be vigorously career-long" (Cavanaugh, 2005, p. 5). Blomeyer and Dawson (2005) concede

“while most universities and colleges have established programs to prepare their faculty to teach online, school systems are just beginning to address this need” (p. 67).

Although online teaching shares much in common with traditional face-to-face instruction, it has its own unique set of skills and requirements. Online education is only now defining credentials and skills of highly qualified online teaching by codifying and assessing standards for online teaching. The International Association for K-12 Online Learning (iNACOL), in full endorsement of The Southern Regional Education Board (SREB) earlier publication (see Thomas, 2006), has adopted the *National Standards for Quality Online Teaching*. These standards are quality guidelines for online teaching and instructional design. These standards form a research-based framework for effective online teaching.

Many of the standards and significant portions of the K-12 online learning literature focus on interactions in courses. The study described in the next section identifies virtual schools’ policies regarding interactions among students, teachers, and parents.

Practices and Policies for Communication and Interaction in Online Teaching and Learning

In implementing online teaching and learning, a key component is the policies that exist in virtual schools for teacher/student, teacher/parent, and student/student communication. Our research addressed the following questions:

- Do online schools have written policies regarding communication between teachers and students, teachers and parents/guardians, and students with students?
- If so, what do these policies cover?
- How are these policies communicated to teachers, parents/guardians, and students?

Methods

To address these questions, a subcommittee of the iNACOL Research Committee developed a survey that was sent by iNACOL to contacts at 108 virtual schools. There were 125 responses, including some from schools not on the original list. Twenty-eight responses were removed because the respondent did not include the name of the school (and therefore might have been duplicating another response); 16 were second responses from the same institution and were combined with the first response. The remaining 81 valid responses were used for the analysis. Although this was not a systematic sample, the schools that responded did represent the full range in terms of type of school, from schools that are part of national organizations, such as K12, Inc. and Connections Academy, to state-level virtual schools, district-level schools, and individual schools (charter, independent, and public).

Types of policies

The survey asked about three types of policies: policies regarding communication between teacher and student, between teacher and parents/guardians, and from student to student. Almost 85

percent of those who responded reported that they had at least one type of policy in place, with over 40 percent having all three. Sixty-five of the 81 of the survey responders indicated that they had policies in place regarding the kind or amount of teacher communication with students, while an additional seven stated that they were planning to institute such policies but had not yet done so. On the other hand, only 43 reported that they had policies in place regarding the amount and content of teacher communication with parents, although 13 said they were planning to create such policies. The number who said they had policies in place regarding student-to-student communication was even lower—only 47—with eight saying they planned to do so. Those survey respondents who reported that they did not have student-student policies were generally schools that do not have, or do not emphasize, student-to-student communication, particularly those whose courses are self-paced, with the students keeping to their own schedules.

Types of Policies Schools Have	Count	Percent
Have all three kinds of policies (teacher-student communication, teacher-parent communication, student-student communication)	33	41%
Have two kinds of policies (teacher-student communication, teacher-parent communication)	10	12%
Have two kinds of policies (teacher-student communication, student-student communication)	10	12%
Have two kinds of policies (teacher-parent communication, student-student communication)	0	0%
Have one kind of policy (teacher-student communication)	12	15%
Have one kind of policy (student-student communication)	3	4%
Have one kind of policy (teacher-parent communication)	0	0%
Have none of these policies	13	16%

Content of the policies

Teacher-student communication

Most policies regarding teacher-student communication covered both the frequency and the content of the contact, with 85 percent having policies about frequency of contact via email, 77 percent having policies regarding frequency of contact by phone, and 54 percent having policies regarding frequency of contact through discussion forums. Forty-seven percent of the responders reported that they had policies about frequency of contact through synchronous platforms (such

as Elluminate, NetMeeting, Wimba). The inclusion of (relatively) new online tools is an indication of how rapidly the field of online learning is changing and adapting to emerging technologies.

In addition, 82 percent indicated that they have policies in place regarding the content of teacher contact with students, and 68 percent have policies regarding the content of student contact with the teacher.

