Mapping Trends and Themes within Online Education

Ipek Bozkurt, University of Houston Clear Lake, TX
Shanta Goswami, University of Houston Clear Lake, TX
Mrinal Mugdh Varma, University of Houston Clear Lake, TX

Ipek Bozkurt is Assistant Professor at the University of Houston Clear Lake.
Shanta Goswami Varma is Office of Online Programs Director at the University of Houston Clear Lake.
Mrinal Mugdh Varma is Associate Vice President for Academic Affairs at the University of Houston Clear Lake.

Abstract
This study attempts to understand evolutionary changes in online education by analyzing abstracts of 949 journal articles published from 2006 to 2012 in five journals of online education. Using Leximancer, a text-mining content analysis software, this study identifies themes and trends that have informed the evolution of online education through benchmarking and best practice adoption.

Introduction
Online education is a dynamic field of study that witnessed rapid changes in content design and delivery methods over the past few years. With more educational institutions embracing developments in learning technology, online pedagogies, and online teaching and learning, the focus on research in online education has seen a remarkable shift over the years. Yet, what components of online education comprise this shift, and how can student, faculty, and administrative staff stakeholders, employ understanding of these online education components in a meaningful way?

Recognizing the research limitations of a restrictive definition for online education, this study sought to create an inclusive definition that would allow exploration into content, learning, teaching, and pedagogical components. In order to accomplish this task, 949 journal articles published from 2006 to 2012 in five online journals, namely The Quarterly Review of Distance Education, Distance Education, Journal of Asynchronous Learning Networks, American Journal of Distance Education, and Journal of Online Learning and Teaching, were selected. Thematic and semantic content analysis using Leximancer was employed in order to identify concepts, conceptual interrelationships through the use of concept maps, themes, and trends. Conceptual and theme analysis findings show recent research emphases on effective teaching skills, empirical studies, group collaboration, and training. Trend analysis suggests that seven years ago development, learning of skills, and training in instructional delivery were focal points. The focus, however, shifts throughout the years to more research on technology use, quality, case studies, students, social implications of virtual collaborations, and effective course design environment. Implications are that prevalent concepts and reoccurring themes and trends can provide substantial data for benchmarking and standard studies; however, further research will be necessary in order to determine any predictive capability.

This study created the following objectives in order to understand and analyze this shift:

- Establish the necessity for analyzing online education as an independent field of study, incorporating online learning, teaching and pedagogy;
- Select appropriate source material to understand and analyze the multifaceted aspects of online education research;

- Conduct content analysis with Leximancer text analysis that will appropriately identify relevant concepts, conceptual interrelationships through the use of concept maps, themes, and trends;
- Provide theme and trend analysis that can be employable methodology for benchmarking and standards studies.

Literature Review

Over the last few years, administration and educator stakeholders created an array of definitions meant to categorize online education. Mayadas, Bourne, and Bacsich (2009) limited online education discussion to blended courses offered in traditional, regionally accredited, degree-granting institutions. In contrast, Allen and Seaman (2013) defined online education as courses where a minimum of 30 percent of the content is delivered online, such as traditionally blended courses, hybrid courses, fully online courses, and MOOCs (Massive Open Online Courses). Yet, despite scope variation between the two definitions, both definitions upheld one crucial component: In order to be considered online education, a substantial portion of the course content must be offered online.

In fact, evidence for this online education demand has been clearly expressed in student enrollment numbers. Based on a ten year study of 2,800 higher education institutions in the United States, Allen and Seaman (2013) reported a consistent pattern of yearly increases in online education. In 2002, less than 50 percent of higher education institutions employed online education as part of their long term strategy; however, that number gradually rose to 69.1 percent in 2012 (Allen & Seaman, 2013). This increase was also reflected in student enrollment. By 2012, 6.7 million students reported enrollment in online classes. In 2002, 1.6 million students reported taking one or more online classes (Allen & Seaman, 2013).Part of this increase was attributed to the flexibility and accessibility of online education, which has been especially appealing for working, adult students who continue to be the primary target population of online classes (Mayadas, Bourne, & Bacsich, 2009). However, over the years, online courses have struck a chord with both traditional and post-traditional students. In 2012, 32 percent of all college attending students reported taking at least one online course (Allen & Seaman, 2013).

While students and administrators have shown increasing interest and participation in online education, accounts of faculty online education acceptance have been mixed. Less than 10 percent of faculty members rated online courses as equivalent to face-to-face courses (Lederman & Jaschik, 2013). Higher education administrators, however, have a much higher opinion of online course quality. In 2012, 77 percent of academic leaders rated online education as on par or superior to face-to-face, and only 23 percent of academic leaders in 2012 believed face-to-face was superior to online education (Allen & Seaman, 2013). The changing perception of faculty, students, and administrators regarding online education quality has been influenced by opinion survey, enrollment trends, and also a growing body of literature on issues related to online learning in online education (Lederman & Jaschik, 2013).

