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Discerning the quality and qualities of intentional online interaction in an online junior high school program

by

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Executive Summary

This inquiry began with goals to provide a framework about online program quality, to develop the meaning of interactive processes such as collaboration and negotiation, and to connect the meaning of technology to these contexts. At an early stage of the project, I had hoped for reasonable congruence among the literature, the understanding of the client school and my own knowledge.

Why were these goals selected? If online programs continue to expand as they have, we should know how well the programs are able to approach important learning aspects often viewed as indirectly connected to cognitive learning. These aspects are the processes of working with others and sharing an understanding of needs and capabilities represented here by the processes of collaboration and negotiation. A guiding assumption is that these are not only part of youthful learning and socialization, but are essential to much of the adult world of economic and social interchange.

Through interview and rubric survey, this inquiry attempted to establish generalizations about the significance and presence of interactive processes that support a broad application of basic education. The findings are that collaboration and negotiation of learning are important as elements of interaction and engagement of an online program. However, these concepts have not been well developed, and the design of instruction is similarly nebulous. The client group did not provide significant information about their understanding or desire for these elements of instruction. Other client groups may accept collaboration and negotiation in online learning.

The school chosen was appropriately accessible. Its staff is involved in similar inquiries as

the school expands its program into new and global directions. The study is of that part of the program which might be termed "online home schooling."

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Intentions and framework for an inquiry into online technology for collaboration and negotiation of learning.

The initial hypothesis for this work was that the potential benefits of technology for interactive instructional processes have been largely unrealized in basic online distance education. There are several subsets of this hypothesis. First is that the technology of program delivery will dominate instructional design technology. Within instructional design, attention to issues of interaction will be less of a focus than will the issues of cognitive learning. However, newer enabling technologies for interaction in learning will mean increasing opportunity to strengthen that domain of the online program. Some issues of technology unique to online education will emerge. Here, one could include that it is likely that issues which are not really core to the program expectations will predominate - issues such as those of compatibility of technologies, of ease of remote access and of technical support.

Intents of this inquiry

This inquiry began with goals to provide a framework about online program quality, to develop the meaning of interactive processes such as collaboration and negotiation, and to connect the meaning of technology to these contexts. At an early stage of the project, I had hoped for a reasonable fit among the literature, the understanding of the client school and my own knowledge.

Why were these goals selected? If online programs continue to expand as they have, we should know how well the programs are able to approach important learning aspects often viewed as indirectly connected to cognitive learning. These aspects are the processes of working with others and sharing an understanding of needs and capabilities represented here by the processes of collaboration and negotiation. A guiding assumption is that these are not only part of youthful learning and socialization, but are essential to much of the adult world of economic and social interchange.

Through interview and survey, this inquiry attempted to understand the interactive processes that support online basic education. An intent was to determine if collaboration and negotiation of learning are important elements of interaction and engagement in the online program. Supporting questions relate to participant understanding of these terms and to technology and its place in instructional design. Participants-as-clients would describe their understanding or desire for these elements of instruction, and participants-as-staff would be interviewed and consulted.

The school chosen was appropriately accessible. Its staff is involved in similar inquiries as the school expands its program into new and global directions. The study is of that part of the program which might be termed "online home schooling."

Sources	Conversations	Praxis /Reflection

The following record design is intended to demonstrate the blending of ideas and reflections throughout the project, and how a flow from evidence to application through interpretation goes on at all stages. This may be read horizontally across the page at points marked by headings or by alignment of text, or down the columns, or a combination of both[1]. The column labeled "Sources" contains mainly original source material derived from questioning the literature or participants. The column "Conversations" connects aspects of the source concepts through interpretation or discussion. The conversation may be a thinking process or an external validation - the dialogue may be silent or sensory. The column "Praxis/Reflection" is intended to provide meaning, application, or a development of data in the first two columns.

Sources	Conversations	Praxis /Reflection
Quality	**Quality and effectiveness**	**Personal understanding of quality**
Some writing about measures of instructional quality presents criteria clustered in domain groupings (see Barker, Wendel & Richmond 1999; The Institute for Higher Education Policy 2000). One scheme lists three to four criteria in each of seven categories (IHEP 2000). A summary of Barker and others (1999) proposes 1 to 4 broad criteria in each of 11 main categories of program effectiveness. Similar in design for quality is Barker and Wendel's review of Virtual schooling in Canada (2001). Trentin observes that the complexity and the interplay of the elements of quality "means that there is no	Using a list of criteria for program effectiveness is one approach to view how a program or organization does what it says it should. Effectiveness is a main dimension of quality. However, a list of effectiveness measures may easily become an exhaustive checklist giving lesser attention to understanding the variation and balance among different objectives or plans.	I was hoping that notions of quality and effectiveness would emerge from the literature as they had some years ago. At that time I was developing the evidence for a Master of Education project in teacher supervision, focusing on teacher-directed classroom processes. In the online experience, it seemed that the most difficult processes to develop were in the domain of interaction.

Sources	Conversations	Praxis /Reflection
codified recipe that will permit a univocal specification of quality factors in distance education" (2000: p. 17). Citing Moore, Trentin combines quality measures particular to current (online interactive) distance education providers that connect interaction (p.19) with the process and results. While his argument includes measuring efficiency of resources used in distance education, he notes that "Interaction is imperative if the quality of the process is to be raised. Interaction with materials, between students and their tutors/teachers, as well as between all the participants" (Trentin 2000: p.26). Trentin says that the quality development process should be "...aimed at bridging the gap between the expected effect (what ought to be learned) and the actual effect"(2000 p. 17).	Goal achievement measures often omit goals that emerge or that ascend in importance during the experiences of the organization and its members. For those reasons, the meaning of effectiveness and quality chosen for this review is that of describing how well the activities of the organization meet the expectations of its participants (here the Online School[ii]).	However, it also seemed that technological means had recently assisted in overcoming some of the earlier limitations of interaction through distance learning. Some newer electronic tools had been developed to support facilitation of group and social processes at a distance. I anticipated I could discover understanding of the dimensions of online interaction in basic education, and how the staff-participants understood those dimensions.

Sources	Conversations	Praxis /Reflection
Quality in interaction When one looks for quality in interaction, many articles provide criteria, but few have a systematic discussion of the elements of interactions or engagement. Some report "satisfaction" of the participants (Barker and others). Reeves & Reeves (1997) groups ten dimensions of interactive learning on the World Wide Web that indicate "...effectiveness and worth" (p. 59 citing Clark, 1994)".	A chief administrator with the Online School asked that this project review expectations that Online School learning was active and engaging for learners. The administrator suggested limiting the study to how people expect to reach quality through online technology. "Engaged and active learning" were quality indicators, and these terms were used with determination but without clear definition. (SA, Online School Administrator, Interview: 2001 06 12)	"Quality" has been a theme and an inquiry for me during my 32-year career in public education. I saw quality in educational programs as inclusive rather than narrow; and broadly based to support varieties of human endeavour and participation. "Quality in teaching/learning" can be a condition or a process. My preference is for a view of quality as a process. This does not deny utility of quality criteria, but to incorporate them in the process as issues for discussion; rather than leaving them as a checklist for summative evaluation.
Online and virtual programs for learning Online learning is defined by Alberta Learning as a program offered by a school that is delivered electronically, either at a school site or off campus (1999: p. 46). Online education may be viewed as an evolution of the past (correspondence lessons) and as	**The Online School structure** The Online School is a unit within the distance education school, which has provided several levels of basic education service over its seventy-nine year history. In 1997, the	**Research on online learning** Should one apply research and conventional wisdom about online education provided by post secondary institutions or business? The research writing

Sources	Conversations	Praxis /Reflection
a completely new form with different assumptions, practices and outcomes[iii] (Bruce 1999: p. 664; Bernard, de Rubalcava & St-Pierre 2000: p. 61-62). Online schools can offer programs, courses or support, which can be added to the traditional school program without much modification or change to their staffing or infrastructure (1997: p. 392).	distance education school was "divested" as an agency of the provincial Department of Education. It became a special purpose but regular school within a regional school division.	about basic education and online learning is developing at this writing. It is presumptuous to assume that motivations and behaviours of adult learners are identical to those of juvenile learners.

Sources	Conversations	Praxis /Reflection
The Schollie report defines online education as "One or more K-12 courses delivered over the Internet by a certified Alberta teacher. The student completes the majority of the course(s) physically separated from the teacher" (Schollie Consulting 2001:p. 9). Although there are disagreements about whether "virtual", education and "online" education are identical terms; they are very close to the same thing (see Barker & Wendel 2001: p. 6 and Schollie 2001; p. 9). "Virtual" and "online" schools both use teacher- supervised electronic means via the Internet to provide programming to students at a distance. An online school uses network and Internet technologies to enhance its ability to relate the social aspects of learning (Trentin 2000: p. 17 citing Nipper 1989).	The distance learning school is comprised of elementary, junior high and senior high school sub-units, and the Online School was configured in 1998. The Online School offers electronic delivery of instruction to students at two levels of participation. First, there are classes in other school jurisdictions (partners) that have contracted with the Online School for their services. Second, it provides classes and courses for students who are considered resident students i. e. who are mostly on home education programs[iv] with all their teacher led instruction coming from the Online School. This latter group can also be termed "Virtual School" but I shall use "Online School". The focus of this inquiry is participants in the Online school program who are "Online School" students only. Participants in the traditional "correspondence" part of the program were not included, nor were the contracted "partnerships."	I am aware of my reservations about the process of research and acquisition of electronic tools for the Online School; reservations deriving from an earlier consultancy project with this school. In that instance, the school purchased an expensive license for platform-specific synchronous conferencing software. I felt this had unnecessarily limited access to the school program by some Online School clients in the home schooling group, and in the partnered schools. Later reading supported the notion that accessibility is a program design priority. I note here from Bernard and others "The use of technology that is accessible to all participants is not only highly desirable but also absolutely necessary" (2000: p. 271).

