Connecting Global Learners Using eLearning and the Community of Inquiry Model

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Abstract As the world grows more interdependent, global citizens, universities, and corporations must develop a new set of tools to work together with international neighbors, friends, and leaders. Many higher education institutions have expanded their campuses across countries, and now require newways to effectively use technological developments for mobile, electronic, and social media learning to support the global community of learners/inquiries. Issues related to connecting students and faculty to learning materials include energy-efficient equipment and shrinking information technology (IT) budgets, making it difficult to produce new high-density servers as well as quality computer-based education. The Community of Inquiry (CoI) model based on the social constructivist theory of John Dewey (1938), and evaluated by Randy Garrison, Terry Anderson, and Walter Archer (2000), indicates that virtual learning communities are dynamic. Essential to the CoI are cognitive, teaching and social presence. Therefore, our research suggests that eLearning proprietary colleges/universities through course design, instruction, and technology create a virtual global learning community experience that is not any hindrance to students' social, cognitive, and teaching interaction. The research findings reveal the interesting nature of adopting and adapting to the CoI as defined by technology-based course design and faculty engagement, to the online proprietary learning environment worldwide, and our insights may radically change educators' mostly negative views of distance education. The findings provide a glimpse into proprietary virtual global learning, and reveal how it affects the process of student engagement, reflection, and exploration of concepts for application to the real world.

Keywords: *social presence, community of inquiry, e-learning, global learning, constructivist theory, virtual librarians, students*

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1. Introduction

1.1. ELearning in Higher Education

Recent studies on eLearning (the use of electronic technologies in classrooms) in higher education have focused entirely on the relationship between students and faculty to coursework (Garrison & Archer, 2000) rather than asking whether eLearning technologies foster a social community and effective learning environment. Arguably, eLearning is defined as using educational technologies (computers), and learning management systems (e.g., Blackboard, Moodle websites) to connect students and faculty in a computer-based learning experience (Gallagher, 2003). However, the pedagogic opportunity for delivering classroom education by the Internet (online), on-ground (face-to-face), and blending the two, requires more than the digital features of eLearning (Mayes & de Fritas, 2009). In higher education, eLearning is an essential method for providing global learners required coursework, lectures, and classroom materials from a distance (Oblinger & Hawkins, 2004; O'Neill &

McMahon, 2005). The Community of Inquiry (CoI) framework examined by several authors regarding online (or virtual learning), which focused on teaching, cognitive and social presence, is challenging modern college/universities and decision makers seeking solutions to the demands of global learners that desired the virtual rather than physical (on ground) academic experience (Garrison & Archer, 2000; Mayes & de Fritas, 2009; US Department of Education Study, 2010). As such, learning models focusing on the student, the teacher, and the curriculum, require aspects of the CoI to build the educational environment necessary for erudition. Higher education institutions build a collaborative environment for learning, and devise strategies to inspire students to continue learning beyond the classroom. In the for-profit higher education environment, the eLearning modalities are the bread and butter of a college/university, and discussions to implement scholastic arrangements that are ideal for student achievements are ongoing and without agreement. Our findings about distance eLearning (online, blended) models revealed insignificant differences in traditional classroom and online environments concerning "learning effectiveness" (Shachar & Neumann, 2010;

USDOE Study, 2010, p. 13).The United States Department of Education (US DOE) (2010) discovered several benefits of eLearning in higher educational environments, and have used these discoveries to reinforce policy development in distance education. Thus, traditional colleges/universities (nonprofits, public) and for-profit institutions may be confronting the same challenges of negotiating student demand for alternative instructional methods. As a result, these institutions are contemplating the best features of the learning environment in an effort to improve student achievement outcomes and satisfy stakeholder expectations.

Regarding librarians' new role in eLearning, we discovered that library resource innovation, or eLibraries, were being transformed to comply with green and space efficiency standards (Grush, 2014). For-profit online learning means that librarians and resources are available to students 24/7 and the technology-centered virtual library is an expectation of the new generation of eLearners (Basaglia, 2010). In light of the sparse research findings regarding for-profit eLearning models, and after working for a private university that offers nationally accredited virtual academic programs to global learners, our aim for this research is to describe this new, complex pedagogic environment and assess the Community of Inquiry framework.

