

Providing Success for Every Learner in a Virtual Learning Environment

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### Providing Success for Every Learner in a Virtual Learning Environment

Providing every learner with success has been the goal of teachers for many years. Incorporating our current practices of formative and summative assessment with differentiated teaching and learning strategies have made this look more and more possible in classrooms across the country. Will this impetus for student success carry over into the ever-increasing world of online learning environments? Although it is not feasible to replicate face-to-face classroom environments and dynamics in virtual classrooms, we should be able to utilize a combination of synchronous and asynchronous methods that incorporate current theories on how we learn to create best practices for teachers and learners to have very successful experiences in virtual environments.

The Canadian Teachers Federation estimates that the number of students taking online courses has grown from approximately 25000 Kindergarten to Grade 12 students in 2000, to roughly 140000 in 2009 and 285000 in 2012. (Barbour, 2013) If this trend is continues, we need to find how to create the best learning conditions we can for online environments. Careful consideration about how we 'do' online educating needs to be focused on what really matters in any educational setting. That is, what are the end results of our efforts? Are our students able to acquire new knowledge, develop critical thinking skills, aspire to go deeper into a topic than required, know the value of questioning, and, over all, develop greater self-efficacy in determining and meeting their own learning goals. Any learning environment should not simply provide easy solutions for learning goals, as the learner will come to expect easy solutions. Bandura (1994), argues that people need

experience in overcoming obstacles by persevering and hard work. He also notes that a strong sense of self-efficacy comes from social situations where others can be seen as successful through sustained effort. This fits with components of my own learning theory about the need and nature of dynamic relationships. (Appendix B) As well, the Community of Inquiry Framework model (Garrison, Anderson, and Archer, 2000) incorporates similar ideas through the relationship between the elements of Social Presence and Teacher Presence. It is primarily the Community of Inquiry Framework (CoI) (Appendix A) that I see as holding the elements that best support my philosophy of learning and ideas about how to promote best practice in virtual environments.

While the examination of research about learning and teaching and the existing and emergent technologies associated with online instruction is worthwhile and informative, it has to be done parallel to the creation of a virtual school, which is my current task. Finding the right balance of existing technology, teacher expertise in distance education and technology in the classroom, and program design and delivery makes the task quite daunting. Our long association with distance learning has provided some insight into what does not work. As an area of Canada that is mostly wilderness, students have required access to distance learning due to living in isolated areas not close to a school, communities too small to sustain either a high school or one that cannot offer sufficient programming to be sustainable. What is very evident is that distance programs done in isolation where the student tries to work through a paper-based course sent in the mail, one that cuts out the paper by scanning all the documents and posting them online, or even those that use a learning management system (LMS) such as Moodle to house course content and assessments are by and large not successful. It seems evident to me that after working

with high school students for over 30 years, it is obvious that the course designers forgot that teenagers are almost by definition social creatures. If they are suddenly required to work totally independently, they usually lose focus and then interest which leads to not doing the course. It is this factor that lead me to look for models that incorporated a social component in designing online courses. Another factor that is critical in my mind is the impact a truly effective teacher has on the learning situation. You do not need any technology to see when a teacher has been able to engage his students in the learning task. Should these two components not be integrated into online course design? The Community of Inquiry model seems to do just that. We know that for students to be successful, they must take ownership of their learning and have a hand in determining what they are learning and the pace that works for them. This does not mean that they create their own curricula and work only to their own ends. They still require an adult presence that is able to skillfully direct the learning so it is still task focused and relevant to logical skill development. This is essential for online learning success. Labonte (2011), states that teachers and learners will become a community of learners in a virtual setting. He also states that both learners and teacher roles change. Some of these changes include the teacher becoming a facilitator rather than a lecturer and a facilitator rather than a presenter. Students go from teacher dependent to independent manager of their learning and from being a passive observer to an active participant.

While I am not able to halt the building process of our virtual school, I can make the direction of growth one that utilizes that which is clearly focused on student success. It was clear to me that to best serve the students, we needed to create a learning environment that understands the dynamism existing between the student, the teacher, and the learning

that is required. This cannot happen in an isolated and independent design model such as the education at a distance created for correspondence schools. We need to develop a learning community. Engagement and retention can be problematic in online environments and we need to see if learning potential will increase by developing a sense of community (Lambert & Fischer, 2013). Knowing that my research and design have to coincide with operational consideration, I feel fortunate that the Community of Inquiry model has provided me with a framework that fits with my perceived direction for our school. It is collaborative and constructivist and compliments how I see student learning taking place in our classes. It has been critiqued and peer reviewed numerous times and is now cited over 2000 times since it was created in 2000.

