

Fostering Affective Growth: Human Interaction in Online Higher Education

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Abstract

This study delves into the realm of human interaction within online education, assessing its impact on the affective growth among higher education students. Through a mixed-methods survey involving 23 participations representing 13 nations, various modes of interaction in an online course were compared for their influence on affective development. The course was structured around real-time lectures, supplemented by cohort meetings, text messages, email correspondence, and other communication channels. Results of the study demonstrated that weekly cohort meetings emerged as the highest-rated interaction for fostering affective growth. The qualitative section of the survey corroborated these findings, underscoring the pivotal role of cohort meetings in enhancing student engagement and motivation. These outcomes shed light on the significance of regular, faculty-led, small group interactions in the realm of distance education, providing valuable insights for educators aiming to address the affective dimensions of student learning.

Keywords: Affective Growth, Online Education, Human Interaction, Distance Education, Higher Education, Student Engagement, Non-Formal Education, Cohort

Introduction

Online courses have been growing in popularity over the past 20 years. During the response to the COVID-19 pandemic, online courses saturated the globe. Educators around the world were forced to begin learning the mechanics of distance education. Many studies have been conducted on the impact and efficacy of distance education through online studies. A glimpse of this can be seen in Li's 2023 gathering and review of more than 240 studies written up between 2017 and 2022. The studies are helpful for colleges and institutions who want to continue offering courses online and searching for the best pedagogical method to deliver their education (Kyei-Blankson et al., 2019).

As enrollment in online courses continues to rise (Coffey, 2023; Weissman, 2023), research shows that online instructors have room to grow in understanding what might be needed to ensure student satisfaction and high-quality learning experiences in their courses (CHLOE 8, 2023). The interconnected aspects of "engagement" and "presence" have shown positive

correlation with student evaluation of their online learning experiences (Annand, 2011; Richardson & Swan, 2003).

Benjamin Bloom (1956) is known for clarifying the three domains of learning: first, cognitive or mental; second, affective or attitudes and emotions; third, skill or psycho-motor. This article focuses on the affective realm. Bloom described the affective realm as having objectives that include "interest, attitudes, and values." Further development of Bloom's educational taxonomy (Krathwohl et al., 1973) described the affective sphere as the manner in which a student deals with the course content emotionally. This includes such areas as feelings, values, appreciation, enthusiasms, motivations, and attitudes. These areas are more naturally impacted through faculty-to-student interaction in normal face-to-face classes. So, for distance learning, how do teachers impact the affective realm? Addressing this is a challenge for educators because avenues for interaction are less natural and less frequent in distance education. Human interaction with the goal of affective growth must be intentionally implemented into course design. Toward that end, this project evaluated aspects of human interaction in an online course to determine which brought about the most affective growth. Garrison (2007) pointed out that a learning community is a key to educational growth. This learning community (known as a Community of Inquiry, or CoI) takes place when there are three forms of "presence" - teaching presence, cognitive presence, and social presence. Teaching presence involves the course design, facilitation, and instruction. Cognitive presence involves discussion, exploration, and resolution of course content. Social presence involves emotional support, group cohesion, and purposeful relationships. Garrison found that applying these concepts to asynchronous educational situations was "not a trivial challenge." However, modern video conferencing is now readily available. For the course this project surveyed, synchronous connections were the norm in cohort meetings, one-on-one meetings, and breakout rooms. Achieving vibrant communities of inquiry which facilitate teaching presence, cognitive presence, and social presence is far easier to achieve than it was 20 years ago when text-based interactions were the norm.

Leslie (2019) encouraged the "Trifecta of Student Engagement" as a key for successful online courses. She writes, "The Trifecta of Student Engagement proposes that students, in order to be fully engaged in a course, need to be engaged with their course content, with their peers and with their instructor." These three fields of interaction can be described as student-faculty interaction, student-student interaction, and student-content interaction. For this study, these interactive elements took place through the evaluated aspects in the survey, however they were most notably combined in equal measure during the faculty-led cohort meetings.