This essay focuses on the discoveries in the literature review regarding eLearning, suggesting ideas for building student learning communities and implications, and sharing the findings of previous researchers representing students and faculty who engage in a variety of virtual classroom learning environments at a for-profit university. Terms used to describe three learning formats of interests are: 1) Traditional, or term, eight (8) week with discussion requirements, 2) Per Course, or student-directed and independent learning without discussions over 10 weeks, and 3) Modified, or hybrid, blending the traditional and Per Course, with discussions first few weeks and 10 week completion plan. The study tested whether 1) eLearning (online) distance education builds a community of inquiry and student learning when compared to face-to-face instruction, and whether 2) eLearning's (online) distance education promotes community and social interaction. These suppositions that the educational technologies are responsible for changing the cognitive, social and teaching aspects of an already complex learning environment are inspired by the work of John Dewey (1938),Randy Garrison, Terry Anderson, and Walter Archer (2000).Student respondents commented that they liked connecting to global learners during the discussion assignments, and, yet, the social media mechanism Connect Yard was less impressive as a bridge between students and faculty and between peers, for scholarship. The study's findings will add to the literature and stimulate a collegial discussion of some of the unexpected findings of the pilot research study at the Higher Education Teaching and Learning (HETL) Conference in Anchorage, Alaska.

2. Literature Search

Ideas about Community of Inquiry providing the foundation of online program design in some for-profit higher education environments involved introducing students to virtual and mixed of on-ground and online learning experiences. The COI tenets of social, cognitive and teaching presence, are central focus in hundreds academic presentations and publications ((Means, Toyama, Murphy, Bakia, & Jones, 2010). In 2010, the US Department of Education reported the findings of a meta-analytic study of more than 1,000 empirical studies (between 1990 and 2000) of eLearning models, using on-ground (face-to-face) computer-assisted curriculum, and total online (virtual) distance education, which resulted in measurable student learning outcomes of 50 independent effects. Underlying the modifications in education environments either traditional (12-16 weeks) face-to-face instruction in a brick-and-mortar, virtual (eight weeks) or blended classrooms, were apparent changes in student learning outcomes. The US Department of Education findings indicated that of the nearly 2,000 learners using distance education, student-directed learning, faculty-directed learning, and face-to-face instruction, on average, students in online learning conditions performed modestly better than those receiving face-to-face instruction(Means, Toyama, Murphy, Bakia, & Jones, 2010, p. 11). Interestingly, literature from the 1990s about the quality and connectivity of eLearning, and learning management systems such as Blackboard and Moodle, which surfaced in the early 2000s, mentioned that face-to-face learning received positive effects when blending formats with these digital systems (Garrison & Shale, 1990; Garrison, Anderson & Archer, 2001; Means etal., 2010). There are a number of reasons for student performance in online (or virtual) classrooms, including interaction with professors, peers and the curriculum. Garrison, Anderson and Archer (1999) provided the Community of Inquiry framework and added to the knowledge of building collaborative and interactive online learning environments in higher education; and, educators remain challenged by the COI and increasing student learning outcomes (Anderson, Rourke, Garrison & Archer, 2001; Arbaugh, 2007). Interactivity is necessary to student learning outcomes, and the conditions of the eLearning environment are noteworthy and challenging (Rourke & Anderson, 2001; Wang, 2008). Our research investigated the changes in learning environments and students' interactivity involving eLearning at a for-profit virtual university and the conditions that would be most effective for electronic learning. Moreover, the literature discussing the factors that influence student learning conditions and outcomes related to the Community of Inquiry (CoI) model, based on the social constructivist theory of John Dewey (1938) and evaluated by education researchers, indicated that learning communities are dynamic (Garrison, Anderson, & Archer, 2000). Some examples of dynamism in eLearning include using technology imports as televised broadcasts (WIMBA), synchronous Blackboard and E-College, and videoconferencing with students (Web-Ex), which over time provide an increasing focus on peer-to-peer and student-faculty interactions. Curiously, the scaled scores or "effects size" found in the literature indicated that social presence were perceptional changes related to Peer-to-Peer inquiry (Abrami, Lou, Borokhovski, Wade, Wozney, Wallet, Fiset, & Euang; 2004; Cobb, 2009; Means, et al., 2010).Therefore, our interests addressed the relevant social, teaching, and cognitive issues that are

constantly changing through the use of new electronic technologies (Blackboard, Connect Yard) in higher education classrooms and increasing student peer-to-peer interactions and redesigning curriculum and instruction.