(<https://coi.athabasca.ca/2014/01/17/garrison-anderson-archer-2000-keystone-tops-2000-citations/>)

While we can see that good teaching leads to good learning, in the online world, it is necessary to take the best of face-to-face instructional methods and embed them in our virtual practices so that they are seamlessly meshed with available technologies. While it is true that we live in an age and society that promotes mass technology use and the acquisition of individual hi-tech devices, we have to be critical of the value and place of technology in our quest for best practice of teaching and learning. Technology in and of itself should not be what drives excellent pedagogy. Technology provides a set of tools that should enhance our opportunities to engage students in the learning process, allows additional means for differentiation, gives students more control over their learning, increases opportunity to take courses of interest, and makes management of teaching and assessment data better. In other words, education should drive technology, not the other

way around. How often could we go into well “teched-out” classrooms only to see teachers using interactive smart boards as a big projection screen to watch a DVD, a YouTube video, or as a glorified overhead projector? Many school districts have experimented with providing greater levels of technology for students in the belief that having the technology will improve engagement and thus improve measurable success in the school system. That success is usually measured by graduation rates of students exiting Grade 12. Over and over, we have seen this venture fail. Having a lap-top for every student but not investing in training for teachers and students in using the hardware, or in software that supports learning suggests lack of planning. Couple this with limiting how the students could use the technology by not providing easy WiFi access and placing filters and blocks on the gateway to the internet, and the huge costs of maintaining the hardware gives us an idea of why graduation rates did not improve. There have been situations where class sets of iPads were sent to schools as pilot projects without the staff knowing they were participating. Needless to say, the iPads sat unused until the staff had a chance to receive training first. How then does this help my school? We have system support for accessing technology and are growing in notoriety. Yet we have internal competition. To address the diverse needs of our learners, an adoption of course shells from BC were made available to teachers and students through Moodle. The hope was that teachers would use the available resources from both technology and Moodle courses and create blended learning opportunities in every high school in our system. Growth in this area has been rapid in the deployment of resources but inadequate in training and strategic development of blended learning methods in the schools.

My hope is that our school will be able to provide viable alternatives to what is being offered under the blended learning banner and, show that our virtual cohort model may be closer to the ideals of blended learning than any other model currently in use here. There are a variety of ways to implement blended learning. It can be where curriculum is delivered totally online with face-to-face interaction to classroom instruction integrated with online components (*Blackboard K-12*, 2009).

We have developed a model of instruction that, out of necessity, utilizes fully online interactions between teacher and student. We have decided that a cohort model at each grade level up to Grade 9, or by course in Grades 10 – 12 is best for integrating the elements of the CoI Framework. We use Blackboard™ for all synchronous instruction and communication with our students, with Moodle and First Class for all asynchronous activity. My aim is to determine if this model will be able to produce evidence of social, teacher, and cognitive presences as required by the CoI framework. To this end, I used the metric developed by Ben Arbaugh, et. al. (2008), *“Community of Inquiry Survey Instrument (draft v14)”*, as a starting point for gathering data. To make the survey more specific to our unique situation, I slightly modified the language of the questions to be more appropriate to the age and circumstances of grade 8 – 12 students rather than the adult post-secondary student the original was designed for. I have included both the original CoI survey and my modified one in Appendix C and D. My hope is to continue collecting data from our students and teachers to compare our program with other successful models across the country so as to create an environment conducive blended learning yet uniquely suited to meeting the challenges of delivering quality virtual education programs in our system.

