Impossible Chasm: Cognitive Connections in An Online Classroom

Rachel B. Birch

Technology has become a balm and a necessity for daily tasks. This evolution from physical interactions to virtual accomplishment has impacted every facet of life, including education. Online or virtual learning has increased in popularity and accessibility over the last decade and promises to make higher learning more available to anyone, anywhere. While online education increases accessibility, there are some disadvantages. In a physical classroom environment, classroom discussions tend to be more natural and fruitful because of physical non-verbal cues given by an instructor and peers. These physical signals are lost in an online classroom. Additionally, the lack of physical presence creates further hurdles for online instructors, in helping a student relate and connect to curriculum. These drawbacks of virtual learning can seem like an impassable chasm between instructors and students in pursuing a productive and affective learning environment. Fortunately, there are tools to remedy these built-in drawbacks. Online discussion boards can serve as a bridge to the learning chasm between instructors and students.

Traditionally, discussion boards are a facet of online learning that all online classrooms love to loath. Discussion boards can seem like a waste of time and a basic space filler for students' time commitments, and instructors, generally, dread scrolling through endless discussion boards. However, when utilized correctly, discussion boards can be fulfilling and the most direct way to truly connect with students and prompt expansionist thinking. In order to understand the role of discussion boards, it is important to identify the purpose of higher education and how teaching methods impact these goals of higher learning. Additionally, to

make discussion boards productive, this analysis will identify some challenges associated with discussion board tools, how instructors can proactively utilize discussion boards to achieve higher learning to match what students want in an education while also discussing an instructors' role in discussion board management through questioning methods, question types and creation of a productive environment or community.

The Purpose of Higher Education

Education is not a new thing. People have been obtaining knowledge through educational settings for generations, with formal higher education becoming an ever more accessible experience for many in society with advanced degrees becoming common place. With this increased educated populous, society is progressing at an amazing pace. This progression has identified the need for pedagogy to also evolve in order to more aptly fit with changing learning practices, needs and student demand.

History has shown us that convention dictated that to achieve a higher education a student would studying with an expert in a type of apprenticeship. This education would eventually lead into a trade or profession. Then, as the world broadened and developed, the lecture style of instruction in a physical classroom came into application. The professor would lecture curriculum to students in their prospective field, the students would learn and then move to a profession. Technology has further changed the method of learning and instruction to a conglomerate of lecture styles and the sharing of information and experiences digitally or virtually.

This new style of learning developed because of society demand and the development of new technologies. Our way of learning, communicating, and

disseminating information is different than it was ten or even five years ago. Technology

has completely altered the way we think, the way we socialize, the way we interact and

the way we perform executive functions.

> The Pew Internet and American Life Project (Madden & Jones, 2002) found
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> that twenty percent of today's college students were using computers by the
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> age of eight. Years later, these twenty-somethings are deeply dependent on all
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> aspects of the computer, the internet, and their communicative potential. This
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> has helped change the way students learn and the way they experience
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> university life. They view the internet as a functional tool, especially for
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> information seeking and communications that utilize computers.[1]

Twenty percent of college age students had access and were using digital devices by

eight years old. The number of students accessing digital devices at early childhood

development has increased exponentially in the last 20 years. This data of immersive

digital experiences is significant because, as early as eight-years-old, brain

development is starting to super-charge. This pre-pubescent stage is where hormonal

secretions are beginning to create permanent and lasting neurological pathways

relating to social interactions, learning and executive functionality. "In their

technoliterate world, and in classroom learning situations, today's students thrive on

the interconnected utility of technology, creativity, social interaction and connections

with community (Nichols, 2007) as they are actively engaged in what has been

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[1] Lorraine F. Normore. Blaylock, Brandy N. "Effects of Communication Medium on Class
Participation: Comparing Face-to-Face and Discussion Board Communication Rates." *Journal of
Education for Library and Information Science*, Vol. 52, No. 3 (Summer) July 2011. 202.

described as a participatory culture (Jenkins, Clinton, Purushotma, Robison & Weigel, 2006)."[2]

This interconnected digital lifestyle is how society increasingly executes daily actions such as reading, socializing, commerce, household functionality. Through this increased digital lifestyle, our neurological patterns of executing and digesting information have changed the way our brain processes information. Contemporary neurological connections is proving that teaching methodology needs to evolve in order to incorporate meaningful online interactions to accommodate the changing learning syntaxis.

The realization of the evolution of thought and brain pattern leads us to the next logical step of devising and utilizing methods in which online learning and interactions can have an open method of idea exchange, broadening thinking patterns and increased understanding. Synchronous meetings (especially large ones), in the virtual setting, remain useful and can stimulate discussion but can be hard to navigate and understand who is talking and sharing. These types of meetings are useful to get information out to the students (like a lecture) but less applicatory in deep learning that can more likely occur in a discussion board type assignment.