Yet, despite this undeniable growth in online education, with an expanding body of supporters and detractors, online education impact remained difficult to ascertain as a result of the differing terminology employed. Definitions hindered faculty and administrator stakeholder ability to collect meaningful data, create concepts, and develop effective research methodology for benchmarking and standards studies due to how methods and pedagogy varied based upon the definition of online education employed (Mayadas, Bourne & Bacsich, 2009). Terminology was needed to account for

concepts that explicitly described the variability of pedagogy, teaching, learning, and applicable content design practices found in online education. Therefore, this study uses the Leximancer tool to argue that online education has established itself as an independent field of study, embodying pedagogy, teaching, learning, and web-based content, due to the increasing demand from academia. If online education was to be effectively studied and employed for bench marking and best practices, understanding core concepts, conceptual relationships, themes, and trends would be essential.

Research Methodology

The starting point was to identify key journals in online learning and teaching. The research yielded six main journals, namely, The Quarterly Review of Distance Education, Journal of Asynchronous Learning Networks, Distance Education, American Journal of Distance Education, and Journal of Online Learning and Teaching. These journals were chosen specifically because their scope is focused on scholarly research within online education, including online learning, online teaching, and student and faculty perspectives. A database was formed using abstracts of articles published between 2006 and 2012. The choice of using abstracts as unit of analysis was intentional given that abstracts represent a focused and concise summary of the main topic of the article. The seven year time frame was chosen because it offered a critical mass of data for conducting a meaningful analysis. With this background, abstracts from 949 journal articles were entered into a database for the analysis. Once the database was set up, it was further divided into subsets by year of publication. This ensured a trend analysis of individual concepts and themes on an annual basis. The distribution of articles by journal and by year is presented in Table 1. See Fall 2014 issue website http://rapidintellect.com/AEQweb/5515-4j-7.pdf

As presented in Figure 1, the number of articles published by all journals steadily increased between 2006 and 2009, but there was a reversal of this trend starting in 2010. The analysis looked at yearly concepts and trends and analyzed whether this change was also reflected in the change of main concepts and trends. Figure 1 - see Fall 2014 issue website http://rapidintellect.com/AEQweb/5515-4j-7.pdf

Once the data sets and subsets were created, they were analyzed using the text-mining software Leximancer (version 4). Leximancer is a text analysis software that transforms "lexical co-occurrence information from natural language into semantic patterns in an unsupervised manner" (Smith & Humphreys, 2006). It has been used within different disciplines, including advertising (Campbell, Pitt, Parent, & Berthon, 2011), psychology (Cretchley, Rooney & Gallois, 2010), strategic planning (Cummings & Daellenbach, 2009), management (Rooney et al., 2010), marketing (Dann, 2010) and risk management (Martin & Rice, 2007).

Leximancer is designed to perform automatic content analysis, so that any bias or subjectivity is avoided. There are two main analyses that are done in Leximancer, a conceptual (thematic) analysis and a relational (semantic) analysis. The software is programmed to differentiate between words and concepts. Words that occur together frequently are called concepts and they comprise the most semantically significant words. Through an internal thesaurus, Leximancer groups words that are similar to the identified concept, which gives the concept its semantic (definitional) content (Campbell et al., 2011). Main concepts and their interrelationships are represented by concept maps. These concepts are not just keywords that occur frequently, but words that "travel together" throughout the text. Related concepts are clustered together by

large circles, which represent themes; this is done by the software to assist in interpretation. In Figure 2, the larger circle represents the main theme of an analyzed text. Here it is called Theme 1, which is named after the most common concept by default (Concept 1), represented by the largest dot. The researcher may choose to rename the main theme that groups these concepts together. It can also be seen that Theme 1 and Theme 2 share a common concept (Concept 4), which shows that both themes are linked together within the text. Figure 2 - see Fall 2014 issue website http://rapidintellect.com/AEQweb/5515-4j-7.pdf

Once data was collected and entered into the software, certain steps were followed to ensure comprehensive analysis. One of the main strengths of Leximancer is its stability, which is a criterion that measures whether the same data would produce the same results. When using Leximancer within a study, coder reliability does not present limitation, since the text segments are coded in the same manner, provided that the parameter settings are the same (Smith & Humphreys, 2006). An additional Leximancer strength is that its structured concept maps ensure objectivity and reliability. However, in order to obtain more comprehensive analysis, supplemental adjustments were necessary.