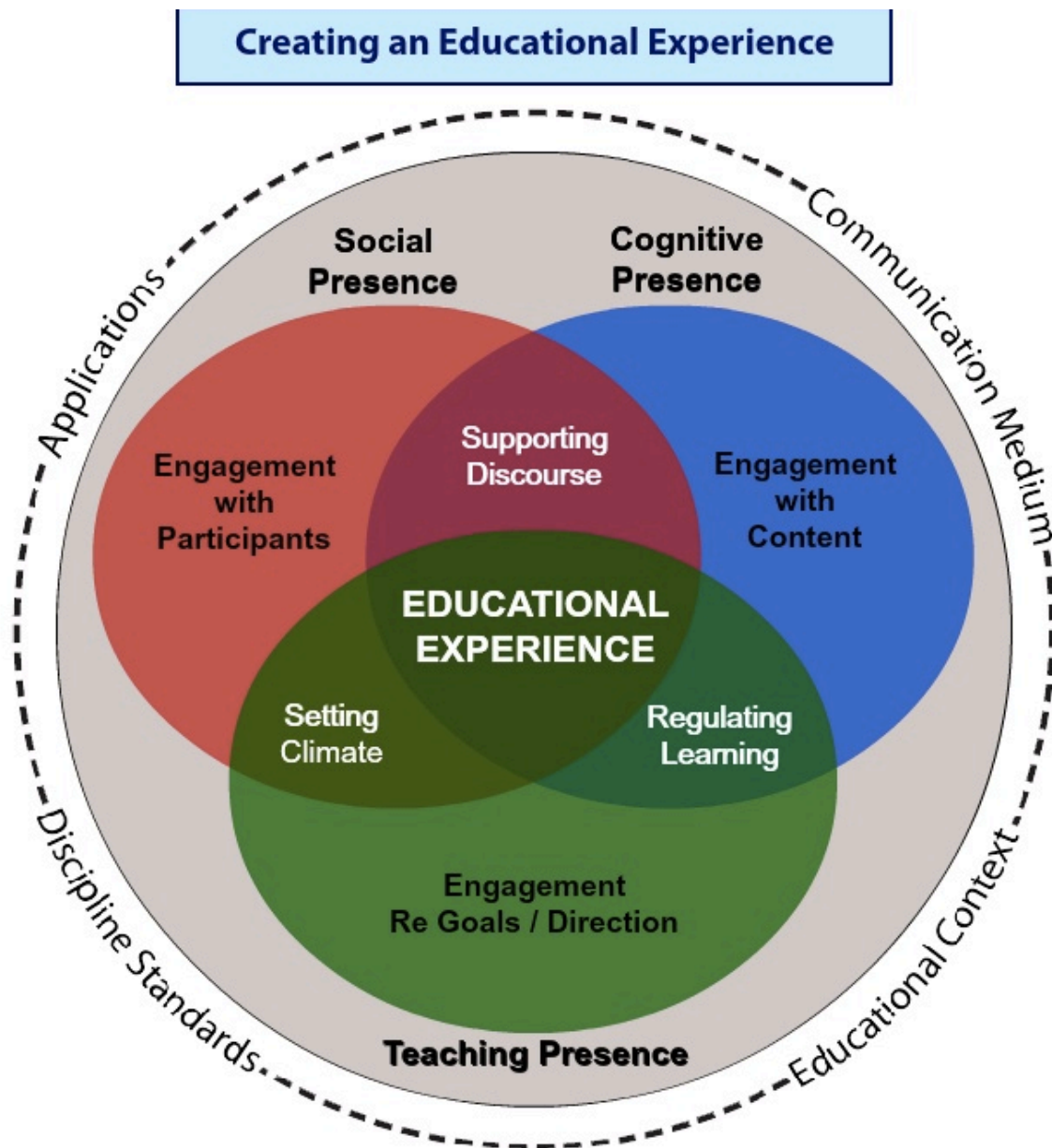
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APPENDIX A

Community of Inquiry Framework Model

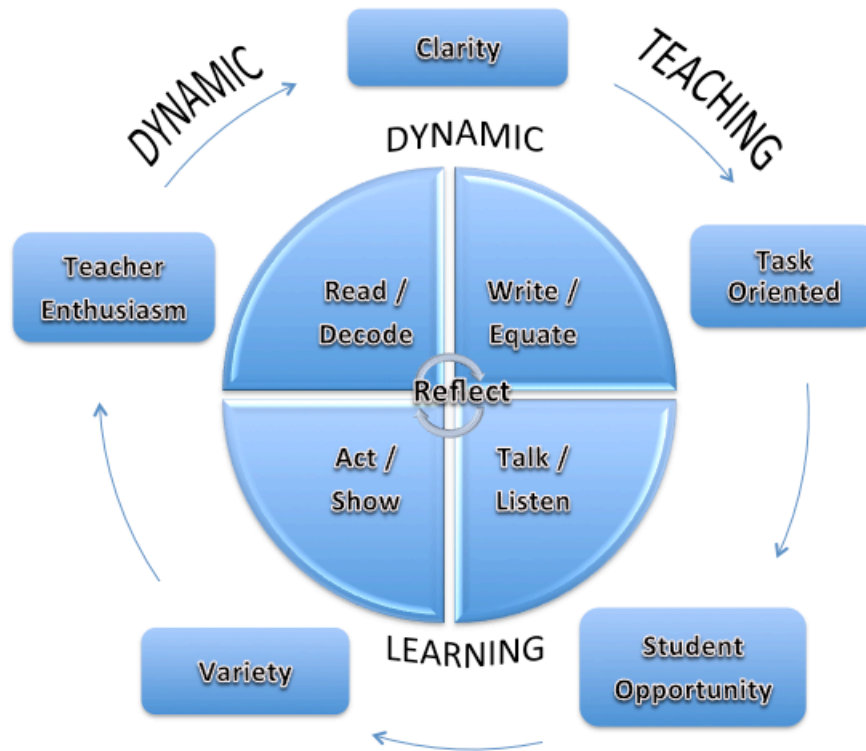


Garrison, Anderson, and Archer, (2000)