In open-ended responses to a question that asked about the content of these policies, it was clear that the method of responding (synchronous, asynchronous, phone, email, message board) was not as important as the timeframe. The requirements for the amount of contact between teacher and student, as well as the mode, varied widely: some reported that they expected a minimum of twice a month, others once a week, others two or three times a week, and others daily. Some required that this be by phone, but for others the modes of contact included email, discussion forums, and synchronous platforms, and most schools require their teachers to use more than one of these (i.e., email and phone, or phone and synchronous platform). Although some policies do not stipulate the precise frequency of contact (simply indicating that it is expected to be “regular”), most required that teachers respond to students within a specific time frame—generally 24 hours. Most also require teachers to get in touch with their students within one or two days of enrollment.

Schools tend to require more contact with younger students, and most reported that, aside from the response-time requirement, they expected that the frequency of contact would vary by the age of the students and the content of the course. Schools with self-paced courses differ from schools with virtual classrooms in terms of the type of contact, with the self-paced schools requiring direct teacher-student contact and the virtual classrooms more likely to require teacher-class contact. As one of these schools put it, they require that the teacher “demonstrate daily presence within the online course via announcements, discussion board participation, grading, answering email, etc.” As more and more schools invest in synchronous environments, they are using these for teachers to hold office hours, and a few of the respondents reported that weekly office hours were now required of teachers, although they might be optional for students. Finally, many schools have requirements for contacting students when they have not been heard from within a certain amount of time—the most frequently mentioned time was 5 days.

In terms of the content of the contact, this generally included wording that requires that teachers and students treat each other with respect, use appropriate language, have positive attitudes, etc. This was often spelled out in the school’s AUP or policies on netiquette.

Teacher-parent communication

A large majority (74 percent) of the responders reported that their policies about teacher-parent communication addressed frequency of contact, both via phone and email. On the other hand, at the present time both synchronous platforms and discussion forums are clearly less common means of communicating with parents, and only 26 percent reported that their policies covered synchronous platforms, while only 14 percent reported that they had policies in place for discussion forums.

In many schools, teachers are required to speak to parents regularly to review student progress, but the frequency varies widely, from once a quarter, to once a month, every two weeks, or weekly.

However, all require much more frequent contact with students who are doing poorly or who have high rates of absenteeism.

Student-student communication

Thirty-two schools reported that they had their own policies regarding student-student communication, while seven followed the site-based school's Acceptable Use Policies (AUP), and eight said they used both.

Forty-one of the 46 schools reporting on the content of their policies said that the policies covered both appropriate email etiquette and appropriate posting to discussion forums, often under the rubric of "Netiquette." The others reported that their policies covered only email etiquette. Several survey respondents commented that their policies went beyond the use of inappropriate language to forbid the use of IM "talk," requiring that formal language to be used in all school communications. This included full sentences, correct grammar, and proper capitalization – what one survey respondent called "skillful writing techniques" as opposed to "text messaging techniques." Others noted that they required that student discussions not only use appropriate language but be relevant to the topic and be positive in tone, and one noted that the nature and size of images in personal profiles was also subject to proper etiquette.

Synchronous modes of communication among students are growing in online courses, and 30 of the 46 (64 percent) had policies covering appropriate behavior in synchronous environments. These were mostly schools that had their own policies, rather than those that relied on the brick-and-mortar schools' AUPs, suggesting that online schools are ahead of their site-based counterparts in regulating such environments.

On the other hand, far fewer (16 or 34 percent) had policies that covered appropriate posting to blogs. In this case, these included schools that had their own policies and those that followed brick-and-mortar AUPs, suggesting that many local AUPs are being revised to take blogging into account.

The survey asked if the schools were considering refining or revising their policies. Most said they were not, or could not because they had to rely on the local AUP. On the other hand, those who said they were revising their policies were doing so in order to respond to changes in the available technologies, including collaborative tools that allow students to work together on group projects, the introduction of synchronous environments, and the use of Facebook and MySpace.

Communicating the policies

Online schools, like the brick-and-mortar schools, are the first line of communication between their staff and their students and parents/guardians. As a result, online schools make extensive use of formal materials, such as handbooks, websites, and catalogues, as well as occasional direct correspondence, such as email, newsletters, and mailings, even though some of these are only made available on the school website rather than in paper form. It was clear from the survey responses that teachers in online schools have a substantial responsibility for communicating—and enforcing—these policies. The responses indicate that principals in online schools are much less likely to interact with students or parents directly. Therefore, teachers become a key avenue of communication between these two constituencies and the school.