Pedagogical Framework

Bloom's (1956) taxonomy of educational objectives provides the initial theory that informs this project. Bloom separated the cognitive, affective, and psychomotor domains in education. The taxonomy is foundational as this project will focus on the affective domain. This study compares the affective impact from various aspects of human interaction in an online course.

The second theory informing this project is based on Moore's (1989) work analyzing optimal interactive elements in distance education. He theorized that the optimal learning environment for a distance learner includes student-content interaction, student-teacher interaction, and student-student interaction. When he first proposed this framework the student-teacher and student-student interactive elements were far more difficult to achieve

than today. These interactions can now be easily and inexpensively facilitated through learning management systems, video conferencing software, email, and text messages.

Leslie (2019) has helpfully coined the term “Trifecta of Student Engagement” based on Moore’s earlier work. This theory relies on the above elements of human interaction as foundational for student growth. For students to be fully engaged in a course, the course needs to provide interactive aspects with other students, with the course instructor, and with course content. The combination of reciprocity between the “teacher,” other “students” and “content” form the Trifecta of Student Engagement. This study compares the affective impact when these elements were either partially or totally combined in the course.

Moore (2018) further developed his work by describing the Theory of Transactional Distance which calls for reducing “transactional distance” between teachers and students involved in distance education. A course that has less structure in a non-formal setting allows for more student-student and student-faculty dialogue. This reduced transactional distance allows for increased human interaction and dialogue which offers the student more individualized feedback and encouragement. The result is increased learning engagement which aids in attaining learning outcomes.

Another foundational study is the Community of Inquiry framework (Garrison et al., 1999) which calls for teacher presence, cognitive presence, and social presence. Including these three forms of “presence” creates an optimal environment for a student’s growth. This is because they combine to form a sense of “community” for online learners that stimulates educational growth. Teacher presence includes the instructor’s lectures, feedback, and interactions with the students. Cognitive presence involves the student’s understanding of course material and processing that content adequately for assignments. Social presence is a student’s communication to faculty and fellow students in ways that make them feel a valid member of the course. A student engaged in distant education will have the best educational experience when all three aspects of presence are active because they will feel they are part of a learning community. The course discussed in this article provided a variety of means for teacher presence, cognitive presence, and social presence, however, the most balanced combination of all three took place in the weekly, faculty-led cohort meetings.

A final framework that informed this study was the view that education is delivered in three modes: formal, non-formal, and informal (Council of Europe, 2023). Education is usually delivered in the formal setting of a classroom, or, in distance education, via electronically broadcast teachings (written, audio, visual) and written assignments. Non-formal education takes place in semi-structured content-oriented discussions or in environments where content can be talked over and applied (UNESCO, 2023). Informal education takes place via more spontaneous interactions outside the educational environment. In regards to distance education, the training usually takes place in a formal setting. However, this project included both formal and non-formal settings for interaction. It did not include informal education. The formal aspects took place via real-time lectures and assignments in the learning management system. The non-formal aspects primarily took place in the content-based discussions of the regular cohort meetings.

Educators can apply the above theories using a plethora of modern communication tools. But it has not been studied which interactions have the greatest impact on the student’s affective domain. Therefore, this study had the objective of addressing the following question: In an online course, which method of human interaction yields the highest level of affective growth? To answer this question, a mixed-methods approach was employed. The first method was a quantitative approach comparing the affective impact of different course elements.

Then a qualitative approach was employed to highlight the factors that contributed to affective impact.

The quantitative findings of the study revealed the highest affective impact came through the regular non-formal cohort meetings. This showed a strong correlation between human interaction and a student's motivation towards the course. While cohort meetings were by far the highest rated aspect of the course for affective impact, it was followed by a close grouping that included real-time lectures, assignments, and one-on-one discussions with faculty. These findings suggest that a student's positive attitude towards an online course is greatly influenced by faculty-student interaction, active student involvement, course design, and lecture delivery.

The qualitative aspect of the study further supported the conclusion that the regular cohort meeting was the "affective highlight" of the course. Course participants expressed how their motivation and engagement were significantly enhanced through these meetings. The communication with teachers and interaction with classmates were often repeated as the best part of the course.