Sources	Conversations	Praxis /Reflection
Defining collaborative and negotiated learning Collaborative learning is an interchange (Bernard and others 2000: p. 62-63), fundamental to the notion of a community of practice (Wenger 1998). Collaboration is a process of peer interaction and central to the collectivity of a community of learners (Kearsley and Shneiderman 1999). In his work to develop constructivist learning environments, Jonassen (2000a) identifies collaboration as an important means of moving towards critical thinking. Negotiation of tasks is part of the collaborative use of activities . He says; "... constructivists believe that social negotiation of knowledge is the purpose of collaboration "(p. 34).	**Connecting collaboration, negotiation and interaction** Learning processes viewed as "collaboration" or "negotiated learning" are processes of learning that require social presence and interchange to accomplish. While there is a much broader understanding of these terms, here they need to move into the essence of social constructivism -that the most significant learning requires engagement and activity shared among the participants. The Online School administrators and I shared this goal.	**What would reveal collaboration and negotiation in the program?** I need to question participants about their understanding of collaboration and negotiation in the program of the Online School. It would be worthwhile to know the following. "Who collaborates/ negotiates, when, and with whose guidance?" "Should different kinds of program structure be available for different client groups?", "Is it essential that a one-on-one form of this program be offered?"

Sources	Conversations	Praxis /Reflection
For this inquiry, collaboration is viewed as a number of individuals working together to reach a shared goal. ... Collaborative learning involves two or more peers working together on a learning activity that requires them eventually to arrive at a shared solution. The learning activity may be organized around three tasks: 1. Answering a question (developed by the teacher, the students, or both) that generally should be broad and fuzzy rather than narrow and precise.... 2. Solving a problem that is broad and defies a specific solution that is easily identified 3. Addressing a controversial issue that cannot be resolved easily if at all. Maddux, Johnson, and Willis (2001: p. 150).		In addition, "What activities would the participants adjust to increase - maintain - decrease the level of collaboration/ negotiation?" These linked reasonably well with the final form of the interview questions asked of the staff participants.[v] These were the following. 1. How do you now understand "negotiated learning"? Is it the same or different from "collaborative learning"? 2. In the subject area you teach in the Online School - Junior High Program, how and what examples of negotiated learning do you believe are present: • In the design of the program, • In the instruction you offer online, • In the evaluation methods used in the course and • In the analysis and the Improvement of the quality of the course offering.
Negotiated learning is referred to in Hung and Chen (2000), in Jonassen, Peck and Wilson (1999: p. 200, 218), and as a communication process in Garrison (1989: p. 15-19, 45, 92). Wenger identifies negotiation of new meaning(s) as fundamental to learning (1998:p. 226), and negotiation "... (is to) convey a flavor of continuous interaction, of gradual achievement, and of give-and-take" (p. 53).	Negotiated learning can be interpreted as an element of engaged learning, as it is an exchange of understanding to define the form and content of the work to be accomplished. Negotiation implies an exchange with the teacher - or facilitator of learning.	

Sources	Conversations	Praxis /Reflection
Emerging design and delivery technologies may open the door to activities that support negotiated learnings (Bernard and others 2000: p.260-277; Jonassen 1999: p.228; Jonassen 2000a: p. 9; Jonassen 2000b: p 24; Jonassen, Dyer, Peters, Robinson, Harvey, King and Loughner 1999: p. 119-121). A useful complementary explanation for "negotiated learning" is the constructivist view that the learning is about knowledge construction in a social milieu, not knowledge reproduction, which is somewhat less than higher order thinking (Maddux and others 2001: p.135).	I need to control my listening and analytic practices so as to avoid confusing presence of discussion or socialization with the interactivity of collaboration or negotiation of learning. The latter stand as important elements in the quality of learning. Discussion is almost universal to human experience, and even though it has an important presence in formal schooling, it is narrowed here to those which support collaboration and/or negotiation in learning.	3. How important is negotiated learning in your expectations of the online course you instruct? How important do you believe negotiated learning is to the students and the parents of the students you teach? Selected answers to these questions are reported in the following major section.

Sources	Conversations	Praxis/Reflection
Understanding the meaning of technology		
Understanding the scope of technology means understanding that it includes equipment, tools, designs, environments and techniques (Jonassen and others 1999; p. 12). Technology should be applied to making learning meaningful, and part of that is active learning; where learners choose and work with the resources from the technology to see results of their manipulation (Jonassen and others 1999: p. 218). Social constructivists assert "technology is more than hardware. Technology consists of the designs and the environments that engage learners." (Jonassen and others 1999: p. 12). The purpose of technology then	The literature addresses the issues of viewing technology as "tools" or as "design processes". While I would again choose the broader understanding espoused by Jonassen and others, I need to be alert to observing and attending the meaning of technology as others see it. This is a key to critical theory I think; that how individuals and groups frame their understanding of the processes they use will affect how those processes are controlled and how independent or interdependent the participants may become.	My own understanding and experience is that broader and more inclusive definitions are useful and support an effectiveness in connecting concepts and shaping how they are implemented in the real world setting. However, one needs understanding of "technology" using the framework of those who participate in the work. Ultimately their definition will collect the assumptions and values around it and thereby shape the work they do and the relationships they form among themselves.

Sources	Conversations	Praxis /Reflection

becomes facilitating, whereby "... learners should use the technologies to teach themselves and others" (Jonassen and others 1999: p.16). They define the meaningfulness of learning on a series of continua:

- Knowledge construction, not reproduction
- Conversation, not reception
- Articulation, not repetition
- Collaboration, not competition
- Reflection, not prescription (p.16)

Harris (1998) provides a constructivist design in web-based instruction. Her "activity structures" are the building units for telelearning -of which online distance learning is a type.

Harris' design of activity structures focuses upon telecollaboration for

1. Interpersonal exchange,
2. Information collection and analysis and/or
3. Problem solving (p.18).

Within these activity structures, she identifies 18 (eighteen) projects which each contain 5 - 7 activity structures (p. 18 - 54).

Constructivism as developed by Jonassen and Harris depends upon and sustains authenticity as an element of active and engaged learning.

Campbell (2002) analyzed choices and values of female instructors in technologically mediated courses of study, the concepts of that inquiry encouraged me to look at contexts and sources that participants in the Online School used in their teaching/learning.
These thoughts alerted me to watch for any of these differences as I interviewed the teachers in the Online School (three female, one male).

The hypothesis was that males tend to view the technology "tool" as a conduit (Boland & Tenkasi 1999) which streamlines the flow of content to the learner. Females tend to see technology as an integral component in building interactions and collaboration to improve the quality of instruction.

Sources	Conversations	Praxis /Reflection
Authentic learning experiences Jonassen and others (1995) note that Brown, Collins and Duguid define authenticity as "... the extent to which the environment faithfully reflects the ordinary practices of the culture." Authentic environments are characterized by Focus upon engaging and important issues for which the learners must construct knowledge to show performance, • Tasks which are analagous or replicative of real world problems in the field; • Access to real world resources that would be used by those in the real - life situation and • Problem characteristics requiring a repertoire of knowledge, judgement and organizational proficiency in arranging the solutions. (Jonassen, Davidson, Collins, Campbell and Haag 1995: p. 21)	Learning is making meaning, and making sense of our experience. One of the features of online learning is that the "situatedness" of the learning is wherever each learner happens to be at the time they are engaged with their learning activities. In some cases, this will include the online presence of their teacher, at others it may also include the virtual presence of their classmates. In home based online schooling however, the social, environmental, and psychological environment is different for each person participating.	This project was about 8 months into the literature review, and I had made the initial contact with the Online School administrators. My collaboration with mentors at the University of Alberta was a helpful dialog with new sources and perspectives to consider. About this time my thinking turned towards the designs for learning in keeping with constructivist assumptions, and about ways of looking at learning in the constructivist way.

Sources	Conversations	Praxis /Reflection

Defining technology in learning environments.

Both Harris and Jonassen view the technology as an enabling process. Jonassen proposes a view of technology as transformative of learning (Jonassen 2000b: p. 23-25). The notion of learning environment design in "discourse communities, communities of practice, and knowledge-building communities..." becomes socially defined and negotiated so that "When a goal is really important, people collaborate to socially co-construct **s**hared meaning and negotiate shared responsibilities. (Jonassen 2000b: p.24). The models of communication they espouse (conduit or language game) and the way they understand the structure of communication (information processing or narrative) affect how people communicate and develop their understandings in their communities of discourse. There are implications especially for organizations that focus upon knowledge work. These concepts and examples are developed in Boland & Tenkasi (1999).