Communicating policies to teachers

The schools use a wide variety of ways of communicating their policies to their teachers—who are then expected to supplement the school’s communication to students and parents.

Policies on teacher-student communication

In communicating policies to teachers about teacher-student communication, schools reinforce their policies by presenting them in a number of different formats – the teacher handbook, during online and face-to-face pre-teaching sessions, and in professional development sessions during the year. The most common methods the schools use are memos and email announcements, which were reported by 86 percent of the respondents, followed by professional development sessions during the year (83 percent), the teacher handbook (80 percent), and both face-to-face and online pre-teaching training (72 percent and 78 percent respectively). A large number (63 percent) also included this when evaluating their teachers.

Policies on teacher-parent communication

As noted above, fewer schools had these policies in place, while more had plans to create them. Those who did have them relied on all the same methods listed above and in the same order, with almost all programs using at least two and most using all three.

Communication policies to parents

Policies on teacher-student communication

Almost two-thirds (65 percent) of the schools who responded to the survey indicated that they also expected teachers to communicate the institution’s policies to parents or guardians at the beginning of the course, although they also relied on the school website (63 percent) and email (62 percent), as well as newsletters, mailings, and a parent handbook. Only a few schools (5) reported that they did not communicate directly with parents or guardians.

Policies on teacher-parent communication

Two-thirds of the schools (65 percent) that had policies regarding teacher-parent communication also expected their teachers to communicate these policies directly to the parents, but they relied even more heavily on the website (74 percent). They also used email (60 percent), as well as newsletters and a parent handbook. As expected, only one school reported that it did not communicate these policies to the parents or guardians.

Communicating policies to students

Policies on teacher-student communication

Although 78 percent of schools said they used the student handbook to communicate these policies to their students and almost the same percentage reported that they did so during their online (77 percent) or face-to-face (23 percent) student orientation sessions. An even larger number (88 percent) expected teachers to communicate the policies to the students at the beginning of the course.

Policies on student-student communication

The schools communicated their policies on student-student communication to students repeatedly, in multiple ways. Once again, the teacher was the most important conduit: 77 percent of schools that had such policies expected the teacher to tell students about these policies at the beginning of the course. In addition, schools used the site-based school's AUP (77 percent), the student handbook (74 percent), and the online or face-to-face orientation. In addition, 45 percent of those who had policies also included these policies in their contract with the student.

The survey asked if all student-student communication was supposed to be through the Course Management System (CMS) or if other forms of student-to-student communication were encouraged. Only 24 of the 46 (51 percent) reported that communication was supposed to be through the CMS, while almost as many (20) said that it could be the CMS or other means, including email, Skype, or Instant Messaging. This is somewhat surprising, since it is difficult for school managers to track these interactions unless they are through the CMS.

Summary

In examining schools' policies regarding student-teacher communication, eighty-one survey responses were analyzed. The schools that responded included a full range of types of online schools: for-profit organizations, national organizations, state-led virtual schools, district-level schools, and independent non-profit organizations that deliver online courses to schools.

Sixteen percent of respondents indicated that they had no written policies in place regarding communication of any type. Those responders who reported that they did not have student-to-student communication policies were generally online schools that do not have, or do not encourage, these types of communications. These were schools whose courses were, for the most part, self-paced.

For schools without written communication policies, the responses imply that the teacher is the primary vehicle for communicating the organization's policies to the students and to parents/guardians. Teachers obtained the information about the organization's communication policy through memos, emails, teacher handbook, professional development, and trainings.

Having policies is important. However, it is equally important that everyone knows about them. Therefore, having multiple methods of disseminating such policies is also important. Relying exclusively on digital distribution for parents is particularly risky, because there is no guarantee that parents have access to the technology. Those schools with written communication policies seem to understand and follow this rationale by indicating that they use multiple methods, both printed and online, to disseminate information to teachers, parents/guardians, and students.

The central importance of clear and frequent communication among stakeholders is demonstrated in the findings of this study and is reiterated in the range of delivery methods and communication practices found in online courses, as described in the next section.