<https://coi.athabasca.ca/wp-content/uploads/2014/07/COI-ANIM.swf>

## APPENDIX B

## Edward Frison's Learning Model



My model is the result of an examination of which learning theory spoke to me the most in terms of my own pedagogy. Unfortunately, I had to force a stop to the research, as I would still be reading trying to nail this down completely. There are aspects of several theories that have considerable attraction for how I see effective teaching and learning happening; Multiple Intelligences (Gardner), Experiential Learning (Kolb), Constructivism (Vygotsky), and Connectivism (Siemens).

I think that if I could create a model in 3D I would have more success portraying my model. I started with what I feel is at the heart of effective teaching and learning. That is, the tension between active and passive teaching and learning. I do not believe that human beings can learn in isolation and so should not be placed in a learning environment that expects this. This would be the passive side. Here, we see traditional instructional style where the teacher lectures and the student takes notes. The primary activity is passive listening and results in retention of knowledge only as far as the next test. Correspondence courses are another example of passive learning. In the DL world, I think the models that utilize mostly asynchronous methods are also passive as they isolate the learner. Even the best moodle courses with all the flash of embedded video clips and java applets still require

the student to rely on their own motivation. I believe this results in little engagement and low completion rates.

I believe that the active teacher and learner is the better way to approach a learning model. I believe that at the heart of good teaching and learning is relationship. We are social creatures and thrive in a dynamic environment. This is what I tried to represent in my model. This is an instructional approach where students engage material they are studying through reading/decoding, writing/equating, talking and listening, and acting/showing. All the while reflecting on what they are doing. This is where my model fails, as I could not represent how reflection is integral to each aspect of the dynamic learning relationships. I think it is best to say that formative assessment, where a learner is allowed to compare their learning against a top-level model and can use multiple opportunities to improve and master, is woven through the reading/decoding, writing/equating, talking and listening components. The summative part, where the learner provides an end statement of learning against expectation, occurs in the acting/showing component. Assessment at this point should inform the learner as much or more than the teacher. The learner needs to decide what is more important – what I know or what I don't know.

The active or dynamic teacher continues to revise their delivery to best meet the learner's needs. Thus the number 1 element in this part of the model is clarity. If instructions, goals, expectations, etc. are not clear, the learner will not be as successful. Task orientation does not mean that the teacher is a dictator, but provides opportunity for the students to be engaged with the learning but is still able to guide them back to the topic. Student opportunity allows for learner engagement, time for interaction, and an opportunity for cognitive engagement of the topic. Variety is an obvious aspect of dynamic teaching. This incorporates differentiation and recognition of multiple intelligences. Finally, teacher enthusiasm. If the teacher is enthusiastic about what they are teaching, students will be enthusiastic about learning it. It is catching.

To conclude, I believe that we cannot separate good learning from good teaching and the best environment for this is a dynamic one. The dynamism comes from the fact that relationships must be explored and developed between the learner, teacher, and knowledge/skill to be learned

**APPENDIX C*****Community of Inquiry Survey Instrument (draft v14)******Teaching Presence****Design & Organization*

1. The instructor clearly communicated important course topics.
2. The instructor clearly communicated important course goals.
3. The instructor provided clear instructions on how to participate in course learning activities.
4. The instructor clearly communicated important due dates/time frames for learning activities.

*Facilitation*

5. The instructor was helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.
6. The instructor was helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.
7. The instructor helped to keep course participants engaged and participating in productive dialogue.
8. The instructor helped keep the course participants on task in a way that helped me to learn.
9. The instructor encouraged course participants to explore new concepts in this course.
10. Instructor actions reinforced the development of a sense of community among course participants.

*Direct Instruction*

11. The instructor helped to focus discussion on relevant issues in a way that helped me to learn.
12. The instructor provided feedback that helped me understand my strengths and weaknesses.
13. The instructor provided feedback in a timely fashion.