Sources	Conversations	Praxis /Reflection
In the constructivist view, instructional design is a process and an element that is essential to teaching and learning of all varieties. Design includes all resources. Jonassen; citing the Peabody Perspective, puts instructional design at the heart or foundation of the learning community (1999: p.120). Wenger explains design as systematic, planned and reflexive structure of the resources to accomplish something, but cautions that "Learning cannot be designed: it can only be designed for - that is, facilitated or frustrated"(1998; p. 228-229). Harris' (1998) perspective on development of telelearning design is not limited to distance education nor is it focused exclusively upon the strength of technology-as-tool. Her application of telecollaboration in all of the elements of instructional design online - from project preparation to instructional activity to assessment of learning - includes a collaborative component that implies a negotiation of learning.	There is a growing body of literature, which includes, connects and integrates elements of instruction in a constructivist design. This avoids placing the "delivery technology" at the heart of instructional design. The notion of developing "community" is an element that runs through constructivist design.	I began to focus upon designs for learning congruent with constructivist assumptions, and about ways of looking at learning in the constructivist way. Does this online program attempt to replicate traditional classroom learning in the online program? I think online instructional design is different. Apparently so does MacLeod (2001). He says he was drawn to online teaching by the promise of technology and opportunities However, he observed and questioned traditional classroom pedagogy altered for online use (p. 3, 145). "Design" was not a big issue for him, but it underlies and frames many of his observations.

Connecting the literature with the experience of participants in an online program

This section connects observations from semi-structured interviews held with teaching staff with evidence of parent and student expectations. These are parallel to the form used in the preceding literature review - from quality in interaction through to collaboration/negotiation and to technology. A synchronous Symposium™ online discussion recorded the thoughts of teaching staff to expand upon their earlier observations in the interviews. The outline of staff interviews and proposed data collection from students/parents are in the appendix.

Sources	Conversations	Praxis /Reflection

Quality criteria for distance education

Some studies measure effectiveness of interaction and technology in distance education as "satisfaction", and recommend that interaction and its measurement need further study. (See Barker & Wendel 2001: p. 65-72; 128-129 and Schollie Consulting 2001; p.44, 54, 69-70).

Harris (1998) summarized standards to be achieved in teleprojects she has called "worth it" (p.112). She included attributes of "powerful educational activities" for which she recommends ongoing revision among developers/teachers and learners (p. 127-130).

A notion of quality here is "... the effort to bridge the gap between the actual effect of an education process and what is expected by the course provider as well as the recipients" (Trentin 2000: p. 26). This definition implies that the investigator can inquire of the expectations of the participants, make observations on how those expectations are brought about in the educational process, and seek reflection upon the reality of the experience during and afterwards.

However inclusive lists of quality criteria may be, one could argue that they are so extensive and demanding of further definition that they may only be applied in retrospect - as a summative evaluation. The quality definition demands a cycle of reflection and correction. The preferred notion of quality is "... the effort to bridge the gap between the actual effect of an education process and what is expected by the course provider as well as the recipients" (Trentin 2000: p. 26). This definition implies that the investigator can inquire of the expectations of the participants, make observations on how those expectations are operationalized in the educational process, and seek reflection upon the reality of the experience during and afterwards.

In this inquiry, parents and students from the home-based online program did not respond in conventional ways. Their expectations are drawn from the work done in earlier investigations and from comments made by the teachers and administrators at the Online School.

A useful way to record, organize, and cross-reference the sources was a small database created in FileMaker Pro™. Using a database encouraged focus upon the descriptors and the format I devised and practically demanded specific location and identifiers. While the database forced a structure and standardization of descriptors, this was a custom database. This meant there was considerable flexibility in the content developed, and it was easily adjusted. The result was that the sources were accurately cited and the complete content was searchable for key words and phrases.

The database was not so useful for acquiring and understanding graphic or pictorial information, although that was possible.

Sources	Conversations	Praxis /Reflection
Methodology through rubric and interview		
Two methods were developed to connect the literature with the thoughts of participants. Original rubrics were designed for the parents and students. These were critiqued by the staff participants. Semi-structured and recorded interviews were held with Online School teaching staff and administration. One of 63 potential respondent families completed the parent/student rubric. All teaching staff and Online School administrators participated in the semi-structured interviews.	Significant reading and development of a suitable rubric gathered little useful result when distributed to the client participants. Teacher interpretations of parent and student expectations arising from the interview were included in this report.	I was unable to locate individuals who were experienced with rubric development. My own bias is that rubrics inform as well as evaluate in more meaningful ways than the alternatives. Experts available to me had experience in gathering survey and questionnaire data and were helpful with sorting the qualitative data of interview themes. Likert scales were more familiar to most, but I believe they provide more "rating" data than that desired for good analysis.
Surveys of parents of students in online programs have had low return rates - i. e. 17% of 3 233 possible respondents as parents, 23% of 4 061 possible respondents as students (Schollie Consulting 2001: p. 15) Administrators who had earlier attempted to gather parent/student responses of Online School students and parents had experienced lower return rates	Administrators who had earlier attempted to gather parent/student responses of Online School students and parents had experienced similar low return rates. The explanation for poor return was perceived as low parent ability with the technology.	I feel that I could gather good data using a rubric with another group of online school clients if I had personal access.

Sources	Conversations	Praxis/Reflection
Participant understanding of online interaction		

Sources	Conversations	Praxis /Reflection
Participant understanding of online interaction The TLE program - what we use... it blends of little bit of both worlds. The student isn't in a classroom; ... isn't in a synchronous component, but this CD is highly interactive. Students are using the manipulatives on line ... that's an important part - the discovery through learning that.... I think the CD is well able to do that - to a certain degree. It certainly is not as interactive as a human could be, but it's a far advancement over just texts; on Internet delivery. (NL, Online School teacher, Interview, 2002 11 22)	Online School Staff understand interaction as a range of involvement. Interaction is not necessarily human to human (social interaction). High levels of interaction/ engagement can be between a person and the resources available (multimedia). Engagement or interactivity becomes learner processing ideas from a source and the learner performing in an "act - react - act situation": (Zirkin & Surnier: 1994 n.p. [Online] citing deBloois (1988) and Fletcher (1990)).	Can we get a useful point of view through second person interpretation? How does one interpret non-participation? Is non-participation a limit to the potential in this kind of program? Does this in turn limit the reach of the program? Is it a preference of the parents and students not to participate in non- essential activities? These unanswered questions could be examined in future inquiries about home-based online schooling.

Sources	Conversations	Praxis /Reflection
...I think of collaboration as working together and I see negotiated learning as student directed approach towards what they want to cover over the year and that sort of thing. ... these are key in higher learning, but I do not see these things as interchanged synonymously. ...It seems that collaboration and no teacher present; (for) half your students it will work great.... But for the other students, it's a lot more difficult at a distance to try to put all that together. I'm not going to say it's impossible but I am going to say it's more difficult in some respects (Online School Teacher, Symposium™ mediated online discussion, 2002 0118) ... collaborative learning is a really big part of online learning, but the negotiated part is kind of an iffy one; especially when we're talking about junior high students. ... we ... try to come up with the assignments as we go...(Online School Teacher, Symposium™ mediated online discussion, 2002 0118)	Collaboration can be a form of the interaction, and it is viewed as being more workable than negotiation of learning at this level of online learning. Negotiation of learning is understood differently among the teachers, and the observation in the left hand column shows how there are difficulties in developing negotiation in the online program. The teaching staff identified possibilities for collaboration in learning, but less so for negotiation of learning activities and goals. Of the four teachers, one was offering	There are numerous techniques to incorporate collaboration in learning, but the term needs to have shared understanding. Interviews showed that collaboration is explained as student-teacher interchange. Collaboration is much more than that. Collaboration among the staff can develop a process that has a reasonable and working definition and instructional examples of collaboration. Negotiation of learning also requires informed and shared understanding among the participants. All of the curricula at the junior high level provide (and

Sources	Conversations	Praxis /Reflection
They are here for so many reasons.... But they do have a certain amount of isolation - they don't have the same interaction -- even though they've got the chat areas and stuff - the hallway talk type stuff. It's not quite the same as being in a group and interacting face to face. You put your little chat up and somebody might reply to it. (...) When you're in a group and you say something inflammatory or sounds stupid, the group is going to jump on you probably and you've got to learn to interact in that - it's different.	regular synchronous instruction online to a small group in one grade; the remainder of instruction was one-to-one contact. The client families in this sector of online education are viewed as having differences from those in a face to face group - although there are some significant differences within the group. Staff identified two main student groups; one academically oriented with high parental involvement and another group which has had less success with school learning and whose parents are seen as less involved and resourceful.	encourage) a pedagogy that uses student understanding and ideas for representation of the learning. However, there cannot be a standardized method for providing negotiated and collaborative experiences for all online learners. This needs to be established with each family. More appropriately, the Online School could take the point of view that these collaborative and negotiated elements are fundamental to learning.