Characteristics of Online Teaching

Virtual schools utilize a variety of ways in which to structure and deliver educational opportunities to their students. However, little is known about which of these are more or less effective in what specific contexts. What is successful with a statewide virtual school in one portion of the country that focuses upon a particular population of students, may not be effective with a cyber charter school located in another part of the country. What students find useful in the United States may not be applicable to a virtual school in Canada. Due to the potential for localized findings, research is needed in a variety of locations with a variety of virtual and cyber schools. The following model describes features that affect the teaching and learning process in virtual and cyber schools. This model is a first step in classifying the features that influence the online teaching and learning process.

To construct this model, the authors used the information collected from the survey discussed in the previous section, along with the relevant literature. The authors then contacted a range of schools in the U.S. and Canada that had the following characteristics:

- State-administered with asynchronous course design
- State-administered with synchronous course design
- Consortium-administered
- District-administered
- Cyber charter

The resulting model reflects the schools participating in the data collection.

To understand the range in virtual school models, we describe each school's instructional pacing, course design, delivery technology, instructor role, and teacher requirements.

The following schools participated in this examination of teaching practices and context:

1. Centre for Distance Learning and Innovation (CDLI) was established in 2001-02 as the province-wide virtual school for Newfoundland and Labrador. Having grown out of a series of district-based initiatives, the CDLI was able to utilize experience course developers and online teachers. At present, the CDLI offers approximately 35 courses, employs approximately 25 teachers and administrators, and serves approximately 2500 students. The CDLI is funded directly by the provincial Government.
2. Virtual High School (Ontario) was established in 1996. Located in Ontario (Canada), it has approximately 2000 active students and 35 teachers. The majority of VHS (ON) students are based in Ontario, although the Ministry of Education has recently allowed international students to receive Ontario credit and, as such, the VHS (ON) has begun enrolling students outside of Ontario. VHS (ON) is a private virtual school funded through student tuition.
3. Ontario Virtual Academy (OVA) was first established by the Ontario eLearning Consortium in 2001. At present there are seventeen school boards that are involved in this cooperative virtual school model, with the student population teaching varying between the individual boards. The provincial Ministry of Education funds the OVA in the same manner that regular face-to-face high school classes are funded.

4. Credenda Virtual High School (CVHS) was established in 2005 and currently averages 150-200 students with 6.5 full time teachers. CVHS provides online learning opportunities to students throughout the province of Saskatchewan, however, its origins focused upon the First Nations student population. Their funding comes from the Government of Canada, various corporations, and student tuition.
5. The Saskatoon Catholic Cyber School was established in December 1999 and the first four courses were offer in September 2000. SCCS currently enrolls approximately 1700 students in a year and employs twenty-nine teachers. The teachers are not full-time online, but typically teach one or two courses with SCCS. The SCSS is based in Saskatoon, Saskatchewan and its students come from all across the province, also with some international students. It is funded by the Saskatoon Catholic School Division and student tuition.
6. The Distance Education School of the Kootenays (DESK) was established in 1989 as one of the 9 regional correspondence schools in British Columbia. Serving the southeast corner of BC, DESK now offers a 12-month Distance Learning (DL) program enrolling between 800 and 1100 students, depending on the time of year. DESK is a publicly funded DL school and operates as part of School District 8 (Kootenay Lake) in the West Kootenay region of the province, thus funding flows from the Ministry of Education to the School District and is then allocated to the school.
7. The Florida Virtual School is largest state virtual high school in the United States. It began in 1996 and has remained a trend-setter with a motto of any time, any place, any path, any pace learning. They are a public high school and enrollment is free for Florida students. Funding for the school is based on student performance or student completion rates. FLVS provides over 90 courses for grades 6-12 and employs over 400 full-time instructors to teach 52,000 students. The school uses both asynchronous and synchronous methods for instruction.
8. Virtual High School Global Consortium (VHS) is a membership fee-based educational non-profit which partners with schools to expand their course offerings. Founded in 1996, VHS is a collaborative of over 500 schools in 28 states and 23 countries. In 2007-08, VHS had more than 10,000 course registrations in over 250 middle and high school VHS courses, including Advanced Placement, core, elective, credit-recovery and International Baccalaureate courses. The mission of VHS is to develop and deliver standards-based, student-centered online courses to expand students' educational opportunities and 21st century skills and to offer professional development to teachers to expand the scope and depth of their instructional skills. VHS is currently working with nearly 1000 teachers who offer online courses through VHS or support students in their online courses. VHS annually trains 500 classroom teachers in online and blended teaching skills.
9. ACCESS Distance Learning is a free program available to all Alabama public high school students and is funded by the Alabama legislature. It provides a unique blended approach to teaching and learning, including the necessary infrastructure that utilizes a wide range of Web-based and interactive videoconferencing courses. ACCESS was implemented in the spring of 2006 and has grown from 1075 half-credit enrollments in the spring of 2006 to more than 23,000 student enrollments in advanced, core, and elective courses (as well as remediation assistance for the Alabama High School Graduation Exam) during the spring, summer, and fall terms of 2008. Approximately 362 teachers were employed by ACCESS during the 2007-2008 academic year.