To achieve information dissemination while including a discussion element, the thoughtful and purposeful application of discussion boards is critical. This tool not only

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[2] Edwards-Groves, Christine, "Interactive Creative Technologies: Changing learning practices and pedagogies in the writing classroom." Australian Journal of Language and Literacy, Vol. 35, No. 1, 2012, pp. 99–100.

simulates knowledge transmission, but also encourages students to acquire knowledge from peers with different life experiences. A properly utilized discussion board can provide a safe environment for the free sharing of ideas while also allowing individuals, including those who may be shy or agoraphobic in a traditional classroom, an opportunity to share.

However, a major flaw in this type of learning is that such "crowd sourcing" can be a valuable resource for fake news or inaccurate information. This is where an instructor comes in and can guide the crowd sourcing to achieve correct understanding, information processing and deep learning. Instructors not only need to evaluate teaching methodology but also curriculum reception in the digital environment and needed changes in format. Virtual learning and teaching requires tweaking traditional methods of classroom discussion for maximum student retention.

Teaching Method Comparison

Chart 1 demonstrates that, in a lecture style of learning, information is pushed out and the knowledge is digested, and then assessed in a passive-participation method thus achieving a surface or transactional knowledge foundation.

Chart 1

Table 1: Traditional Lecture Vs. Asynchronous Discussion Board Instruction

Traditional Lecture-based Instruction	Asynchronous Discussion Board Instruction
Teacher Domination - authoritative - knowledge transmission - linear	*Learner-centeredness* - self-directed - self-motivated - inquisitive - innovative - more analytical and critical
Teacher's Role - deliverer of content	*Teacher's Role* - facilitator of learning
Knowledge Construction - hierarchical knowledge (from instructor to students) - facts and information-based - tests, practices, & learning are detached from social contexts - teacher role-modeling appropriate learning behavior - quiet, concentrated, reflective analytic activity - passive learning is encouraged	*Knowledge Construction* - Social & interactive learning - Nonhierarchical - Demands the use of individuals' skills, knowledge & perspectives - Different types of knowledge: individual, distributed, dispersed - Learning is an active process - Students learn skills, strategies, knowledge, values, and practices within contexts of learning - Skills & knowledge are gained through efforts, practice, & experience - Learning is fun
Kinds of Social Relation - competitive - face-to-face - hierarchical (instructor first, then bright students, then others) - reliance on visual, proxemic, and verbal cues	*Kinds of Social Relation* - dialogue - anonymity - facilitates taking multiple identities - equality and democracy - multiple ways of engaging with others - power sharing - multiple simultaneous participations
Participatory Structure - instructors transfer knowledge - students learn from instructors - less social interaction - passive participation (students may choose not to ask and/or answer questions)	*Participatory Structure* - flexibility (about how and when to participate) - creativity - mobility across spaces - social interaction is required - share the same space, may engage in different roles

Chart 1[3] demonstrates a possible comparison of the lecture vs discussion board format.

While this traditional lecture style method may have worked in the past through the cultivation of a more passive learning environment with a focus on eventual experience,

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[3] L. Ajayi. "An Exploration of Pre-Service Teachers' Perceptions of Learning to Teach while Using Asynchronous Discussion Board. Educational Technology & Society."
Journal of Educational Technology & Society. Palmerston North. 2009. 12 (2). 88.

contemporary students are being taught, from an early age, to be digitally interactive in a classroom environment to gain knowledge while experiencing independently. This is change in student learning denotes the necessity of the need to develop classroom platforms and curriculum that provide knowledge through experiential based digital interactions. Well facilitated discussion boards are a method to encourage knowledge acquisition through online experiences in that students learns the required information, through an interactive experience to internalize details to achieve application in a daily lifestyle and ultimately higher learning.

Discussion Boards Challenges

Regardless of learning management systems, discussion boards can be challenging for both the teacher to facilitate and for the students to navigate. No one likes to check, engage or track this process. Discussion boards tend to be one of the things in online curriculums where minimal effort is expended.

From student perspective, discussion board assignments are usually brief time requirements that minimally requires a few comments or response and then can focus on more time intensive assignments. For many instructors, discussion boards are an even easier pass: "Eh, let them fight it out. I'll poke in occasionally." However, because contemporary students have extensive digital interactions experience, learning styles and cognitive connections revolve around this digital environment. Many instructors are missing out on the opportunity to interact and connect with students in the discussion board space of where learner comfortability and reception is at peak compilation.