Sources	Conversations	Praxis /Reflection
I am ...doing three a week. ... It's more quasi-synchronous ... because it's not totally tied to their course. I try and follow the classes that I do and most of them are following, but it's not a requirement for the course - to do it synchronously, ... I do have some kids who are working ahead and some that are not - just like in a normal class. ...a lot of them tend to follow it anyway - even though they don't have to. (SL, Online School teacher,Interview,2002 11 16) There is a big mandate for collaborative learning (for the program I teach) ... Maybe because it gets them a chance to interact and to develop those types of collaborative skills they need. One of the things they do in their breakout groups ... they rotate leaders. Leaders are to control the group, they have to make sure people speak, answer the questions, they have to save the work and have to present ... So I make sure that everybody's getting a chance to get that kind of experience. (SL, Online School teacher, Interview, 2002 11 16) ...Traditional distance learning " stuff ", maybe it's very structured and individualized - just because that's how it's had to be for a long time - anyone looking at the stuff we did initially online was very much due date print based material. So it was still very individualistic, kids did their own work, called us for help once and awhile and that it was a big part of the interaction - that's all we did.	The opportunity to establish an additionally informed relationship among teachers and students/ parents had been activity days for participants of the Online School held periodically in major centers. While the agenda and intentions of these days were not clear to the writer, they had been terminated during this school year due to budget restrictions. This loss was noted (and thus apparently seen as significant) with regret by all teachers interviewed.	A useful staff discussion could start with defining opportunities to create an integrated (cross-disciplinary) project among a small group of students. These students need not be at the same grade level, but would be at complementary stages of development. If implemented, this could move teaching orientation into negotiation and collaboration in learning. One would want to keep the framework for authenticity in learning firmly in mind.

Sources	Conversations	Praxis /Reflection
So, from what you tell me there was none of either negotiated or collaborative going on. very much. Also, because kids never worked at the same pace it was really tough to get them to come together about what they were doing and how they should approach it when they're not even on the same page. You know, that was really hard to do, so what we started to do when we had the tools to do it .... (SL, Online School teacher,Interview,2002 11 16)		Parents who desire instruction on the cognitive end of online learning could consider - or be offered - a more "correspondence" style of program. They could also be referred to other accredited distance education groups which provide instruction that is towards the "narrow" end of the programs of study.
(A) problem I'm currently having with my ... synchronous class.(is that t)he students are not coming, I'm sitting there with a little over half the class coming and they're all in different spots. So at that point, how effective is a synchronous component? They're all at different spots in the program, they're not working on the same thing and because it's (a sequential course) I can't go forward. (NL, Online School teacher, Interview, 2002 11 22)	Synchronous instruction occurs only with one group at this level of the program. As an instructional process and technology, it does not solve all problems of online interaction. Much of the interaction is one on one between teacher and student.	For some clients, the interactive potential of program design including a facilitating technology might not be necessary nor useful beyond its perceived prestige or as a personal skill.

Sources	Conversations	Praxis/Reflection
Online School administration and understanding interaction/collaboration/negotiation		

Sources	Conversations	Praxis /Reflection
I don't know how much greater interaction you can have than what we have with the synchronous (technology)-daily interaction, and while they're in the program online-that's pretty intensive interaction. You know; real time, interactive white board, teacher at one end; student at the other-ability of the students to interact with one another as well as to interact with the teacher.... Students could interact on their own...if they wanted to get together as a group and access that course any time... to do some collaborative work. (MN, Online School administrator,Interview,2002 04 08)	Another view of interaction is between student and teacher, and one administrator saw the technology and the staff together yielding a high level of interaction. However, the administrator identifies that collaboration among students is a special level of interaction. While the response is framed with a particular delivery technology in mind, there is awareness that there is more to collaboration than technologically mediated co-presence. Collaboration does not require synchronicity.	Negotiation is crucial to making learning authentic; after all, how can one determine what is relevant to another without reference to the ideas of the other? Project based learning can be an important part of any learning cycle.

Sources	Conversations	Praxis /Reflection
But, there's probably a number of things that we can do online that we couldn't do in the classroom. We're showing some successful programs in what we're doing online-particularly at the synchronous level.... I think that typically where synchronous pays off for a synchronous student is the one on one or the collaborative work. ... We're never going to see full synchronous delivery, I don't believe. That's not our mandate anyhow. Our logo says " Any time, Anywhere. " So, if it's "anywhere" is any indication, it's going to be difficult to (be synchronous). (MN, Online School administrator,Interview,2002 04 08)	The perceptions of teachers and administrators seem to fit reasonably well with the extensive analysis provided of the broader online school community by Schollie Consulting (2001) and by Barker and Wendel (2001)[vi]. The online grade groups are neither cohort groups nor do they share co-presence through the main delivery technologies of WebCT™, FirstClass™ and other applications except in the case of one small group regularly working synchronously with one teacher.	Partnering with other "regular" school class groups could open instruction to different interactions than that observed with this group. Electronic and face to face interactions are possible with team teaching - one remote and the other present with the class. However, partnering schools may not want much more than courses to fill in gaps in their program. This is most likely at the senior secondary level. I think it is questionable whether physical elementary and junior high schools will want much more than enrichment, special needs or elective program courses.

Sources	Conversations	Praxis/Reflection
Online teachers describe expectations of parents		

Sources	Conversations	Praxis /Reflection
What we find here is that we get two different kinds of kids. We either have extreme overachievers, who did not like the structured pace and basically had a feeling of being held back in the normal classroom; and (they) like this because they can approach it how they feel it's correct for them. Or we have the other end with students who are very unsuccessful in a regular school environment.... There's not a lot of in between. The in between generally stays in a regular school because there's no major problem and there's no ... no compelling reason - to come here (...) You have a lot of people who don't expect anything from this in terms of collaborative learning - that would be the ... for the lower end of student that really hasn't been successful and isn't interested in doing things like that... It's really tough to get kids like that to learn collaboratively. ... Conversely, you have the over achiever types who are really smart - academically very high.... You know that's great; depending if you stay on their pace.	According to the teacher descriptions, there are varieties of online learners in their programs, but two groups were mentioned repeatedly. These were at either end of a continuum; at one end the high achieving, organized online student and at the other end the reluctant and less successful students. This is consistent with what Barker and Wendel reported as two general types of student attracted to online (e-learning) "...those who are aggressive, self - directed learners with clear expectations and goals ... and/or those who are underachievers in conventional schools...." (2001:p.122). The teaching staff describes that the parents too may operate at a social as well as physical distance in the program. There are polar observations about parent involvement and communication with their child's Online School - from well involved to almost invisible. The staff views parent ability to use the technological (computerized materials) medium as significantly less than that of their children.	It is potentially useful to develop strands of the program that can meet the needs of different groups of learners. This range could provide one strand for those who are full time online with a complete year program, another for those who intend on continuing over a period of years, to those who drop in for a single course. Some strands could include a synchronous element, others a year schedule but all asynchronous. The potential need and acceptance for partnerships and teaming appears to be at the senior secondary level. Using a mixture of tools for online communication (WebCT™, FirstClass™, Symposium™, and telephone) may be destructive of social presence, and of interaction. This would affect parent perception of ease-of-access, and would create several environments for the students to attempt collaboration. This even looks unwieldy, and if they are not mainstream applications, then parents face a daunting task in developing minimal technical

Sources	Conversations	Praxis /Reflection
		competence and in staying current with the work their child is doing in the program through such a varied palette of media.
	Value added" is quite different from the organization for the students and families in the "virtual school" online program. If the inquiry data about their needs is correct, these families have a greater need to be away from the social dimension of traditional schools. Thus, their needs are met by having an alternative to the traditional school scene that they wish to avoid - for whatever reason. It may be that they are less concerned about the "wholeness" or completeness of the Online School program, and are focused upon obtaining cognitive learning.	I did not get a detailed or broadly based sense of change of mission, focus and process from the staff at the Online School. However, it does seem that there is a move towards developing the partnership component - or team teaching program. I think this service has lots of potential. Smaller and isolated schools joining this partnership could easily understand how the value would be added to their program and would only need to be convinced of the financial advantage.

Sources	Conversations	Praxis/Reflection
The effect of technology and instructional design practices on the program		

Sources	Conversations	Praxis /Reflection
With the Symposium™ software, ... we can start approaching collaborative learning and negotiated learning. It's starting to actually become a normal classroom in that sense. So we can ...have collaborative learning going on right now. For negotiated learning, that's a little deeper ... that isn't quite happening yet in there. I really could do it with the kids ...that want to do that kind of thing - and are still individualistic enough that they want to take that	Some of the staff made a dependent connection between synchronous technologies and collaboration/interaction. This presents a perception that these may only occur in the context of synchronous group instruction.	A worthwhile plan for sharing staff perceptions face-to-face and online has begun. Creating a conversation among the participants will encourage development of more complete designs - which could integrate and harmonize conceptions of

Sources	Conversations	Praxis /Reflection
but then they can work with other people and come up with those ideas and approaches and how to finish their assignments and do their projects. ... If I didn't have this software, I couldn't do this. It would be too difficult - I couldn't show the students the concepts well enough and they couldn't interact ... in the real time environment well enough to do this at a high level. (SL, Online School teacher, Interview,2002 11 16) One of the things that they don't use a lot is the phone - it's because of the cost. It costs during the day to call people and ... it seems they prefer to email each other and post messages and things like that because they can take a little bit of time and formulate their response. (SL, Online School teacher, Interview, 2002 11 16). ... Starting in September: all teaching-and marking ... of our Online will be done in house ... whether ... working from home or working in the building. Full-time teachers will be responsible for the whole student. ...There's a change in philosophy. (MN, Online School administrator, Interview, 2002 04 08)	Staff tends to view technology as a delivery process rather than as a design component. The traditional separation of instruction from its program design and evaluation support personnel (developers and markers) may be related to segmentation of functions. The workload of providing online instruction has major differences from conventional instruction but this needs definition. Collaboration among staff is evident, it is encouraged and organized by administration.	technology. The aim would be to develop understanding of design and communication terminology and concepts, and to give focus to "zone of proximal development[vii]" rather than persisting with personal interpretations that have not been exposed to discussion. This discussion could help to clarify the questions • Who sets the structure for instructional design? What are the standards and elements? • Are we treating instructional design as a process or a product? Which instructional design paradigm do we follow? Is the design understood and used in meaningful ways among the participants?