Integrating the ideas from the abovementioned studies and considering the discussions in the literature about building community learning environments and the CoI framework. The COI is defined as a framework for teaching and learning that encompasses three tenants: teaching presence, social presence and cognitive presence that have been said to be critical to online/distance learning environment. COI can also be used to analyze teaching and learning outcomes in the online/distance learning environment. our purpose of the research study is threefold: 1) to provide a summary response to questions about different pedagogic models using electronic technologies in a for-profit college/university; 2) to identify the eLearning models used in the past decade at a virtual college/university and its effects; and, 3) to examine the community of inquiry framework, implications and opportunities for innovative learning at a for-profit university.

3. Method

Significance testing to solve problems and meta-analysis has become important in calculating adequate power (.80) for correlation (Hunter & Schmidt, 2004; Shachar & Neumann, 2003). The meta-analytic research study commissioned by the US Department of Education (2010) has provided vital knowledge about the significance of eLearning and face-to-face education models that are actionable policy mandates. Action research with qualitative survey research methods are another way to determine correlations between independent (eLearning) and dependent (student interactive learning) variables, and to find meaningful solutions for building learning communities that accomplish student learning goals established by the institution. The statistical significance is imperative for learning the promising practices that utilize education technologies to establish student social interaction and accomplish learning outcomes. This study used the survey research approach to discover the opinions, feelings and thoughts of a random sample of students and faculty participating in a variety of virtual learning environments: 1) traditional eight-week online course with asynchronous weekly discussions; 2) self-directed online course without discussions; and, 3) hybrid online course with adaptive release weekly discussions and self-directed study. An announcement was embedded in the virtual (online) courses that represented three disciplines, including Public Administration, Healthcare Administration, and General Studies (undergraduate and graduate).Letters were delivered to teaching faculty with the link to a ten-item questionnaire in Survey Monkey. The targeted group of students and faculty were randomly selected and there were no restrictions; all respondents participated in at least one of the virtual learning communities. A total of 75 students and 80 faculty respondents participated in the survey. Our purpose was to ascertain information that compared to findings in the literature review regarding eLearning (online, virtual) and the community of inquiry

framework at a for-profit university. The study hypotheses are expressed below:

H1. ELearning (online) distance education compared to face-to-face instruction is an effective support for building a community of inquiry and fostering student learning.

H2. ELearning (online) distance education does promote a learning community and social interaction.

We collected data using surveys designed in Survey Monkey, and archival data sources at the for-profit university. Anonymity and results in composite form were achieved in the study. Statistical package (Minitab) was used for data analysis.

4. Findings

The COI framework indicated that increasing student persistence and learning gains is possible through collaborative and interactive eLearning environments (Garrision, et al., 2006). The study used a survey research method to determine the significance in the independent and dependent variables regarding the effect of electronic education technologies and management systems (Blackboard) used in three education formats—traditional, per course, and hybrid—to accomplish student learning outcomes. Researchers analyzed social presence in online learning environments by asking students through observations, modeling and surveys providing results on study participants ($r= .57$, $r=0.78$) (Rourke, Anderson, & Garrison, 2007; Shea &Bidjerano; 2008; Means et al., 2010).Our study findings of students attending a for-profit university and participating in a virtual classroom using three different formats: 1) Traditional, or term, eight (8) week with discussion requirements, 2) Per Course, or student-directed and independent learning without discussions over 10 weeks, and 3) Modified, or hybrid, blending the traditional and per course, with discussions first few weeks and 10 week completion plan, showed significant correlation to the scaled scores in the literature. For instance, student participants' surveyed on interactions with global peers through discussions including audiovisuals was discussed in the literature and expectations were high; our results was a Chi-Statistic of 0.03, $p<0.05$. However, on the same question for traditional (term) and per course students showed significance, the Z-Score is 3.2031, is significant at $p \leq 0.01$, and U-value is 1, (critical value of U at $p \leq 0.01$ is 7), result is significant at $p \leq 0.01$; thus indicating the importance of interacting with global learners through discussions. Seventy four (74) educators responded individually to survey items and some are described below: The information on social presence was examined to address the hypothesis:

H2. ELearning (online) distance education does promote a learning community and social interaction.