10. Clark County School District Virtual High School (CCSDVHS) was established in the fall of 1998 and provides online and DVD courses for high school students within the Clark County School District in Nevada as well as 7 of the 17 districts throughout the state. The school became a full-time, diploma-granting school during the 2004-2005 school year and now enrolls both part-time and full-time students. CCSDVHS services an average of 7,000 enrollments each year and has 10 full-time and several part-time teachers, which varies each semester. The school receives funding from the district budget, various grants, and student tuition.

Please note that three different cyber charter schools were contacted in order to add that perspective to this model, however, none of the three responded.

Characteristics of the Teaching and Learning Process

		Canada					United States*			
		Centre for Distance Learning and Innovation	Virtual High School (Ontario)	Ontario Virtual Academy	Credenda Virtual High School	Saskatoon Catholic Cyber School	Distance Education School of the Kootenays	FLVS	VHS Global Consortium	ACCESS Alabama
PRIMARY METHOD OF DELIVERY	Synchronous video				✓				✓	
	Synchronous classroom software				✓	✓				
	Asynchronous		✓	✓		✓	✓	✓	✓	
	Blended- a combination of asynchronous and synchronous	✓			✓		✓	✓	✓	✓
	Hybrid - a combination of online and face to face					✓	✓			
COURSE CONTENT DEVELOPMENT	Vendor						✓			
	Vendor with local modifications						✓		✓	
	Locally developed (individually or by curriculum committee)	✓	✓	✓	✓	✓	✓	✓	✓	✓

Characteristics of the Teaching and Learning Process

		Canada						United States*			
		Centre for Distance Learning and Innovation	Virtual High School (Ontario)	Ontario Virtual Academy	Credenda Virtual High School	Saskatoon Catholic Cyber School	Distance Education School of the Kootenays	FLVS	VHS Global Consortium	ACCESS Alabama	Clark County School District Virtual High School
PACING	Follows traditional school schedule	✓		✓	✓	✓		✓	✓	✓	✓
	Does not have a formal schedule		✓			✓	✓				
	Includes a required or suggested pacing chart		✓			✓		✓		✓	
	Does not follow any specific pace		✓			✓	✓				
ROLE OF THE INSTRUCTOR	Provides synchronous primary instruction	✓		✓	✓				✓	✓	
	Provides synchronous supplemental instruction (i.e., tutorial role)			✓	✓		✓	✓		✓	✓
	Provides asynchronous primary instruction	✓	✓	✓		✓	✓		✓	✓	✓
	Leads discussion	✓		✓		✓	✓		✓	✓	✓
	Evaluates non-graded activities		✓	✓			✓		✓	✓	✓
	Evaluates graded activities	✓	✓	✓	✓	✓	✓		✓	✓	✓

Characteristics of the Teaching and Learning Process

		Canada					United States*			
		Centre for Distance Learning and Innovation	Virtual High School (Ontario)	Ontario Virtual Academy	Credenda Virtual High School	Saskatoon Catholic Cyber School	Distance Education School of the Kootenays	FLVS	VHS Global Consortium	ACCESS Alabama
COMMUNICATION	Teacher and student e-mail (required)	✓		✓	✓	✓	✓		✓	✓
	Teacher and student e-mail (not required)		✓					✓		
	Teacher and student discussion forum (required)	✓	✓	✓	✓	✓		✓	✓	✓
	Teacher and student discussion forum (not required)						✓			
	Teacher and student telephone (required)			✓				✓		
	Teacher and student telephone (not required)	✓				✓	✓		✓	✓
	Teacher and student instant messaging (required)			✓	✓					
	Teacher and student instant messaging (not required)	✓	✓			✓			✓	✓
	Teacher and student synchronous tool (required)	✓		✓	✓	✓				✓
	Teacher and student synchronous tool (not required)						✓		✓	