Sources	Conversations	• Praxis/Reflection
Emerging influences on the Online School program and the needs of clients		

Sources	Conversations	Praxis /Reflection
(One initiative) is our team teaching. The whole idea is that; you as a classroom teacher in the school have access to the online content for your students, and you're going to be teaching them. They'll be registered with us so that we can monitor progress.... So we're going to see dramatic increase in use of online content in schools for that very reason. ...	As mentioned, the Online School has two main groups of clients. There are those who are students of this Online School exclusively. Then there are those who are getting part of their program in their own home school through the Online School	The structure and needs of the people and the organization have changed substantially and rapidly in the past five years. During the inquiry, the people, the roles and the role structure changed throughout the distance learning

Sources | **Conversations** | **Praxis /Reflection**

(We'll have) it set up so that the school is credited for everything they do, and it's a real team teaching approach because we've got two people working with the class. That's a very economical way for schools and classrooms to become involved with online. You're going to see more of this happening. (MN, Online School administrator, interview, 2002 04)

... How (do) you take a program that you're selling as being flexible and then make into something that is not flexible? ...If it's part of the program - if there is no other way to participate other than a certain day at a certain time, then they need to know that before hand. It's like the idea of synchronous. Synchronous is a great idea, but they have to know that there's a certain tie that they are expected to go on this right at the onset.... (Online School Teacher, Symposium™ mediated online discussion, 2002 01 18)

Boland and Tenkasi point out that perspective making and perspective taking can be accomplished face to face or through electronic communication media. However, significant interactions differ in effect between those face-to-face and electronically (1999 p. 34).

partnership agreement. The school is giving new focus towards a "team teaching" environment of virtual schooling, which will largely be an expansion of the latter group.

MacLeod found many of his participants expressed rejection of traditional education, and many characterised their need for learning in a modality which not only removed some of the social pain, but provided positive options in design, place and time. Participants largely came from home schooling or traditional schooling (2001: pp. 67-98).

centre. There are important differences among the clients and groups of clients now being served compared to the past experience. The program structure has presumably been altered as well to focus upon the needs of these clients, and to focus upon instruction which can be done well by this facility..

I have no data describing communication to participants about organizational change and refocusing. What sort of knowledge was out there among the staff and the client students and parents?

Flexibility and adaptability of the Online School are apparent strengths, but there seems to be less attention to understanding of the work of the online community - the community of practitioners of the online learning professionals that represents a community of knowledge. It is possible that juggling the form of "The Online School" may jeopardize key elements of its strength and distinctive nature.

For example, what will happen when staff relocate and form new working groups? Will it mean that the online staff will become another facet of distance delivery and lose the creative initiatives prompted by their past

Sources	Conversations	Praxis /Reflection
		collaboration? Will there be a new emphasis upon delivery technologies to maintain cohesion and ésprit?
Basically, we're here to provide services to school jurisdictions and the home education providers/home education programs. (MN, Online School administrator,Interview,2002 04 08)	Frequent and dramatic reorganization and transformation of the Online School affects the program and the people. New knowledge may be bypassed before it can be incorporated into organizational knowledge. Prior evaluations/program reviews of the Online School operations identified a need for improved written forms of procedures and processes - i.e. the explicit knowledge needed improvement. The Online School has begun to develop discussion fora among the staff, to create their own version of electronic interchange summary in a database, and to collect a form of "better practices" on their Intranet. However, participants could discuss and update these more frequently to keep focus upon enhancing student "engagement." Most teachers urged clear and recognized acceptance of parents that their program choice requires collaboration, and that the collaboration be clearly described. Participants would have to keep on a lesson or topic schedule. Synchronous elements could not always be required for students motivated by	Reorganization of people and organizational mission/processes presents an important opportunity for leadership to develop the narrative and to use differences in perception among participants to build purpose and commitment. Staff can develop their perspective making and perspective taking among the newly organized personnel in the Online/Distance learning school. Professional staff also have the opportunity to develop this narrative with their new colleagues, and with clients in the online program Course descriptions and requirements need to be well understood among staff. The same message must be clear in communication to clients, who must agree in advance that this course structure is their choice.

Sources	Conversations	Praxis /Reflection
	the flexible schedule or whose primary program needs are prompted by great distance from this school.	Personnel changes and shifts in working groups raise knowledge management (KM) issues. Understandings deep in the personalities of the teachers and administrators can be accessed through an organized process of knowledge management. Online School staff have established a database of discussions with students and parents, as has an Intranet version of "best practices" for online instruction. These methods and participation are at the early stages of development, and can form a backbone of support for staff developing an emerging community of practice.

Sources	Conversations	Praxis /Reflection
Connecting findings from post-secondary education with the needs of basic education		
Litke observes that the research evidence from innovations in adult learning and from universities should not lead us to presume that it will work the same way with younger learners (1998: no page, Conclusion). However, appropriate pedagogical activities build themselves with the participant at any level. One could imagine the meaningful use of Mindtools (Jonassen) or Activity Structures (Harris) at almost any level of formal learning in the hands of a skilled teacher. A more compact source of practical processes for building online constructivist activities is found in Oliver K. (2000).	Most of the literature about online instruction derives from the post-secondary level. These are predominantly University or college program studies. I became concerned about the degree to which the learnings of adult distance learning can apply to basic distance learning. My advisor and I discussed this and we concluded that it is beyond the scope of this project to try to sort through differences between online pedagogy and online androgogy (Personal interview with Katy Campbell Ph.D., Sep 6, 2001). Different environments, processes and motivations of learning - adult or developmental- must be considered when examining online technology collaboration and negotiation of learning.	Differences between my inquiry and post-secondary research may lie in the motivation to do online learning. Here, parents have chosen this program for their children. There are issues that relate to the ability of younger students to interact online. Proficiency in keyboarding is a skill not readily developed by many pre-teen learners. Does this mean that online school learners will participate in a "lesser" program if they are home-based? Different levels of delivery technology may be required i. e. video-conferencing and voice recognition applications.

Sources	Conversations	Praxis/Reflection
Interactions in basic online constructivist education.		

Sources	Conversations	Praxis /Reflection
The case for necessary connection among interaction, collaboration, negotiation and social constructivism is summarized in Stacey (1999).	Learning collaboratively through group interaction was found to be achieved through the development of a group consensus of knowledge through communicating different perspectives, receiving feedback from other students and tutors, and discussing ideas until a final negotiation of understanding was reached. In Stacey's research study, the interactive communication process was facilitated through the computer-mediated communication, which established a vehicle for socially constructed learning at a distance.	The significant looking for was and within this collaborative interaction. The "negotiated le shared underst participants. I development, of instructors sh meaning to ma accessible. No School is inquir design to make more "engagin of the learners.

Sources	Conversations	Praxis /Reflection
	Here is where "community of learners", "knowledge building communities", "inert learning" and "cooperative/collaborative learning" apply. There are multiple interpretations, and staff will need to discuss and understand those understandings. Identifying these understandings is part of a process to explore whether the expectations for interaction are clear, consistent and attainable to develop community (ies) of practice and communities of learners..	General constructivist thought emphasizes that the knowledge comes from the activities and goes to the learner.[viii] However, in the more particular social constructivist view, the learner and other learners, the environment and the activities fit together so that there is a socially constructed and situated knowledge that the learner develops. Depending on the orientation, the "look and feel" of the online program will be quite different from what is presently practiced.

Sources	Conversations	Praxis /Reflection
Requirements for presence of collaboration and negotiation in the programs of the Online School		

Sources	Conversations	Praxis /Reflection
There are four Programs of Study for the academic core at Junior High School for all Alberta schools, and these are identified as Alberta Learning1989 *Social Studies,* Alberta Learning 1990 *Science,* Alberta Learning 1996 *Mathematics: Grades 7, 8,* 9 and Alberta Learning 2000 *English Language Arts.* These are readily available as .pdf documents over the Internet.	The Programs of Study issued for the junior secondary level of studies include learning expectations by a variety of names. Nevertheless, it is clear by inference and implication that some of the outcomes are achieved through negotiated and collaborative processes. I have only a sketchy context for instructional plan development in the Online School. I was pleased to be able to sit in on an online - Symposium conference among administrators and developers of new secondary units. The developer used terminology	I had not succeeded in my attempt to locate instructional design and implementation activities and establish a "quality statement" for them. This should be from several points of view: distance learners and their parents, and the instructors/administration. It was interesting to observe how practitioners observe that "negotiated learning" is somehow difficult or inappropriate at this level of online instruction. Does this mean that online programs appeal to learners and their families who prefer more

Sources	Conversations	Praxis /Reflection
	familiar to the cognitive psychology framework, and in particular terminology familiar to those acquainted with the taxonomies of Bloom, Englehart, Furst, Hill, & Krathwohl(1956). and Krathwohl, Bloom, & Masia, (1964).	isolation? Are there control issues about responsibility for a broadly beneficial school program that have not been addressed? Is it possible that when people withdraw from the traditional schools that they are really trying to withdraw their children from the larger society? Is there evidence that the learning a family can provide will connect with any later and larger success in the social world? On the other hand, is the intent to close off that avenue - to become a variation of closed community?