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Preparing a meaningful lecture is challenging and intensive for an instructor, but new students tend to easily tune out traditional educational inlets. Instructors don't need to be entertaining, but "rather than teacher-authority, teacher domination, and knowledge transmission that characterize lecture-based approach to teaching, the use of technology facilitates critical learning, distributed knowledge, inquisition, discovery, and creativity for learners."[4] The creative use and facilitation of technology aids an educator in speaking the learners' language.

Students are used to an environment where they learn through discussion and filtering resources, and a live lecture is not always possible because of competing schedules, demands and time zones, asynchronous tools are the needed tool to engage and connect instructors with learners. Utilizing technology is like having an asynchronous lecture, but instead of throwing knowledge out to the internet and hope someone is there to catch it, an instructor's guided discussion board conversation provides opportunities for students to approach the curriculum in their own language, speed and time.

In this new setting, an instructor's mindset needs to change direction and time prioritization from information outlet to information facilitator. The effort expending into this directive methodology will spill over to students' prioritization of actually spending quality time in the discussion board and making it a useful learning activity. However, this tool's potential high value must generate from the ability and capability of

[4] Ajayi, L. "An Exploration of Pre-Service Teachers' Perceptions of Learning to Teach while Using Asynchronous Discussion Board. Educational Technology & Society." *Journal of Educational Technology & Society. Palmerston North*. 2009. 12 (2). 86.

instructors. Through discussion boards we have the ability to help broaden ideas and push the intellectual boundaries of participating members, but only if the initial effort is extended by an instructor/facilitator. Creating a positive, productive discussion board environment will help students achieve manifold neural connectivity while giving maximum information and content retention.

Higher Learning/Teaching

This progression of teaching and learning first requires a change in the relationship between an instructor and learner. The loss of face-to-face contact in the conventional classroom changes the central learning dynamic. We must change our train of thought from effective (or interaction with a student) to affective (reaching or relating to a student). Online instructors, specifically, have to find new ways to express emotion or passion for the subject matter when communicating ideas virtually. Consequently, online learning leads to the asynchronous discussion forum as the primary mode of being affectively interactive.

Being affective without a physical presence can seem like playing charades with your hands tied behind your back. Instructors need to be persuasive through words, and not rely on mannerisms, excitement, or tonal inflections. Tone of voice, body language, and spontaneous classroom questions help clarify concepts in the traditional setting, but all of these aspects are lost in an asynchronous learning environment.

This idea of instruction without mannerisms was demonstrated to me as observing a class of students being asked to write directions on how to make a peanut butter sandwich for someone who had never seen or tasted a peanut butter sandwich. Initially,

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the assignment seemed silly to the students. However, it was soon discovered, after trying to follow the directions exactly as written by our colleagues, our sandwiches turned out to be…not sandwiches, but messes of peanut butter, jam and sometimes bread. The same mess can occur in online learning communications. Instructors can write curriculum, can lecture the curriculum, but because of the lack of visual cues and physical presence much of the information application and participatory presence is lost thus it is necessary for an instructor to find ways to become build more cognitively complex learning through digital tools rather than physical presence. The discussion board can be this compelling affective method for students to participate, devour and internalize the curriculum.
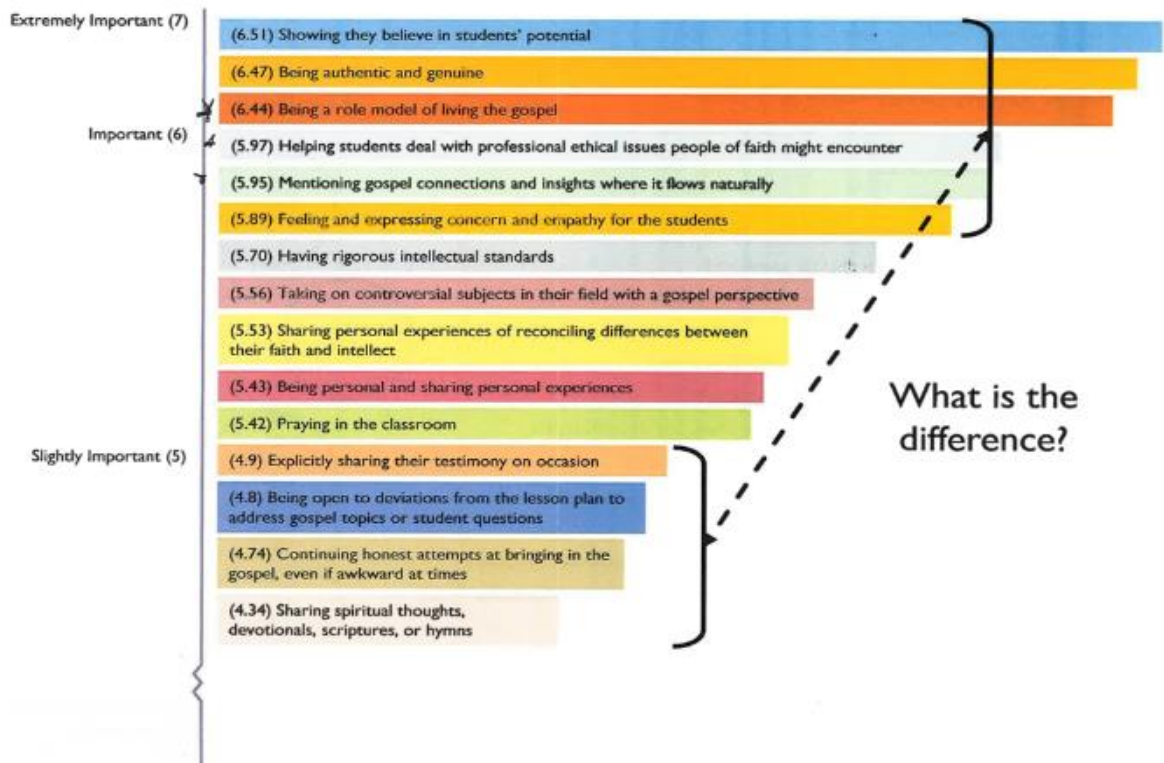
Online instructor's managerial role needs to change from classroom administrator providing course management to information facilitator providing meaningful online discussion. This facilitator role entails directing more attention to information sharing and better communicate the details within the course through more precision, better clarity and cleaner organization while setting high assignment expectations.