4.1. Faculty and Social Presence

The study responses were categorized highlighting the COI tenet *social presence*, which has been defined as creating a level of ease in which students feel comfortable expressing themselves and connecting with their instructor and peers. The study found that faculty and student responses about social presence and community spirit for eLearners showed the Chi-square statistic is 11.2028, (p-

value is 0.000817), result is significant at p < 0.01. Interestingly, to students eLearning provides some community, and faculty have created social presence, or good virtual classroom experiences otherwise students are not going to attend class. Social presence in the COI is important to undergraduates, and in the virtual environment the need has not decreased as indicated by the student survey choices. Policies and procedures guiding discussion requirements are an important challenge. Technology and student learning was another topic of our analysis using the qualitative (survey) method consistent with research designs by academics in the literature review, including the study by Edu Cause (2004) about student learning accomplishments using technology; revelations were positive experiences with faculty at colleges/universities. Our study findings were significant regarding faculty rationale for choices in categories referencing *sense of belonging*, *helping tool* with course activity, and student-instructor interaction. Thirty eight percent agreement among faculty for the viability of Black Board for connecting students and building a community of global inquirers as well as for peer-to-peer engagement. When institutions of higher education face budget shortfalls, they invest in new technologies for student engagement building effective learning communities; Connect Yard is one tool available to faculty in a for-profit virtual college/university learning environment. Fifteen faculty responded about students' technological sophistication, competitiveness among peers, and agreed that eLearning was the next level for honing their skills. The survey pilot study attempted to discern the extent to which Connect Yard was considered a beneficial teaching tool (announcement and discussions) through a variety of social media (e.g., Facebook, Twitter) and at educational level (graduate, undergraduate bachelors or associate) and all faculty study participants sharing their thoughts on the question item showed strong agreement (89%) that using it is determined by university policy and procedure. After evaluating the viability of Connect Yard, the following question was added to the survey: *Does Connect Yard enhance student-instructor interaction?* We found faculty agreement was 38 percent. Before Connect Yard, logging into Blackboard was required by the online for-profit institutions to access course materials, peers, and faculty to respond to discussion questions, and to check on graded assignments and feedback. The faculty gave choices and rationales for technologies such as Connect Yard versus Blackboard not promoting communications and interaction, $T= 9.569621$ (p-value, 0.0006660), result is significant at $p < 0.01$. There are constraints on curriculum design using social media technologies that are related to cognitive and social presence in the COI (Rennie & Morrison, 2013).In summary, themes emerged in our study showing significance similar to findings or academics research in the literature review about incorporating audio-visuals (wikis, blogging, e-portfolios, and group activities using scripts that guide learning activities)rather than just "text-based" instruction for social and cognitive reasons were giving by faculty (Cobb, 2009; Garrision et al., 2006; Means, et al., 2010).

4.2. Students Responses and the CoI Model

Students responded individually to the survey items about the CoI model and categories involving belongingness, and conditions responsible for spirit of community, interactions with faculty and peers. Testing the hypothesis about factors contributing to aspects of the CoI such as advisors, student support specialists, and faculty (supervisors, teachers) services, showed T= 3.690577, (p-Value = 0.007751) result is significant at p < 0.01. The student survey questions assessed whether eLearning had an effect on social presence, or gave students a feeling of belonging/connectedness to peers. Curiously, students and faculty rejected the notion using Connect Yard (social media) enhanced peer-to-peer communications and interactions, which is important to them:

Using the scale below, indicate the extent to which you agree with the following statements:

Low results (12.3% strongly agree) on Connect Yard enhances student-to-student communications and interactions.

Students responded that the virtual classroom discussion boards and assignments requiring interaction with other global learners gave them the opportunity to *get to know my peers* which showed result is significant, (Z=, 2.34, p < .01). Students participating in the learning formats (traditional, per course, modified (or hybrid)) responded to: *My eLearning (online) format allowed me to participate in various virtual environments.* Analysis of the students participation rate and selection of categories based on percentages showed collaboration with peers was selected Fifty Four percent, freedom of expression (62%) and feeling a spirit of community (66%), which revealed a high interests by students on topics importance. Students were asked to describe their feelings about aspects of the COI (social and teaching presence) referring to category choices *getting to know peers/global learners*, there was eight nine percent agreement. Results for eLearning environments providing a place for students to evoke *emotional expression* was significant (i.e. T = 7.4621, p < 0.01). Policies surrounding the three education formats—traditional discussion, per course, and modified (or hybrid) formats--, do not limit peer communications, but effect free emotional express. Policies exist that may also prohibit or impede deep academic discourse.