Sources	Conversations	Praxis /Reflection

Synthesis of issues about technology and online approaches to collaboration and negotiation

Sources	Conversations	Praxis /Reflection
Technologically mediated instruction has high potential, but opportunities may be missed through instructional design weakness (Olive 1999:p. 240-243). Clark is credited with initiating the active debate over media effects on learning. His position is that the media or tool is a minor component to differences in the processes and results of learning. The significance of technology is as it defines the structure and processes of the learning environment - what he calls "instructional design science" (1994: p.28).	The Online School provides instruction through technologically mediated synchronous and asynchronous instructional methods. Online School is a growing component of the distance learning centre within which it operates. The organization supports the view that online learning demonstrates a new application of technologies to distance learning to improve the quality of that experience.	In this inquiry, I had no background of trust or authority of position as I had held in an earlier position. I felt this hampered my access and ability to approach participants who were not only very busy with their work, but who were in the middle of extensive and rapid organizational change. I did not have the understandings or access of the insider, although I had a well-rounded and respected career in public education.
Little literature describes and analyzes the interactive element of online learning in basic education in Canada. Two Canadian studies of virtual schooling deal extensively with the instructional and organizational issues. Both point to gaps in understanding the components of interaction online. However, participants are very positive and enthusiastic about the online learning (Barker & Wendel 2001: p. 12; Schollie Consulting 2001: p. 68). MacLeod (2001) gives a well defined view of the "virtual school" from the point of view of the insider; a teacher working with students in the online environment. However, the student participants in this study were respondents to an invitation. These respondents could tend to be high achievers who had issues with traditional schools because of their faith, their social unhappiness, or their need to learn in an environment with less complexity. He identifies the	Why do students and parents choose online schools? The answer would give lessons equally for traditional schools and online schools. For many, it is to avoid potential negative social and emotional experiences seen as endemic in the traditional schools. It would be tragic if both ways of thinking about learning ignored the need for respect for each other as well as avoiding collaborative and negotiated processes.	When one looks at how online schooling evolves and adjusts, the image is one of constant restructuring and revolutionary changes of focus. This seemingly puts online schools at the other pole from traditional schools, where rethinking and creative realignment of resources and visions seem so difficult. Perhaps one reflects the momentum of ever-changing technology, and the other the morbidity of people and place fixed in time and space. I would encourage planned and opportunistic staff discussion of the needs of the various client groups.

Sources	Conversations	Praxis /Reflection
issue of (virtual) online school pedagogy as dissimilar from conventional schools, but that the virtual school attempts have been largely to replicate the traditional scene (p.139). He recommends a transformation that merges pedagogy and technology, potentially using constructivist models (p. 122; 139).		If Interaction in the online program is an imperative, then the discussion could begin with evidence for the present levels of interaction and the kinds and activities of interaction intended in the online program.
Online learning is associated with frustrations arising from the delivery technology, the instructional design and interactions. These are reviewed in Hara and Kling (1999) and serve to caution that other factors in online learning can affect the way intended interactions actually take place. Peters (2001)also examined frustrations with online instruction across education levels .	The database containing discussions with students and parents had a personal and individualized focus upon record keeping. There are other broader categories which could be similarly collected and analyzed to have information available about program modifications, types and examples of collaborative work, working with rubrics to improve practice.	Online participants - and particularly the staff at Online School - could discuss issues of quality and effectiveness as they are framed in constructivist concepts of authenticity, involvement, and collaboration. Agreements from these discussions are essential components of program design and in individual instructional plan.

Sources	Conversations	Praxis /Reflection

Choosing Directions

Oliver identifies design issues as

> .. much of the evidence emerging from evaluations and explorations of online learning suggests that while institutions are pursuing the specific goals of efficiency and flexibility, many of the resulting courses lack the informed design capable of providing enhanced learning" (1999 p. 241).

Some writers go so far as to argue that the new technologies are failing us in this regard (Duschatel 1997; cited in Oliver 1999: p. 241) and sometimes acting as impediments to successful learning (Kearsley 1998).

Design of instruction unites the questions, answers and findings of this inquiry. With that concept is where I understood the need to have a framework for instructional design: from cognitive behaviourism through to social constructivism (including critical theory and post modernism).
Clark's (1994) observation that media is at a secondary level of the process of instructional design applies.

In the Online School, closer connection between development and instruction could be to establish teams to make those connections. This could enhance instruction, evaluation and integration of the technologies. At present, some of those responsibilities are assigned to contract developer or to semi-permanent assignment markers. Effective staff leadership suggests daily presence and discussions, and a long-range plan to illustrate development of the concepts.

Sources	Conversations	Praxis /Reflection

Does online interaction contain and develop collaboration and negotiation of learning?

Does interactivity suggested by use of modern distance education technologies manifest itself in the program of this Online School? The best answer this analysis can give is "To a limited extent."

The absence of direct and meaningful data from parents and students suggests there is at best an insufficient understanding of collaboration or negotiation of learning among this group. Parents of students in the home schooling program supported by the Online school may be more focussed upon a narrow definition of learning as a cognitive process. They may not view collaboration and negotiation of learning as a critical element of their child's online learning. These families may have more "distance" from the social process of learning and from the application of technology than one understands from the term "distance education".

The blurring of understanding of "interactivity' among the teaching staff would suggest that they experience a broader interpretation of interactivity than the passion suggested by administrators for high levels of productive interaction. Further, the design and delivery technologies appear fragmented and diffuse; they are certainly not consistently understood or inclusive of coordinated effort among staff. There seems to be more discussion and focus upon the online "tools" as a primary agent for mediating and shaping instruction, but instructional design is also important.

Instructional design is differentially understood by the individual professionals, with collaboration and negotiation vaguely located in instructional practice rather than as design components. Perhaps this derives from the history of curriculum design responsibility resting with a separate "learning resources" organization outside the school itself. More recently, curriculum design has been contracted to designers who, like the contract markers for the school, do their work separate from - but in contact with - the teachers and administrators. Recent plans are to move instructional design and planning responsibilities back to the teachers. This should be a binding element for creation of a community of practice that shares ideas and jointly constructs and revises the programs offered by the Online School.

Program development seems framed and defined by the delivery technologies chosen for use. This suggests that the understanding of collaborative and negotiated interactivity needs considerable work if it is to be a feature of the programs offered by the school. These need to be at the centre of the pedagogical beliefs and actions rather than at the periphery.

The Online School intends to develop the "partnered school" part of its program; whereby half of a team teaching team and the instructional organization are provided to remote schools under contract. A "home schooling" program will be maintained, but the instructional design and practice for these clients is unlikely to contain vigorous collaborative or negotiated elements.

Recommendations for designing interaction, collaboration, and negotiation of learning in instruction

Periodic face to face activities at a "meeting place" among parents, students and teachers have been a valued feature of the online program in the past, and can emphasize collaborative activities. If these are removed for budget reasons, perhaps there are alternatives to finding the relatively few dollars required.

Administrators can facilitate online and in-person discussion of instructional design and building interaction/ collaboration by raising the questions frequently and by developing an online knowledge base.

Divesting design and marking functions from the responsibility of the online teacher may have been a tradition, but at once, this has the consequence of giving inappropriate emphasis to those two functions. Keeping these within the responsibility of the teacher has consequences for establishing a proper level of responsibilities and duties, which need to be discussed among the participants. There may be other duties, which might better be separated from the core responsibilities of teaching.

A suite of interactive/collaborative tools can be developed for instruction among and throughout the subjects by online and in-person processes. Especially appropriate here are the Mindtools outlined by David H. Jonassen and the "Activity Structures " developed by Judi Harris for telecollaboration and telepresence.

Only one of the online application technologies (FirstClass™ or WebCT™)is necessary to the features and functionality needed for online instruction.. At present, FirstClass™ probably represents the more flexible and feature laden option.

Contractual relationships of "partnering" and "teaming" with client schools should provide a more consistent and "classroom" style of distance learning environment in which collaboration and negotiation can be applied. There are apparently more assurances about stability of contact and involvement with these clients. The group of clients which this project queried - the "home schooled" group - may be more interested in a limited and less inclusive form of online education. This is suggested by their negligible involvement in inquiries into interactive and collaborative elements of the program.

The Online School is intending on developing the "partnered school" part of its program whereby half of a team teaching team and the instructional organization are provided to remote schools under contract. A "home schooling" program will be maintained, but the instructional design and practice for these clients is unlikely to contain vigorous collaborative or negotiated elements.

The participants can discuss and record how collaboration and negotiation of learning is a matter of constructivist instructional design, and how it is not limited to the specific or particular delivery technology. However, if a design process or model is accepted which does not deliberately develop these elements, then the Program of Study for each subject should be analyzed to identify and communicate the focus and presence of forms of collaboration and negotiation of learning.

Teachers and administrators can use the Programs of Study for the subject(s) taught to identify components that would benefit from increased interaction (collaboration and negotiation in learning) and to develop designs and structures for instruction that supports it. Alternatively, this staff can identify elements that do not fit well with interaction online.

Student motivation and success in the program connects to interaction, collaboration and negotiation in learning at all ages. This topic could be a productive online debate for adult participants, although access to this debate should be open to students as well.