What Students Want

Every industry must produce what consumers want or will inevitably fail. In higher education, students are the consumer, while instructors are the producers of the wanted good and service. To some extent, universities and instructors need to respond to the consumers demand. What do the students really want? In 2016, the Faculty Center at

Brigham Young University-Provo did a study of students' wants and needs of an instructor.   Chart 2 displays the results from the 2016 survey.[5]

Chart 2

Rating	Item
Extremely Important (7)	(6.51) Showing they believe in students' potential
	(6.47) Being authentic and genuine
	(6.44) Being a role model of living the gospel
Important (6)	(5.97) Helping students deal with professional ethical issues people of faith might encounter
	(5.95) Mentioning gospel connections and insights where it flows naturally
	(5.89) Feeling and expressing concern and empathy for the students
	(5.70) Having rigorous intellectual standards
	(5.56) Taking on controversial subjects in their field with a gospel perspective
	(5.53) Sharing personal experiences of reconciling differences between their faith and intellect
	(5.43) Being personal and sharing personal experiences
	(5.42) Praying in the classroom
Slightly Important (5)	(4.9) Explicitly sharing their testimony on occasion
	(4.8) Being open to deviations from the lesson plan to address gospel topics or student questions
	(4.74) Continuing honest attempts at bringing in the gospel, even if awkward at times
	(4.34) Sharing spiritual thoughts, devotionals, scriptures, or hymns

What is the difference?

The results of this study are fascinating because the students display more of a need of being "seen" by their instructor than being enriched through knowledge. Or, in other words, being affected by their instructor's presence rather than being an effect of the teaching method. Students are exceptionally perceptive to a giver's authenticity, especially when engaging through a digital platform. Most students have had limitless knowledge at their fingertips from an early age and know how to gain information independently and have learned how to sense the authenticity of intent in information

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[5] Wilkins, Alan; Birch, Jane. BYU Faculty Center. (2006) "Spiritually Strengthening and Intellectually Enlarging Professors: Three Questions Students Ask."

presentation. Authenticity is directly tied to an instructor's dedication, passion and

willingness to make personal connections in portraying genuine interest in student

success. Bringing authenticity to the classroom leads us to another important question:

how can instructors be affective (or authentic) while maintaining a professional balance

with students in asynchronous discussion boards?

Instructor's Role

Establishing a firm instructional role in a discussion board is vital because it sets

the tone of high learning expectation. There are various instructional roles with positive

and negative attributes. The instructor's role in an asynchronous discussion forum tend to

take one of three variations, which have been labeled by Mazzolini and Maddison as:

1. Sage on the Stage,

2. Ghost in the Wings, or

3. Guide on the Side.[6]

Sage on the Stage[7]

An instructor in this category tends to post rarely and carefully. Their motivation

for lack of posting may stem from not wanting to be over-intrusive in the discussion

board; in the belief that students view the discussion board as an assessment tool, rather

than a means of discussion or information sharing. This instructor views discussion

board instructor participation as an intervention that stops peer-to-peer conversations-thus

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[6] M. Mazzolini, & S. Maddison. "Sage, guide or ghost? The effect of instructor intervention on student participation in online discussion forums." *Computers & Education.* 40. 2003. 238.