Learning Environment

The surveyed course was conducted in a hybrid mode out of Penang, Malaysia with 48 of the 59 students studying online, and 11 of the 59 students studying face-to-face. Of the 48 online students, 23 participated in the survey. Those 23 students were located in 11 nations: Fiji, Grenada, Australia, USA, Nigeria, the Netherlands, St. Lucia, China, Malaysia, South Africa, the Philippines, Trinidad & Tobago, and Germany.

The students were surveyed at the completion of the 12-week course. The course content was an introduction to counseling methods.

For video conferencing, the real-time lectures and cohort meetings used Zoom. The lectures were uploaded to YouTube for students who chose to watch asynchronously. Assignments and feedback were conducted via Google Classroom as the learning management software. Text messages were often conducted using WhatsApp. One-on-one faculty-student interactions often used a variety of media.

Weekly cohort meetings were mandatory, faculty-led, and usually lasted 90 minutes. Cohorts had 2-6 students with numbers intentionally kept small to allow for broad participation. Cohorts did not consist of additional lectures but were discussions based on course content. Occasionally they allowed for practice in applying the course content.

Survey of Human Interaction & Affective Growth Correlation

The first section of survey questions sought to discover if there was a relationship between human interaction and affective growth in online studies. This was done by asking three questions offering a Likert scale for responses. The questions sought to discover if human interaction helped a student stay motivated in their studies, feel connected to the course material, and sense they were part of a learning community. A bivariate correlation analysis was conducted (Table 1).

Table 1

Correlation between selected variables

Variables	Human interaction with staff and/or students has helped me stay motivated and engaged in this online course	Human interaction with staff and/or students has helped me feel more connected to the course material	How effective do you feel human interaction with staff and/or students was in creating a sense of community in this online course?
Human interaction with staff and/or students has helped me stay motivated and engaged in this online course	1		
Human interaction with staff and/or students has helped me feel more connected to the course material	.551**	1	
How effective do you feel human interaction with staff and/or students was in creating a sense of community in this online course?	.715**	.658**	1

** Correlation is significant at the 0.01 level (2-tailed).

Results of Human Interaction & Affective Growth Correlation

The results show a statistically significant positive correlation ($p < 0.05$) between human interaction and affective growth. This means that higher levels of interaction between faculty and students, and students with other students, is related to higher levels of affective growth in online education.

Survey results showed that human interaction between faculty and students played a significant role encouraging motivation and engagement in the online school ($p < 0.05$). It showed a positive association between human interaction and feelings of connection to the course content, as well as helping students feel they were part of a learning community.

Note that the significance level was set at $p < 0.05$ for all statistical analyses conducted in this study.

Survey of Comparison of Pedagogical Methods for Affective Growth

The second area of research focused on which methods of human interaction in online studies produced the most affective growth. A Likert scale was used. Participants were asked to rate between 1-10 with the following 11 statements on how much their values/emotions were impacted by selecting points.

Table 2

Descriptive Statistics of Scale Variables

Variables	Minimum	Maximum	Mean	Std. Deviation
How much your values, emotions, and/or attitudes (affective realm) were impacted by: Cohort Meetings	7	10	9.3	0.9
How much your values, emotions, and/or attitudes (affective realm) were impacted by: Course Lectures	7	10	8.7	1.1
How much your values, emotions, and/or attitudes (affective realm) were impacted by: Assignments (Written & Oral)	5	10	8.6	1.24
How much your values, emotions, and/or attitudes (affective realm) were impacted by: Individual Staff Interaction (one-on-one)	5	10	8.6	1.8
How much your values, emotions, and/or attitudes (affective realm) were impacted by: Reading/Books	6	10	8.5	1.1
How much your values, emotions, and/or attitudes (affective realm) were impacted by: Assignment Feedback from Faculty	1	10	8.3	2.3
How much your values, emotions, and/or attitudes (affective realm) were impacted by: Breakout Rooms During Lectures	1	10	8.2	2.01
How much your values, emotions, and/or attitudes (affective realm) were impacted by: Q&A Sessions	3	10	7.1	2.25
How much your values, emotions, and/or attitudes (affective realm) were impacted by: Text Messaging with Faculty	1	10	7.1	2.5
How much your values, emotions, and/or attitudes (affective realm) were impacted by: Chat Feature Used During Lectures	1	10	6.8	2.6
How much your values, emotions, and/or attitudes (affective realm) were impacted by: Emails with Faculty	1	10	6.0	3.3