***Social Presence****Affective expression*

14. Getting to know other course participants gave me a sense of belonging in the course.
15. I was able to form distinct impressions of some course participants.
16. Online or web-based communication is an excellent medium for social interaction.

*Open communication*

17. I felt comfortable conversing through the online medium.

18. I felt comfortable participating in the course discussions.

19. I felt comfortable interacting with other course participants.

*Group cohesion*

20. I felt comfortable disagreeing with other course participants while still maintaining a sense of trust.

21. I felt that my point of view was acknowledged by other course participants.

22. Online discussions help me to develop a sense of collaboration.

***Cognitive Presence****Triggering event*

23. Problems posed increased my interest in course issues.

24. Course activities piqued my curiosity.

25. I felt motivated to explore content related questions.

*Exploration*

26. I utilized a variety of information sources to explore problems posed in this course.

27. Brainstorming and finding relevant information helped me resolve content related questions.

28. Online discussions were valuable in helping me appreciate different perspectives.

*Integration*

29. Combining new information helped me answer questions raised in course activities.

30. Learning activities helped me construct explanations/solutions.

31. Reflection on course content and discussions helped me understand fundamental concepts in this class.

*Resolution*

32. I can describe ways to test and apply the knowledge created in this course.

33. I have developed solutions to course problems that can be applied in practice.

34. I can apply the knowledge created in this course to my work or other non-class related activities.

5 point Likert-type scale

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

Ben Arbaugh, et. al. (2008)

<https://coi.athabascau.ca/coi-model/coi-survey/>

**APPENDIX D****AURORA VIRTUAL SCHOOL  
STUDENT FEEDBACK SURVEY**

Hello. As you know, this is the first year that Aurora Virtual School has been able to deliver courses as an online school. Our goal is to provide our students with the best learning experience we can. We hope you will help us do that. Your opinion is important to us, so we would like you to take a few minutes to answer the questions in this survey. Please read the questions carefully and provide the best answer you can. If you do not understand the question, please ask your teacher for clarification. Your answers will be used to assist us in further refining our methods of designing and delivering courses to our students through the use of internet-based technologies. Thank you for your help. Please proceed to the survey questions.

To answer the questions, please use the following rating scale:

1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree

***A: My Teachers***

A-1

1. My teachers clearly communicate important course topics.
2. My teachers clearly communicate important course goals.
3. My teachers provided clear instructions on how to participate in course learning activities.
4. My teachers clearly communicate important due dates/time frames for learning activities.

A-2

5. My teachers are helpful in identifying areas of agreement and disagreement on course topics that helped me to learn.
6. My teachers are helpful in guiding the class towards understanding course topics in a way that helped me clarify my thinking.
7. My teachers try to keep the class engaged and participating in productive dialogue.
8. My teachers keep the class on task in ways that helped me to learn.
9. My teachers encourage us to explore new concepts in this course.
10. My teachers' actions reinforce the development of a sense of community among the class.

*A-3*

11. My teachers focus discussion on relevant issues in a way that helped me to learn.
12. My teachers provide feedback that helps me understand my strengths and weaknesses.
13. My teachers provided feedback in a timely fashion.

**B: My Class***B-1:*

14. Getting to know other classmates gives me a sense of belonging in the course.
15. I was able to form distinct impressions of some other participants.
16. Online or web-based communication is an excellent medium for social interaction.

*B-2*

17. I feel comfortable conversing through the online medium.
18. I feel comfortable participating in the class discussions.
19. I feel comfortable interacting with other classmates.

*B-3*

20. I feel comfortable disagreeing with other class members while still maintaining a sense of trust.
21. I feel that my point of view is acknowledged by other class members.
22. Online discussions help me to develop a sense of collaboration.

**C: What I'm Learning***C-1*

23. Problems posed increase my interest in course issues.
24. Course activities pique my curiosity.
25. I feel motivated to explore content related questions.

*C-2*

26. I utilize a variety of information sources to explore problems posed in my courses.
27. Brainstorming and finding relevant information help me resolve content related questions.



*28. Online discussions are valuable in helping me appreciate different perspectives.*

*C-3*

29. Combining new information helps me answer questions raised in course activities.

*30. Learning activities help me construct explanations/solutions.*

*31. Reflection on course content and discussions help me understand fundamental concepts in this class.*

*C-4*

32. I can describe ways to test and apply the knowledge created in my courses.

33. I have developed solutions to some course problems that can be applied in practice.

34. I can apply the knowledge created in my courses to other non-class related activities.