4.3. E-Learning and Cognitive Presence

Our pilot study found some positive results regarding student learning in a virtual classroom compared to a face-to-face format. The following information addressed this hypothesis:

H1. ELearning (online) distance education compared to face-to-face instruction is an effective support for building a community of inquiry and fostering student learning.

Garrison et al. (2000) evaluated the Community of Inquiry (CoI) and results were helpful to improving distance education. One of the tenets of the CoI model is cognitive presence, which builds an environment that supports the learners' ability to understand meaningful concepts and ideas as well as to apply new concepts and knowledge taught. One of our survey questions in the pilot study aimed to discover *quality*—encourages students to stay on task, cooperation between faculty and student in learning environment—of learning that could take place in

a virtual college classroom. The survey question for students was: *Based on the eLearning format, rank in order of importance these learning outcomes.* Their individual responses about cognitive presence in the CoI were based on selecting categories for critical thinking, original ideas, and staying on tasks. Analysis yielded significantly higher cognitive factor estimates for virtual programs implemented in the undergrad bachelors and graduate programs (M = 52.3, SD= 17.9) and student responses strongly associated with academic research findings on critical thinking and staying on tasks. Comparing student and faculty data (M= 55.3, SD= 21.2), findings indicate that cognitive presence for critical thinking and staying on tasks are important in the virtual classroom. Flexible due dates for assignments in the Per Course and Modified (hybrid) learning formats contribute to staying on tasks. Faculty using rubric grading and online assessments (e.g., quizzes, final exams) were satisfied with student learning outcomes; whether or not they were using electronic portfolios was not addressed (Cobb, 2009; USDOE, 2010). In our follow-up study we will separate these questions related to the three eLearning formations.

4.4. Faculty and Teaching Presence

To assess faculty's opinion concerning teaching presence in the three formats—traditional (term) eight-week program, per course, and modified (or hybrid), we asked faculty to identify the eLearning format that created opportunities for students' personal meaning, reflection, intellectual insights, peer-to-peer sharing of intellectual ideas and the result is significant (T-value is 3.801316 , p=0.002613, p < 0.01). Sharing personal meaning (experiences) is not very important as a selection. Some faculty agreed that by sharing personal meaning and professional experiences was accomplishing teaching presence. Regarding helping students make connections among disparate ideas, there was strong agreement among faculty, there was strong agreement and comparable to the findings in the US Department of Education report (2010). We discovered that eLearning does change the teaching presence of the CoI and not always negatively was significant. Technologies can support instructional presence to create an encouraging scholarly environment for peer-to-peer and faculty-to-peer interactions.

4.5. Students and the CoI Model

The student survey questions focused on assessing social presence in the eLearning formats offered. To measure student perceptions of social presence, we asked them their opinions about social presence by selecting categories belonging or connectedness to peers, and instructors, and peer-to-peer communications; strong agreement that peer-to-peer interactions were facilitated by Blackboard more than social media through Connect Yard. Additionally, students were asked about:

My eLearning (online) format allowing me to participate in (mark all that applies):
1. Freedom of expression
2. Expression of emotion
3. Discussion of assignments
4. Development of technology skills
5. Getting to know my peers
6. Feeling a spirit of community

Results showed low agreement on information technology's (IT) supporting social media if using Connect Yard; and correlation with undergraduates and technology skill development was moderately correlated (r=0.57). Policies for quality control affecting student learning, and expression of emotions were strongly correlated with undergraduates (r=0.61). In terms of percentage breakdowns factors important to online learner success at a for-profit university selected by students, showing: 84% found advisors and 46% agreed that student success specialists (46%) are most important. Concerning the effects of eLearning on student learning, faculty commented that struggling students are difficult to spot compared to being in a face-to-face environment, and students develop different, stronger relationships to individuals *other than faculty*—advisors, student specialists, tutors, and peers. This might explain the strong rating for specialists and advisors in the virtual classroom.