Results of Comparison of Pedagogical Methods for Affective Growth

The mean score result shows that Cohort Meetings (M=9.3, SD=0.9) produced the most affective growth. The next most impactful methods were a fairly close grouping of three: Course Lectures (M=8.7), Assignments (Written & Oral) (M=8.6), then Individual Staff Interaction (One-on-One) (M=8.6). The lowest was Email Communication with Faculty (M=6.0).

Qualitative Survey

The qualitative part of the study focused on assessing the relationship between human interaction and affective growth in online studies, and which pedagogical method produced most affective growth. The qualitative part intended to move deeper by understanding the students' affective growth based on their own words. Study participants were asked open-ended questions to explore why that student's highest rated interactions stimulated growth in his/her values or attitudes, what aspects of the course brought encouragement, and why one should or shouldn't study online courses. In their responses, study participants articulated critical aspects for affective growth. These repeated much of what was revealed through the quantitative aspects of the survey.

When asked about why the highest rated interactions stimulated growth in their values, attitudes, or emotions, study participants communicated that interaction in cohort meetings, one-on-ones, and break-out rooms helped the most. Students found lively discussions in cohort meetings where they could express themselves, ask any question, and fulfill their desire to learn in an interactive manner. They also found the live lectures helpful, and the environment friendly. One participant stated

Books were amazing; assignments very reflective, [and] personal; lectures [were] rich in content and practical; breakout room was great, got to meet new people in the beginning and then met with the same people over and over who were my friends, which I loved.

The participants also said that the course design included student involvement. This made the whole process interesting and stimulated the desire for further learning and involvement. It helped them to get multiple perspectives on course topics. In the words of one participant:

I was greatly impacted by the one-on-ones, assignment feedback, and the cohort meetings. I looked forward to being involved because there was great freedom to relate and I love processing through stuff.

Participants described the importance of cohort meetings that provided stimulating interchange that influenced their attitudes, values, and emotions. The meetings helped students absorb knowledge in a different way because of exchanges with their fellow classmates. A participant expressed:

Discussions in small groups (cohorts) with classmates and colleagues helped me absorb more of what was taught in class. In everyone's sharing, I could understand each other better. And in the sharing, I could further consolidate my own homework. I could also see and gain new things, allowing me to think during the interaction.

Study participants expressed that the interactive course design, such as cohort meetings and one-on-ones, helped them in personal development. In these meetings, students could learn about others' ways of doing things and get in touch with different perspectives which helped in the development of the study participants. As stated by one student:

In the process of getting along, I was influenced by the serious attitude of the co-workers and the sincerity of the relationship, so I learned to express and communicate in order to establish a real relationship. The small group (cohort) also taught me that as a student, I should do my part well, be responsible for my studies, and respect and be grateful to the leaders and colleagues.

Participants were asked about the course design and what encouraged them throughout the course. Their responses echoed the essence of the previous sections such as cohort meetings, and breakout sessions, which were interactive. They found these interactions an essential encouragement in their online studies. When asked what aspects of the course brought the greatest encouragement, one student responded:

Cohort meetings, breakout sessions, and also teacher interaction with students during teaching time. Because I was taking it online, the cohort meetings and breakout sessions made it more real, and the assignments helped me focus on what was my highlight.

The group environment was a great factor in encouraging study participants. During cohort meetings, faculty and students encouraged the participation of fellow participants. One student wrote:

The one-to-one and small groups [cohort meetings] in the course encouraged me a lot. I feel accepted by my co-workers, which made me relaxed and safe. The co-workers have always encouraged and led me to share and express my feelings, which gave me more courage to express myself in the process.