Each teacher could create a group of online students who can study topics in collaboration and with a variety of contributions to a shared project. This group could form a clearer online "class". This group would have to understand the nature of the course as they register. Those who cannot commit to this structure would be eligible for the non-collaborative group, which would continue as another strand of the program.

Parents can be involved in the debate that interaction is a necessary part of basic education and of human learning, and that they can support this through family activities (guided by the online school) and by participating in those activities which are part of the online program. Anecdotal or rubric reports could be a way of focus upon desired structures and outcomes for collaborative and negotiated interactions.

Notes

[1]The design originates with ideas from Hlynka & Yeaman(1992).
[2] The school of inquiry is identified as "Online School" to support the expectation of confidentiality. Names of participants have been coded, but they are identified by their role.
[3]and implied by the "situatedness" of the experience . (Hung and Chen 2001 p. 7)
[4] "Home school or Schooling: K-12 courses taught by the parent in the home setting. " (Schollie p.9)
[5] For the sequence and content of the staff discussions, see the appendices;
[6]There had been a school evaluation done in the past two years, but the anecdotal data did not relate well to a specific program. There were generalized assessments of satisfaction, and of desirable improvements.
[7]The zone of proximal development (ZPD) is a term developed by Vygotsky to illustrate the best fit between the learning situation and the individual. To me, it is a fundamental concept which illustrates the difference in the framework of reproduction of knowledge versus construction of knowledge. See Hung and Chen (2001) for a compilation and analysis of Vygotskian concepts.
[8]There seems to be some confusion about the roots of some instructional processes. For example, while Hirumi and Bermudez (1996) devote attention to background supplied by Vygotsky and the more recent social constructivists, what they propose comes out looking very cognitively structured, and they even call it that on page 14.

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Appendices

The format of most appendix pages is modified from the originals to meet the requirements of presentation format. The content is unchanged except where attempting to preserve anonymity.

Appendix I Ethics certification

Informed Consent and Ethics Review
PARTICIPANT CONSENT FORM

The University of Alberta requires that participants are advised of their rights and indicate their consent for surveys, interviews and the like which provide information for research projects at the University of Alberta. This form advises the nature of the research project to be undertaken at the Online School of the (The Distance School) by David Baker during 2001 - 2002.

This project is a requirement for the degree of Master of Arts - Communication and Technology at the University of Alberta. The project report should be completed in April 2002.

The project methodology can be described as semi-structured interviews with teaching staff and a survey of selected students and their parents who are involved with a full time program at the junior high school level in the programs of the Online School of the (Distance School).

In order to determine the connection between negotiated learning/collaborative learning in the program, staff members will be interviewed personally and online to produce an operational definition of negotiated learning/collaborative learning; and to comment where these learnings are intended or included in the instructional program (design, instruction, and/or evaluative components). The interviews will be scheduled in November 2001. These interviews will result in a further definition of negotiated/collaborative learnings and their relative presence in the components of the instructional program (in Language Arts, Mathematics, Science and Social Studies) which will be discussed in an online conference in January 2002.

From the individual interviews and the group discussion, the intended learnings will be identified in a rubric of samples for parents and students to report that they observe or do not observe these examples of negotiated/collaborative learning in the organizing, instructional or evaluative components of the program. Data gathering with this focus will be done in February - March 2002.

The results will provide an understanding of the presence of negotiated /collaborative learning from the point of view of the teachers, selected students and their parents. This will lead to an assessment of whether this level of understanding is sufficient for meeting quality criteria for an instructional program i. e. meeting the expectations of teachers, selected students and parents

Review and clarification follow up will be in March - April 2002. The data gathering will be completed by March 10, 2002.

Confidentiality will be preserved by strict control of the data from the source person through the (Distance School) Online School (Junior High Program) to the researcher. Original data will be coded and transcribed, and the original data will be destroyed at the culmination of the project.

For those being interviewed only.

When and if you have given your consent to participate in any interviews associated with this project, please seal the consent form in an envelope and give it to the researcher. The forms will be picked up at the Online School office by personal visit.

Thank you.

David Baker

Informed Consent Form (Staff)

I, _____, agree to participate in a research project for a Master of Arts - Communications and Technology program of the Faculty of Extension, University of Alberta as identified in the preceding.

I agree to be interviewed by David Baker under the following conditions:

1) I have the right to withdraw from the project at any time. If I choose to do so, the information I provide will be returned to me and not used in the project.

2) I agree to individual interviews in person, by telephone or by online (e-mail) response. The individual interviews shall be arranged as mutually agreed and shall not exceed 45 minutes each in length unless also mutually agreed. The interviews may be tape-recorded.

3) I understand that the interview may be transcribed and used only for the major project in the Master of Arts - Communications and Technology program.

4) My identity will be kept confidential and a pseudonym/code used in all materials.

5) The researcher will endeavor to ensure that no harm will come to me through my participation in this project. Any of my concerns about potential harm will be recognized and accommodated by the researcher.

I agree to these conditions:

Signed_____

Date_____

Researcher

Signed_____

Date_____

For further information regarding the purpose and methods of this project, feel free to contact either of the following:

Researchers Name	David W. Baker,
Telephone	780 349 4856
Email	dlbaker@oanet.com

Informed Consent Form (Parents)

I, _____, agree to participate in a research project for a Master of Arts - Communications and Technology program of the Faculty of Extension, University of Alberta as identified in the preceding.

I agree to participate in the survey directed by David Baker under the following conditions:

1. I have the right to withdraw from the project at any time. If I choose to do so, the information I provide will be returned to me and not used in the project.

2. I understand that the written comments may be used only for the major project in the Master of Arts - Communications and Technology program.

3. My identity will be kept confidential and a pseudonym/code used in all materials.

4. The researcher will endeavor to ensure that no harm will come to me through my participation in this project. Any of my concerns about potential harm will be recognized and accommodated by the researcher.

I agree to these conditions:

Signed_____

Date_____

Researcher

Signed D. W. Baker

Date 2002 02 20

For further information regarding the purpose and methods of this project, feel free to contact:

Researchers Name	David W. Baker,
Telephone	780 349 4856
Email	dlbaker@oanet.com

FACULTIES OF EDUCATION AND EXTENSION
RESEARCH ETHICS BOARD

Graduate Student Application for Ethics Review

Name: David W. Baker **Student ID:** 631142

E-mail: dlbaker@oanet.com

Project Title:
The Technologies of Online Distance Education: Do They Enhance Negotiated Learning?

Project Deadlines:

Starting date Sep 2001 Ending date April 2002
If your project goes beyond the ending date, you must contact the REB in writing for an extension.

Status:

☑ Master's Project ☐ Master's Thesis ☑ Doctoral Thesis ☐ Other: (Specify)

The applicant agrees to notify the Research Ethics Board in writing of any changes in research design after the application has been approved.

DBL
Signature of Applicant Date 2001 09 12

The supervisor of the study or course instructor approves submission of this application to the Research Ethics Board.

K Campbell.
Signature of Supervisor/Instructor Date Sept 17/01

ETHICS REVIEW STATUS

☑ Review approved by Unit Statutory member/Alternate

☐ Review approved by Research Ethics Board

☐ Application not approved

Signature of REB Member Date Sept 18, 2001

Appendix II

Questions, Questionnaires and Surveys of Staff

Interview Questions for Teaching Staff

These questions are open ended, and are intended to generate a wide range of responses which will be later analyzed for patterns.

1. How do you now understand "negotiated learning"? Is it the same or different from "collaborative learning"?

2. In the subject area you teach in the Online School - Junior High Program, how and what examples of negotiated learning do you believe are present:
   - In the design of the program,
   - In the instruction you offer online,
   - In the evaluation methods used in the course and
   - In the analysis and improvement of the quality of the course offering.

3. How important is negotiated learning in your expectations of the online course you instruct? How important do you believe negotiated learning is to the students and the parents of the students you teach?

Follow up with a conference online- Symposium or telephone - when interview is transcribed and available - to develop the rubric for students/parents.

Online Discussion Guide (with staff)

Preparation for Symposium discussion proposed for 2001 01 18 14 00 - I will confirm this later Thursday.

I hope that (Name of administrator) can join this discussion.

Some observations to check from interviews about online negotiation-collaboration of learning.
The issue arises from my inquiry to determine strengths and deficiencies of online learning, and from issues derived from the *(Distance School) - School Review 2000* and *Student Achievement and Performance Levels in Online Education Research Study 2001.* The selected issues relate to:

- Instructional design of online courses.
- The need for increased interaction and collaboration in distance education.
- Evaluation processes indicate deficiencies in developing social skills and interactions in online instruction generally.

Our discussion questions are:

1. Do you see a need to improve social skills/ interactions (as characterized by negotiated/collaborative learning) in ADLC Online instruction?
2. If no, should these domains be removed from instructional design and should parents be notified that they are omitted?
3. If yes, what ideas do you have for enhancing those domains in your course(s) of junior high instruction?
4. What limitations are in the process of instruction and your own knowledge need to be assisted to develop interaction/collaboration/negotiation in learning?
5. When asking students and parents about the extent to which they desire, expect or observe interaction/collaboration/negotiation in, the following rubric is illustrative. Can you suggest another for the subject you teach?