[7] Ibid.

falsely assuming that instructor intervention will curb the discussion. Any posting from this instructor is usually to initiate administrative. The instructor respects student interactions but fails to further knowledge or understanding in the curriculum.

Ghost in the Wings[8]

This instructor is invisible in the discussion board and hovers outside-hoping for the best. Additionally, this instructor trusts in the curriculum and student dedication but does not interact with students.

Guide on the Side[9]

This instructor interacts in the discussion board often by asking good questions, motivates positive thought processes, connects different students' thoughts, and applauds good idea connections. Additionally, the instructor makes connections to the students while enhancing curriculum information.

Of these three roles, the main driving factor in determining instruction type is the actual purpose of the discussion board assignment. Is it a place to share work samples or as a place for classroom discussion and the sharing of ideas? If the discussion board is just a place for students to share assignment drafts, then yes, "Sage on the Stage" or "Ghost in the Wings" is a relevant and typically easy role for the instructor to take. However, if the goal of the discussion board is to enhance discussion and learning connections, "Guide on the Side" will improve the success of the assignment's intent.

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[8] M. Mazzolini, & S. Maddison. "Sage, guide or ghost? The effect of instructor intervention on student participation in online discussion forums." *Computers & Education.* 40. 2003. 252.
[9] Ibid. 238.

The role of "Guide on the Side" does take more time and effort from the instructor, because it requires instructors to guide the discussion through the creation of complex "why" questions instead of transactional questions that have quick or definitive answers. Transactional questions are linear and have an expected outcome; whereas "why" questions tie into an affective learning conversation that help students internalize the information being expressed. The students' internalization is happening during these "why" conversations because instructors are initiating a feeling of mutual trust of 'why' these discussed principles are important.

Some examples of these types of affective discussions would include "asking a learner what to do in a situation rather than what they thought of a situation [which in turn] generate[s a] complex interaction."[10] As the student identifies with the curriculum, they will more readily have that "ah hah" moment of meaningful cognitive connection where that proffered element of instructor trust comes full circle.

Admittedly as this discussion board analysis began, my preconceptions were that the instructor/facilitators would always need to be in discussion boards more. However, the literature and data reveal that more participation is not always better. There needs to be an instructor posting and responding but posting in *quality* not *quantity*. In one study, by the School of Criminology, an assessment of courses was made based on various success factors and outcomes. The School of Criminology found that instructor discussion board participation actually lowered the percentage of student participation but

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[10] Martin A. Andresen. "Asynchronous discussion forums: success factors, outcomes, assessments, and limitations." *Educational Technology & Society*. January 2009. 251.

raised the quality of the conversation.[11] The key in the successful discussion board outcomes were tied to finding the balance of quality instructor participation while encouraging student participation.

Once that quality/quantity discussion board participation balance is achieved, student participation may not seem as high because instructors stop incorrect trains of thought threads while redirecting to more applicatory and fruitful conversations. In turn, student cognitive connections increase because students perceive a greater amount of enthusiasm and interest from instructors, so the students feel more vested in the educational process and are more willing to participate while internalizing curriculum. This instructor/student satisfaction is doubly beneficial because the university achieves its purpose and goals of creating a positive educational environment and the students (the consumers) are more satisfied with the University and the instructor.[12] As the students satisfaction increases, throughout the semester and educational career, the level of comfort will also increase which allows the student to risk ideas and thought exploration through the discussion board.

Instructional methods of interaction in the Discussion Board

While applying best practice instructor presence in a discussion board, an online instructor must account for the loss of body language and voice inflection to emphasize important information. An instructor needs to apply various questioning methods in an

11 Martin A. Andresen. "Asynchronous discussion forums: success factors, outcomes, assessments, and limitations." *Educational Technology & Society*. January 2009. 249-257.

12 Mazzolini, M., & Maddison, S. "When to jump in: the role of the instructor in online discussion forums." Computers and Education. 2007. Vol.49 (2). 193-213.

asynchronous discussion board to create a welcoming and engaging environment. There are four general methods of discussion board facilitation that are important to identify and utilize in finding a balance of functionality and affective teaching.

1. **Administrative**[13]-This portion of the discussion board includes posting prompts, clarifying deadlines, scheduling and technical support *etc*. which would be considered functionality interactions.

2. **Informative**[14]-This category falls under the traditional mindset of the purpose of a discussion board, where an instructor can provide feedback, provide additional resources, clarification to curriculum, coaching, issuing direct information or other transactional type questions (*e.g.* a+b=c). This would also be considered functional participation.