5. Recommendations

The impetus for conducting a pilot study that collected the responses of students and faculty concerning different learning formats was to identify techniques that would improve eLearning and student outcomes in a for-profit virtual environment. Our enthusiasm for this research stemmed from the literature review of various eLearning models. In fact, we found a lack of empirical studies about virtual classrooms in for-profit higher institutions. The US Department of Education report on eLearning curriculum and instructional methods in higher education left us with questions about online instruction compared to face-to-face instruction. Noteworthy in our study was that reliable connections using energy and cost-efficient servers and learning management systems (e.g., Blackboard, Moodle) are necessary to student learning as well as policy and faculty training support by the university. Half of the teaching faculty found that eLearning technologies (Blackboard, Connect Yard) are useful to some degree in a virtual environment; therefore, decisions about policies and procedures considering cost- and energy-savings on hardware and software are helpful to aspects of the COI. Faculty teaching in the virtual classrooms and at for-profit colleges/universities required curriculum and instruction different than materials, advising schedules, and social interactions available to students attending a physical college campus. Suggestions include investments in newer versions of Blackboard with teleconferencing, video upload capabilities, synchronous, or real-time engagement, is important. A study by the American Association of Higher Education (1987) found that learning how to teach using electronic technologies is as relevant as the curriculum and instruction. Additionally, our findings indicated that emotional presence was not significant; perhaps feelings were muted through electronic (online) connections that were mostly asynchronous and text-based. Our recommendation is to provide students an opportunity to access scholarships and boost cognitive and social presence using peer-to-peer assignments involving blogs and wikis. It is also important for the classroom environment to continue to allow students to freely express themselves and have supportive connections and communication with the instructor and their peers. In terms of the research methodology that we used for the

pilot, our aim was to expand the study and use experimental design comparing the traditional term and per course learning modalities including curriculum with non-text and text options. In the follow-up study we will separate these questions to get replies specific to traditional term, Per Course, and modified (hybrid) courses. Expression of emotion is part of social presence. Our data indicates that expression of emotion is low in some for-profits eLearning formats. We suggest and our data supports that student are expressing this emotion outside of the classroom to enrollment counselors and/or academic advisors.

6. Conclusion

Covering all the tenets of the COI model can be challenging in traditional environments, and even more so regarding proprietary eLearning formats. The study examined the social presence principles of the Community of Inquiry model in an online proprietary university using three virtual formats, traditional (term), Per Course or student directed, and modified (hybrid). Faculty and students were asked to provide their opinions for eLearning formats and its effect on social presence in the classroom. Results indicated that students perceive social presence in virtual classrooms. Our scores indicate that opportunities for improvement exist in the area of teaching presence. One factor that may contribute to the scores is the lack of required communication and interaction in the modified (hybrid) format. In the term format, students are required to participate in discussion; thus, they have more interaction with their peers and instructors. Another thing that might contribute to the low scoring in this area is the discussion policies that the university currently supports. For the follow-up study, the questions for traditional term and modified hybrid formats will be asked separately so that more accurate results and analysis can be completed. Open enrollment courses are 10 weeks in length and students are allowed to work at their own pace so long as all work is completed by the end of the class. Open enrollment courses do not include a discussion so there is no required interaction with peers or with the instructor. The policies and structure of the open enrollment course may be the reason for the low scores. There is debate in the literature about how social presence is provided to students either in the classroom, or through advisors or elsewhere. Curiously, our findings showed that students in traditional term (with discussion requirements) compared to per course (without discussions) feel connection to global learners and a community through virtual classroom promoting interactions. The tenets of CoI are not only obtained in the classroom but through student advisors, counselors, and faculty, as well as peer-to-peer reciprocity. Faculty participants' responses revealed that the eLearning format supports social, cognitive, and teaching presence, and that technology has changed the dynamic of virtual classrooms by attempting to meet the expectations of this new generation of global learners.

References

[1] Abrami, Bernard, M., P., Lou, Y. Borokhovski, E., Wade, A., Wozney, L., Wallet, P., Fiset, M. Euang, B. (2004). How does distance education compare with classroom instruction? A meta-analysis of the empirical literature. *Review of Educational Research, 74 (3)*, 379-438.