Characteristics of the Teaching and Learning Process

		Canada						United States*			
		Centre for Distance Learning and Innovation	Virtual High School (Ontario)	Ontario Virtual Academy	Credenda Virtual High School	Saskatoon Catholic Cyber School	Distance Education School of the Kootenays	FLVS	VHS Global Consortium	ACCESS Alabama	Clark County School District Virtual High School
COMMUNICATION	Teacher and student in person (required)										
	Teacher and student in person (not required)	✓		✓		✓	✓		✓	✓	
	Student and student e-mail (required)				✓	✓	✓				✓
	Student and student e-mail (not required)	✓	✓	✓					✓	✓	
	Student and student discussion forum (required)		✓	✓		✓		✓			
	Student and student discussion forum (not required)	✓					✓			✓	✓
	Student and student telephone (required)										
	Student and student telephone (not required)	✓		✓		✓			✓	✓	✓
	Student and student instant messaging (required)						✓				
	Student and student instant messaging (not required)	✓	✓	✓		✓			✓	✓	✓

Characteristics of the Teaching and Learning Process

		Canada					United States*			
		Centre for Distance Learning and Innovation	Virtual High School (Ontario)	Ontario Virtual Academy	Credenda Virtual High School	Saskatoon Catholic Cyber School	Distance Education School of the Kootenays	FLVS	VHS Global Consortium	ACCESS Alabama
COMMUNICATION	Student and student synchronous tool (required)								✓	✓
	Student and student synchronous tool (not required)	✓		✓		✓		✓	✓	
	Student and student in person (required)									
	Student and student in person (not required)	✓		✓		✓	✓	✓	✓	✓
TEACHER REQUIREMENTS	Minimum certification	✓	✓	✓	✓	✓	✓	✓	✓	✓
	Minimum teaching experience	✓	✓	✓	✓	✓	✓		✓	
	Minimum online teacher training			✓	✓		✓	✓	✓	
	Minimum online teaching experience				✓					

The table shows each school's teaching practices and context.

Delivery Technology

Most schools rely on asynchronous technology to facilitate flexible scheduling and pacing, enhanced by blending synchronous technology or face-to-face meetings in a few cases.

Course development

Course development is predominantly accomplished at the local school level, with a few schools contracting with content vendors.

Pacing

Most schools follow a traditional school calendar, often with suggested pacing guides. A few schools operate under open schedules and paces.

Role of instructor

In most schools, instructors have multiple roles including facilitation of instruction using the school's synchronous and/or asynchronous technology, as well as providing tutoring to students, leading discussions and evaluating student activities.

Instructional communication methods

Most schools use course discussion forums and email as the primary mechanisms for student-teacher communication, with many schools requiring an asynchronous text-based form of communication in courses. Some schools also require phone communication or other synchronous communication.

Teacher requirements

All schools require teacher certification and most require teachers to have a minimum amount of teaching experience and online teaching preparation. Only one requires online teaching experience.

Conclusions

This document provides an overview of policy and practice related to communication and interaction in teaching online. Because each virtual school was established in unique educational climates and to address specific missions, the policies and practices vary widely around a central core of common practices. This document represents an initial description of policies and practices that were developed to inform schools about the range. The iNACOL Research Committee is committed to facilitate transfer of knowledge to the virtual schools community and to moving the field forward from description to eventual evaluation and recommendations about effective practices based on data. We encourage continued partnerships among iNACOL member schools and researchers on efforts that will advance teaching and learning for all students.

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School Resources

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TOLL-FREE 888.95.NACOL (888.956.2265) DIRECT 703.752.6216 FAX 703.752.6201
EMAIL info@inacol.org WEB www.inacol.org
MAIL 1934 Old Gallows Road, Suite 350 Vienna, VA 22182-4040