3. **Affective**[15]- This category includes sharing instructor excitement and enthusiasm and sharing experiences to create an emotional and social connection with students. This can be a challenging category for most instructors. It pushes the boundaries of traditional thought of instructor/student relations. The benefits outweigh the negatives as an instructor invests personal ideas while risking personal, a student will remunerate and equally invest in the course. This would be considered part of affective teaching.

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[13] Thomas. J. Brush; Kale, Ugur; Saye, John. "Assisting Teachers' Thinking and Participation Online." *Educational Computing Research*. Vol. 41(3) 2009. 294.
[14] Ibid.
[15] Ibid.

4. **Exploration**[16]**-**For an instructor, this includes creating an environment where students feel comfortable exploring the curriculum while reflecting on new ideas and theories applied. This is where an instructor's role is vital in knowledge construction. A quality learning atmosphere driven by complex questions will direct and help a student reflect. This is at the height of affective teaching in that the instructor is helping the student explore ideas that could potentially expand the way they think about a topic.

Questioning Methods

While identifying a balance of positive interactions, another element to consider is the type of questions an instructor is posing.

Directive questioning applies both affective and explorative methods of interactions. This type of questioning takes transactional questions from surface knowledge to a step deeper in the learning process. An example of directive questioning would be asking how students apply a specific curriculum principle to their own lives and how this principle changes their perspective. This directive questioning method isn't hard to achieve and, though not always possible, causes students' thinking patterns to divert and brains firing in different ways. This push for students to think differently helps learners create a new, deeper level of thinking that creates more complex interactions in peer discussion board conversation interactions.

Reflective questioning also utilizing affective and explorative methods. This form of questioning causes students to reflect on how course information applies to them

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[16] Thomas. J. Brush; Kale, Ugur; Saye, John. "Assisting Teachers' Thinking and Participation Online." *Educational Computing Research*. Vol. 41(3) 2009. 306.

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personally. This reflection and application are then intertwined in discussion board

responses. Whether directive or reflective, the goal is to (mostly) try and avoid

transactional type questions that have an answer before the thought process even begins.

An example of a transactional question would be "Who were the American Colonists

declaring independence from in the American Revolutionary War? The British." In these

questions, there is a direct/correct answer which does not lead to self-reflection,

application or change. Granted, there is a time and place for transactional questions; but

over-utilization (just like quotations) cannot lead to higher learning practices. Using the

Revolutionary War question example but altering it to be a reflective question, an

example could be, "While the American Colonies won the war, what principles aided in

their victory and how could this be applied to obstacles in your life?" This line of

questioning helps the students refer to the principles learned in the course but also has life

application, thus achieving directive questioning and personal reflection.

The combination of Directive and Reflective questioning encourages thought

process to change from 'what is' to 'what could be'-and this is when the deeper thought

exploration and coinciding change occurs in brain pathways. These are the 'Ah hah'

moments, that can allow an instructor to change students' thought processes and patterns

to look beyond what they know or are comfortable with. In addition to thoughtful

questioning methods there are other attributes that aid in a successful discussion board.

While an instructor's role and questioning methods are vital, the final elements of the

types of assignments required in the curriculum and the discussion board's actual

environment also need to be included in an instructor's formula for deep learning.

Questions in an Assignment

While positive instructor roles and questioning methods are imperative to affective teaching, the creation of meaningful questions can be the trickiest part of instructor's course management. An instructor needs to determine if assignment questions are transactional or motivated by surface knowledge, or if the questions are trying to achieve a reflective to directive mindset where deeper critical thinking can be achieved.

Transactional Questions

While Transactional questions will easily reach the goal of transactional answers and knowledge, these type of assignments and questions will not achieve the goal of higher thinking or be conducive to extensive discussion board interactions. This is not to say that all transactional assignments and questions are bad, but there is a need for moderation in all things, and our input must match our desired outcome. 'Read this and answer this.' If the course and assignment goal is to achieve a base knowledge of a topic, then the assignments should reflect these goals, but multiple-choice exams are going to achieve only transactional knowledge.

Only through meaningful discussions and challenging assignments can a higher level of thinking be achieved. Discussion boards can be the perfect tool for higher learning and transactional questions can be used as a springboard for more reflective and exploratory thought processes, but the overall danger of transactional questions is that students will participate only at the bare minimum required regardless of the skill of the moderator. Transactional questions and assignments will result in discussion boards "soon becom[ing[boring, and allow much of the

learning content to be focused on responding to teacher-initiated items, rather than challenging students to formulate their own questions and comments about course content."[17]

When reformatting discussion boards, evaluate the goals of a course. If the overall goal of the course is information dissemination and the regurgitation of facts, discussion boards will not be additive to the course goals and multiple-choice questions may be the way to achieve course objectives. However, if the course is trying to achieve a higher thinking structure, format questions within a discussion board that will accomplish the goals of the course through pushing students to reach beyond what they are currently comfortable thinking about. In the Higher Education field, most courses want students to learn information but also develop the ability to become inquisitive and cynical of facts given them. Instructors want students to dig. Transactional assignments are a good start, but educators must push students to move beyond this traditional pattern of learning and instant easy assessment. Instructors need to try and achieve higher thinking through pushing curriculum standards and design to set an expectation of deeper learning.