Rubric design

Select this column to indicate the level to which you desire or expect collaborative/negotiated learning.	Select one number in this column to represent how much you have observed the characteristics described to the right.	Select the number in the column to described what level of negoitation of assignments you would prefer.	**Describing Online assignments.** To what degree are online assignments prepared in advance, or are they flexible, or is there a mix?
4	**4**	**4**	Assignments are a mixture of questions and projects developed and listed in advance, and new

			(emerging) assignments and projects which come from communication among teacher and students as instruction proceeds.
3	**3**	**3**	Most assignments appear in advance, but students have opportunity to develop assignments according to their own interests and direction - with teacher approval.
2	**2**	**2**	All assignments are listed in a specific page/source; all students apparently do the same assignments.
1	**1**	**1**	No assignments given by teacher - any assignments are from published material (print or multimedia).
0	**0**	**0**	Unable to respond - do not understand or do not know.

Comment:_____
_____
_____

Select this column to indicate the level to which you desire or expect collaborative/negotiated learning.	Select one number in this column to represent how much you have observed the characteristics described to the right.	This column is nothing yet	**Levels/Criteria for characteristic** (To be developed)
4	**4**	**4**	
3	**3**	**3**	
2	**2**	**2**	
1	**1**	**1**	
0	**0**	**0**	

Negotiation of learning - how much do students define and create appropriate assignments with their online teacher?

Select this column to indicate the level to which you expected that online education would provide negotiation of learning at this level?.	Select on e number in this column to specify how much negotiation of learning you have observed in the online program..	Select the number in the column to describe what level of negotiation of assignments you would prefer.	**Describing Online assignments.** To what degree are online assignments prepared in advance, or are they flexible, or is there a mix?
4	**4**	**4**	Assignments are a mixture of questions and projects developed and listed in advance, and new (emerging) assignments and projects which come from communication among teacher and students as instruction proceeds.
3	**3**	**3**	Most assignments appear in advance, but students have opportunity to develop assignments according to their own interests and direction - with teacher approval.
2	**2**	**2**	All assignments are listed in a specific page/source; all students apparently do the same assignments.
1	**1**	**1**	No assignments given by teacher - any assignments are from published material (print or multimedia).
0	**0**	**0**	Unable to respond - do not understand or do not know.

Comment:_____
_____
_____

Collaboration in learning - how much do online students take the opportunity to discuss their assignments with other students and to work together with other students on a "group task"?

Select this column to indicate the level to which you expected collaboratio	Select on e number in this column to indicate how much collaboratio n in learning	Select the number in this column to describe your preference for the	**Collaboration in learning among students in the online program.** How often and in what circumstances are students able to collaborate to accomplish a group task in the online program?

n to be present in the online learning program.	has occurred in the online program.	amount of collaboration.	
4	**4**	**4**	There is a mixture of teacher defined individual projects or assignments and projects or assignments organized by the teacher. Groups of students work together by sharing their plans, ideas or cooperative writing in a separate forum or discussion group online.
3	**3**	**3**	The program encourages students working together, but this is not organized so that students can easily form project working groups to work collaboratively.
2	**2**	**2**	Students contact each other on projects and assignments but very rarely and outside the regular discussions online or in the chat rooms.
1	**1**	**1**	There is no requirement or opportunity for students to collaborate on a group assignment in the program; all contact and course work is communicated by the teacher to the student.
0	**0**	**0**	Unable to respond - do not understand or do not know.

Comment:_____

_____

_____

Appendix III Rubric for Parent/Student Response

To parents of students in the Online Junior High Program at the Alberta Distance Learning Centre:

You have been selected as a part of a sample of families and students attending the Online Junior High School program at the (Distance School). The research being done is part of the requirements of my Master of Arts program in Communication and Technology at the University of Alberta and also as part of the continuing work of the (Distance School) to improve its program.

This survey follows the earlier email communication to you which outlines how a rubric is used as a survey tool. The results will assist the Online School in considering parent and student needs for social interaction in the Online program, so we hope we will receive all surveys and comments completed and returned.

We would like these returned to the (Distance School) Online School in the envelope provided by February 25th, 2002.

I thank you for your assistance.

David Baker
Researcher

Each grid below is a "rubric" and it is a device to show the level of experience people have with different characteristic. Each asks for your observations or thought about you and your child's experience in the junior high Online School of the (Distance School). The first is about flexibility in the content and form of assignments in the program; the second is about the degree to which students work together in the program. Parents and students should work together on these. The questions may ask about something which is not usually visible to you as a parent.

1. **Instructions:**
2. Look at the focus question for the rubric to understand the type of activity being questioned.
3. Look below the focus question to the five boxes below it. Each has a different level of description or criteria relating to the focus question. These generally range from more varied descriptions (at the top below the focus question) to "unknown" or "unable to answer" at the bottom.
4. Go to column 1. This column asks you to describe the level of expectations you had for the Online program for this question. Use the descriptions or criteria to select one number in the darkly shaded area which best describes your expectations.
5. Go to column 2. This column asks you to describe the actual experience you had for the Online program for this question. Use the descriptions or criteria to select one number in the unshaded area which best describes your expectations.
6. Go to column 3. This column asks you to describe what you would prefer for the Online program for this question. Use the descriptions or criteria to select one number in the lightly shaded area which best describes your expectations.
7. Repeat for the second rubric, which focuses upon students working together to accomplish online tasks.

8. There are spaces below each rubric for you to write a response or comment; you may also attach additional thoughts.

These email or print copies should be returned to ..... by ..... They have been coded to account for the number of surveys and to ensure a fair distribution among parents. The coding numbers are kept confidential by the researcher and will be destroyed when the collected responses have been sorted.

No identification of individual families or participants is required ; participation is confidential and voluntary.

The analysis of responses will be reported to the Online School of the Alberta Distance Learning Centre for consideration during program review and improvement.

Thank you.

(Distance School) Online Junior High School Survey
February 2002

I feel my child is completing the course work at a (n)

Please Check one
Above Average ___
Average ___
Below Average ___

Column 1	Column 2	Column 3	**Focus question: Assignments given to students in the Online School Program.** To what degree are online assignments prepared in advance, or are they flexible, or is there a mix?
Select a number in this column to indicate the level to which you expected students to work together have flexible assignments the online learning program.	Select one number in this column to indicate how much your student/child has had the opportunity to other students in the online program.	Select one number in this column to indicate your preference for the amount of work you would like to see in the online program.	
4	**4**	**4**	Assignments are a mixture of questions and projects developed and listed in advance, and new (emerging) assignments and projects that come from the communication between teacher and the student.
3	**3**	**3**	Most assignments appear in advance, but a students has the opportunity to develop assignments according to their own interests and direction - with teacher approval.
2	**2**	**2**	All assignments are listed in a specific page/source; all students apparently do the same assignments.
1	**1**	**1**	No assignments given by teacher - any assignments are from published material (print or multimedia - CD-ROM etc.).
0	**0**	**0**	Unable to respond - do not understand or do not know.

Written comments: Should the assignment structure be different for each of the subject areas of language arts, mathematics, science and social studies?

_____

_____

_____

Other comments

Column 1	Column 2	Column 3	**Focus Question: Students working together in the Online program.** How often and in what circumstances are students able to; or expected to work together to accomplish a group task in the online program?
Select a number in this column to indicate the level to which you <u>expected</u> students to work together in the online learning program.	Select one number in this column to indicate how much your student/child <u>has worked with</u> other students in the online program.	Select one number in this column to indicate your preference for the <u>amount of work you would like to see</u> in the online program.	
4	**4**	**4**	Groups of students work together by sharing their plans, ideas or cooperative writing in a separate forum or discussion group online.
3	**3**	**3**	The program encourages students working together, but this is not organized so those students can easily form project-working groups to work collaboratively.
2	**2**	**2**	Students contact each other on projects and assignments but very rarely and outside the regular discussions online or in the chat rooms.
1	**1**	**1**	There is no requirement or opportunity for students to work together in the program; all contact and course work is communicated by the teacher to the student.
0	**0**	**0**	Unable to respond - do not understand or do not know.

Comment: Would you expect or wish that students would work together according to different expectations for language arts, mathematics, science or social studies?

_____

_____

Would you support an online "class group" held at a regular time with regular attendance in order to give students a chance to work together and to develop projects?

_____

_____

Other comment.

Response sheet # _____

Please return to (The Distance School) in the envelope provided.
Your anonymity is assured; the response code number is used to sort responses by experience and level in the program, and to account for all sheets.

Notes

[i] The design originates with ideas from Hlynka & Yeaman(1992).
[ii] The school of inquiry is identified as "Online School" to support the expectation of confidentiality. Names of participants have been coded, but they are identified by their role.
[iii] , and implied by the "situatedness" of the experience . (Hung and Chen 2001 p. 7)
[iv] "Home school or Schooling: K-12 courses taught by the parent in the home setting. " (Schollie p.9)
[v] For the sequence and content of the staff discussions, see the appendices;
[vi] There had been a school evaluation done in the past two years, but the anecdotal data did not relate well to a specific program. There were generalized assessments of satisfaction, and of desirable improvements.
[vii] The zone of proximal development (ZPD) is a term developed by Vygotsky to illustrate the best fit between the learning situation and the individual. To me, it is a fundamental concept which illustrates the difference in the framework of reproduction of knowledge versus construction of knowledge. See Hung and Chen (2001) for a compilation and analysis of Vygotskian concepts.
[viii] There seems to be some confusion about the roots of some instructional processes. For example, while Hirumi and Bermudez (1996) devote attention to background supplied by Vygotsky and the more recent social constructivists, what they propose comes out looking very cognitively structured, and they even call it that on page 14.