[2] Anderson, T., L. Rourke, D.R. Garrison and W. Archer (2001). Assessing teaching presence in a computer conferencing context, *Journal of Asynchronous Learning Networks 5 (2)*.

[3] Arbaugh, J. B. (2007). An empirical verification of the community of inquiry framework. *Journal of Asynchronous Learning Networks, 11 (1)*, 73-85.

[4] Bosch, S. (2003). *Identifying relevant variables for understanding how school facilities affect educational outcomes.* (Unpublished dissertation). Retrieved from Pro Quest Dissertations and Theses database. (AAT 1448242).

[5] Chickering, A. M, & Gamson, Z. A. (1987). Seven principles for good practice in undergraduate Education. *American Association for Higher Education bulletin* 120, p. 3-7.

[6] Cobb, S.C. (2009). *Social presence and online learning: A current view from a research Perspective.* Retrieved from http://anitacrawley.net/Articles/Social%20Presence%20and%20Online%20Learning%20A%20Current%20View%20from%20a%20Research.pdf.

[7] Educause. edu. (2014). *Technology research in the academic community.* Retrieved from http://www.educause.edu/ecar/about-ecar/technology-research-academic-community.

[8] Garrison, R. (2011). *E-Learning in the 21st century: A framework for research and practice.* Retrieved from http://books.google.com/books?hl=en&lr=&id=aodjWyjxYbYC&oi=fnd&pg=PP1&dq=E-Learning+and+student+inquiry+model&ots=-ysIwWWjMS&sig=8-vpTc2uprWS4crGKyC_k2MOatc#v=onepage&q=E-Learning%20and%20student%20inquiry%20model&f=false.

[9] Garrison, R., Anderson, R.,& Archer, W. (2001). Critical thinking, cognitive presence, and computer conferencing in distance education. *American Journal of Distance Education*, 15 (1), 7- 23.

[10] Garrison, R., Anderson, T., & Archer, W. (2010). The first decade of the community of inquiry framework: A retrospective. *The Internet and Higher Education, 13* (1-2), 5-9.

[11] Garrison, D. R., & Arbaugh, J. B. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *The Internet and Higher Education, 10* (3), 157-172.

[12] Garrison, D. R., & Shale, D. G. (1990). Tilting at windmills? Destroying mythology in distance education. *International Council for Distance Education Bulletin 24*, 42-46.

[13] Garrison, D. R., Cleveland-Innes, M. Koole, M. & Kappelman, J. (2006). Revisiting methodological issues in the analysis of transcripts: Negotiated coding and reliability. *The Internet and Higher Education, 9 (1),* 1-8.

[14] Means, B., Toyama, Y., Murphy, R., Bakia, M., &Jones, K. (2010). Evaluation of evidence-based practices in online learning: A meta-analysis and review of online learning studies. *US Department of Education Report (2010).* Retrieved from http://usdoe.gov.

[15] O'Neill, G., &McMahon, T. (2005). *Student-centered learning: What does it mean for students and lecturers?* In G. O'Neill, S. Moore & B. McMullin (Eds.), *Emerging issues in the practice of university learning and teaching.* Dublin: Dublin: AISHE.

[16] Oblinger, D. & Hawkins, B. (2005*).The myth about E-Learning.* Retrieved from https://net.educause.edu/ir/library/pdf/erm05411.pdf.

[17] Rennie, F. & Morrison, T.M. (2013). *E-learning and social networking handbook: Resources for higher education.* New York, NY: Taylor & Francis.

[18] Rourke, L. & Anderson, T. (2002). Exploring social presence in computer conferencing. *Journal of Interactive Learning Research, 13* (3), 259-275.

[19] Shachar M., & Neumann, Y., (2010). Twenty years of research on the academic performance differences between traditional and distance learning: Summative meta-analysis and trend examination. *MERLOT Journal of Online Learning and Teaching*, 6 (2), 318-334.

[20] Shea, P., & Bidjerano, T. (2008). Measures of quality in online education: An investigation of the community of inquiry model and the net generation. Journal of Educational Computing Research, 39 (4), 339-361.

[21] Wang, L. (2008). Developing and evaluating an interactive multimedia instructional tool: Learning outcomes and user experiences of optometry students. *Journal of Educational Multimedia and Hypermedia 17* (1), 43-57.