Finally, participants were asked whether they would go for another online or hybrid course, and, if so, to explain their reasons. Participants acknowledged a series of benefits in taking online courses. One of the most cited benefits was that online courses gave opportunities to people who were employed but wanted to complete courses for personal development. Moreover, the nature of online courses allows students to participate and complete coursework in their own context. This was the biggest benefit as described by one study participant:

I would take another hybrid course online, because it's available to me at this season of my life where I am not able to travel as I would love to. The experience the course online gave was amazing. I felt very much included, heard, and seen.

Another student concluded

I think the world has perfectly catered to learning online and bringing people together that way. It allows people the option to further study and learn wherever they are in the world. Ideally one would like to do it in person, but that may not always happen. I am grateful for the option and the encouragement to study this way.

Discussion

Online courses open the opportunity for people of different ages, nations, and economic levels to come together to study and discuss topics of mutual interest. This was a prominent reason stated by participants for taking online courses. They reach a wide audience making courses available to students who might normally be left out of educational opportunities. The study findings provide valuable insights into the impact of different methods of human interaction. In the quantitative analysis, it was discovered that there is a correlation between human interaction and affective growth for the online student. In addition, the cohort meetings had the highest level of influence, followed by real-time course lectures, thoughtful assignments with faculty feedback, and one-on-one meetings between faculty and students. These findings emphasize the importance of active participation in order to maximize their potential in the course. The qualitative portion of the study further supported this conclusion as participants discussed how cohort meetings facilitated learning from diverse perspectives

and approaches. They also highlighted the personal growth experienced, including enhanced self-respect, valuing others' opinions, and practicing respectfulness. The qualitative findings demonstrate that cohort meetings are one of the most effective methods for fostering student engagement in online courses, allowing for increased interaction and, consequently, improved learning outcomes. The cohort meetings are where Moore's (2018) "transactional distance" is reduced to a minimum in online studies. This is because response and feedback are immediately given to communication stimuli between both students and faculty. The non-formal structure allows for dialogue regarding perceptions of course material. It is also where Leslie's (2019) "Trifecta of Student Engagement" is employed in its most balanced format. Students are provided optimal learning encouragement when actively engaged with faculty and other students over the course content.

Faculty interaction was another crucial factor that significantly influenced student outcomes (Hossain et al., 2023). The most substantial level of faculty-student interaction took place during cohort meetings, one-on-one meetings, and through assignment feedback. When faculty members were approachable, friendly, and engaged in regular discussions concerning students' challenges or interests, it played a vital role in maintaining student motivation. Because faculty functioned in a non-formal mode by leading content-based discussions, the cohort meetings brought forth high levels of student interaction. These small groups became good examples of the "Communities of Inquiry" format (Garrison et al., 1999) where there were balanced amounts of teacher presence, cognitive presence, and social presence.

Finally, the qualitative section of the survey revealed the positive aspects of online courses. It was found that the flexible nature of online studies attracts students who are restricted by work or family. One can take an online course offered from Asia while living in Africa. One can attend or finish course materials at their convenience without facing the difficulties of on-the-spot courses. Another benefit students communicated was regarding the diverse demographics in online courses. Students shared their ideas with others from different age groups and nationalities. This was a great benefit for those who wanted to learn how topics were understood and applied by different generations and cultures.

The combined impact of an online course that includes educational material along with regular, non-formal, faculty-led cohort meetings is profound. These cohort meetings encourage students to engage in content-based discussions with fellow students from around the world. They enjoy the interactions while learning from one another's perspectives on the course material. The result is strong impact in affective realm of Bloom's educational taxonomy (Krathwohl et al., 1973).

This paper adds to the literature on pedagogical practices for online courses. The comparison of modes of human interaction on students' perceived affective growth is a helpful insight for educators. Regular, faculty-led, non-formal cohort meetings can greatly enhance students' educational experience. Institutions looking to increase affective growth, student engagement, and emotional satisfaction with online students may find aspects of this paper useful for their own online course development.

Constraints

This study has limitations to keep in mind. The study is cross-sectional in nature so there are temporal issues in the statistical analysis. The qualitative findings are prone to both recall biases from participants' side and interpretation biases from researcher's side. Moreover, the study has a small sample size.

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