While crafting reflective/directive discussion board questions may take more time in the creation phase than transactional questions, the additional work will pay off in the facilitation phase. As instructors participate in the discussion board, the discussion board facilitation becomes interesting and enjoyable because students' engagement moves from a surface level of transactional knowledge to a deeper intellectual involvement. Through this increased sharing from the instructor and nudging to student participants, students

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[17] Selma Vonderwell; Zachariah, Sajit. "Factors that Influence Participation In Online Learning." *Journal of Research on Technology in Education*. 2005. Vol.38 (2). 224.

begin to share with peers, connect, open perspectives and expand their social interactions. Real change. Deep Learning.

<u>Discussion Board Environment</u>

A final part of a course that is sometimes overlooked when considering the utilization of Discussion Boards is the course environment or instructor established 'Community.' This puzzle piece often dictates posting activity and student investment. The question of how to create a virtual community without being physically together has become an important and interesting concern.

Anyone can relate to a workplace environment where you just aren't comfortable with your coworkers. Your desire to be productive is low. A discussion board environment has similar social implications. By definition, a successful community is a group of single individuals working towards a common(ish) goal. To be productive in any community, people need to be comfortable. An instructor creates or establishes this environment for good or bad. Because online instruction does not allow personal inflections or mannerisms to influence a session, other avenues have to be creatively utilized. Through positive personality insights, openness, and humor, welcoming environments can be created.

For example, social media is a given in any student's life. This relationship can be easily explained by instructor's personal habits. Why do people check Facebook? Or Instagram? People want to see what's going on because they have a stake or a drive in what is happening with people they know or with colleagues they work with. Simple tools such as asking students to post a "meme" that summarizes an idea from the curriculum will help create a parallel identification for the student (and add some much

needed humor in the classroom setting). Creative digital tools create a draw for students

to actively participate in the discussion board but will also help the instructor connect to

students through a shared experience. Activities such as the suggested "meme

assignment" may seem trivial, but studies have shown that our brains thrive and grow on

this social connection or positive "likes" on our own ideas. The social connections

naturally direct brain cells towards the area of the brain that make cognitive

connections.[18] This social connectivity method directs progression towards idea

connection. "[S]uperficial exchanges with online socialization and information

exchange…can progress to joint knowledge construction and development as group

interactivity increases."[19] These innate exchanges and connections help achieve deep

learning because the student is making multiple neural connections through the avenues

in their brain that processes social, emotional, intellectual and spiritual experiences.[20]

When you have a stake in a conversation you are going to pay more attention and

participate more actively.

"Considering the social nature of human beings and their patterns of

interaction, social constructivism is conceptualized here as the way various interactions

with student-produced content can lead to more cognitively complex discourse in CSCL

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[18] Kyungmee Lee; Makos, Alexandra; Zingaro, Daniel. "Examining the characteristics of student postings that are liked and linked in a CSCL environment." *British Journal of Educational Technology*. Vol. 46, Issue 6. Nov 2015. 1281-1294.

[19] L. Clouder; Dalley, J.; Hargreaves, J.; Parkes, S.; Sellars, J.; Toms, J. "Electronic [re]constitution of groups: group dynamics from face-to-face to an online setting." *International Journal of Computer-Supported Collaborative Learning*. Vol. 1 Issue 4. Dec2006. 469.

[20] Servet Celik. "Unspoken social dynamics in an online discussion group: the disconnect between attitudes and overt behavior of English language teaching graduate students." *Educational Technology Research and Development*. Vol. 61, No. 4 (August 2013), pp. 665-683.

[Computer Supported Collaborative Learning] environments."[21] In an online learning environment, these social and cerebral connections have students internalizing curriculum to apply to their own lives and professions, thus causing deeper, meaningful conversations that achieve the goal of a higher level of thinking. That is the goal! Online instructors have a significant if not key influence in moving students from cursory online interactions to advanced levels of cognitive connection thus reaching higher thinking (and learning) in online courses.

Conclusion

Many facets are important in a productive online classroom. However, increased instructor presence is not the comprehensive solution.   Affective instructor interactions cannot be measured by numbers or statistics of posts but must be evaluated by the actual interaction between the instructor and the student(s). A classroom will be most effective and affective when an Instructor's Role is added to quality Questioning Methodology and better online classroom environments.

Online instructors cannot be passive facilitators in information dissemination. An online instructor needs to be a 'guide on the side,' helping students learn stated curriculum while helping with information application. This role of 'guide on the side' is directly integrated with the type of questioning methodology applied. Instructors' administrative and informative posts have an important place in an online classroom, to reach clarity and organization, but should not dominate discussion board spaces. 'Guide

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[21] Lee, Kyungmee; Makos, Alexandra; Zingaro, Daniel. "Examining the characteristics of student postings that are liked and linked in a CSCL environment." *British Journal of Educational Technology.* Vol. 46, Issue 6. Nov 2015. 1285-1286.

on the Side' instructors will be actively participating in discussion boards utilizing affective and explorative questioning leading to directive and reflective questions and answers. This active process includes both students and instructors in the process of higher learning and cognitive application.

Additionally, the actual course design can boost instructors' affective abilities by designing assignment structures away from simple transactional interactions to reflective and directive formats. This design process may be as simple as changing the phraseology of a question to more intense methods of changing the structure and purpose of an assignment.

This more deliberate change in educating and being educated is possible but will take time. This transformation of the educational system may seem daunting, but the resulting dividend will be two-fold. Instructors will have higher job satisfaction because discussion boards and teaching interactions are interesting and engaging, and students will gain and achieve higher thinking patterns. This newly created online environment will be ripe for cognitively complex connections which will help students formulate good thinking practices and life-long learning skills to aid in better solutions and problem solving.

<u>Bibliography</u>

Ajayi, L. "An Exploration of Pre-Service Teachers' Perceptions of Learning to Teach while Using Asynchronous Discussion Board. Educational Technology & Society." *Journal of Educational Technology & Society. Palmerston North*. 2009. 12 (2). 86–100.

Ajayi, Lasisi.
"How Asynchronous Discussion Boards Mediate Learning LiteracyMethods Courses to Enrich A lternative-Licensed Teachers' Learning Experiences." *Journal of Research on Technology in Education.* Fall 2010. Vol. 43 Issue 1. 1-28.

Andresen, Martin A. "Asynchronous discussion forums: success factors, outcomes, assessments, and limitations." *Educational Technology & Society*. January 2009. 249-257.

Brush, Thomas. J.; Kale, Ugur; Saye, John. Thomas. J. Brush; Kale, Ugur; Saye, John. "Assisting Teachers' Thinking and Participation Online." *Educational Computing Research*. Vol. 41(3) 2009. 287-317.

Celik, Servet. "Unspoken social dynamics in an online discussion group: the disconnect between attitudes and overt behavior of English language teaching graduate students." *Educational Technology Research and Development.* Vol. 61, No. 4. August 2013. 665-683.

Clouder, L., Dalley, J., Hargreaves, J., Parkes, S., Sellars, J., & Toms, J. "Electronic [re]constitution of groups: group dynamics from face-to-face to an online setting." *International Journal of Computer-Supported Collaborative Learning.* Vol. 1 Issue 4. Dec2006. 467-480.

Edwards-Groves, Christine, "Interactive Creative Technologies: Changing learning practices and pedagogies in the writing classroom." *Australian Journal of Language and Literacy*. Vol. 35, No. 1. 2012. 99–113.

Lee, Kyungmee; Makos, Alexandra; Zingaro, Daniel. "Examining the characteristics of student postings that are liked and linked in a CSCL environment." *British Journal of Educational Technology.* Vol. 46, Issue 6. Nov 2015. 1281-1294.

Mazzolini, M., & Maddison, S. "Sage, guide or ghost? The effect of instructor intervention on student participation in online discussion forums." *Computers & Education.* 40. 2003. 238-253.

Mazzolini, M., & Maddison, S. "When to jump in: the role of the instructor in online discussion forums." *Computers and Education.* Vol.49 (2). 2007. 193-213.

Normore, Lorraine F.; Blaylock, Brandy N. "Effects of Communication Medium on Class Participation: Comparing Face-to-Face and Discussion Board Communication Rates." *Journal of Education for Library and Information Science.* Vol. 52, No. 3. Summer July 2011. 198-211.

Vonderwell, Selma; Zachariah, Sajit. "Factors that Influence Participation In Online Learning." *Journal of Research on Technology in Education*. 2005. Vol.38 (2). 213-230.

Wilkins, Alan; Birch, Jane. "Spiritually Strengthening and Intellectually Enlarging Professors: Three Questions Students Ask." *BYU Faculty Center Report*. 2006.

Wu, D., & Hiltz, S. R. "Predicting learning from asynchronous online discussions." *Journal of Asynchronous Learning Networks*. 8(2). 2004. 139.