When Leximancer runs the learning process and develops a list of concepts that are contained in the text, the concepts and their relationships to each other are displayed via the concept map, as discussed previously. During pre-processing, Leximancer uses a predefined Stopword List to remove words that have low semantic content–or meaning–from the text. These words include "and," "the," "after," "is," and so forth. Once the data is uploaded, the user can go through this list and add or remove words that may be present in the text but have no significant meaning. Since the unit of analysis used was abstracts, other commonly used words, such as "article," "paper," "results," "use," and "using" were also removed from the concept list. Additionally, singular and plural words such as "student," "students," "program," and "programs" were merged into one word in order to provide more robustness to the analysis. Once these adjustments were made, the software was run again to obtain a more accurate concept map. The software by default shows about seven or eight main themes in the concept map. This was modified through sliders which control the connections between themes in order to obtain a more detailed understanding of the underlying themes of curriculums, and the final concept map was obtained.

Results and Discussion

The ten main themes, published within all articles between 2006 and 2012, are represented by the overall concept map, shown in Figure 3. Demonstrated by the figure, two themes were prominent: 1) teaching and learning as a process (top), and (2) instructional strategies, including content presentation and learner participation (bottom). Student engagement emerged as an important factor that was intertwined with both instructional design as well as social context of learning. Teaching was intertwined with learning and learning outcomes and had become another focus. Yet, despite divergences in student engagement and teaching, the importance of the convergence of student engagement and teaching in learning and instructional design cannot be minimalized. When understood as points of convergence, topics of learning and instructional design could be employed and integrated into pedagogical practice, communication, and knowledge bases of teachers and students alike. Figure 3 - see Fall 2014 issue website http://rapidintellect.com/AEQweb/5515-4j-7.pdf

This study analyzed interrelationships among themes through representation of a "connectivity score," which was expressed as a percentage to show theme relevancy in order to better understand the convergence points. For example, "students," "online," "learning," and "education" emerged as important individual themes. These themes were expected to frequently occur in online education journal publications. Demonstrated by Figure 3, this expectation was observable in the publications. In lieu of the stated individual themes, "design," "content," and "class" themes also emerged. Furthermore, theme interrelationships appeared between "learning," "design," and "content," with multiple interrelationships occurring in "design." This indicates that "design" functioned as a significantly relevant convergence point for "learning" and "content." For example, the theme "learning" reoccurred in the publications discussing platforms such as Blackboard, Merlot, Adobe, as well as an increasing number of open courseware available to students. The "content" theme also reoccurred in these aforementioned platforms, demonstrating how "learning" and "content" themes can converge. However, the theme "design" was not only the more relevant theme discussed in these platforms; it unified themes of "content" and "learning." That meant online education researchers, focused on "design" themes, could also address "learning" and "content" themes relevant to the students and faculty they serve. Therefore, online educator researchers, such as administration and faculty, can use the interrelationships between themes to decide which theme is the most prevalent and influential when studying matters pertaining to online education. Students benefit from analysis of these interrelationships as they are most impacted by changes in online education. By understanding the variability within interrelationships, administration and faculty online researchers can create quality controls by creating frameworks that address the most interrelated concepts. Figure 4 - see Fall 2014 issue website http://rapidintellect.com/AEQweb/5515-4j-7.pdf

If a more detailed overview was necessary, the percentage of visible concepts could also be adjusted through the use of sliders in Leximancer. In this case, the main concept that gave its name to the theme was seen, and other concepts within that specific theme became explicit, as demonstrated in Figure 5. This intricate analysis provided researchers a better understanding on the concepts and their relationships with each other by identifying and ranking primary or main themes and tertiary themes. For instance, the previous discussion on "design" was now extended to include social communication, tools and knowledge (to establish consistency, the primary concept will be denoted within quotation marks, and the secondary and tertiary concepts will be denoted in italics). This appearance of social communication in the results was not surprising, considering the overwhelming amount of information that was being exchanged through outlets such as Facebook and Twitter, among others. In particular, Tapsis, Tsolakidis, and Chryssi (2012) explored the effects of using Second Life as a learning environment, and Woodley and Meredith (2012) studied the role of Facebook in education. The main theme "learning" enveloped these tertiary themes by including the concepts environment, technology, learners and teachers. Consequentially, researchers and practitioners could understand and apply these social media tools to online education or other mediums of education.

Even though the articles analyzed primarily dealt with online education, some of the papers used face-to-face (or traditional) courses as topics of exploration. Themes included the differences between online and traditional courses or how to modify a face-to-face course into an online course. These types of articles were represented in the above concept map, specifically within the major themes "online" and "course." The proximity of themes with respect to each other and the center of the map were also of

importance. For instance, the theme "social" was situated on the bottom right hand corner of the map and is semantically connected to only the theme "communication." The theme "social" also did not appear in the connectivity score figure displayed in Figure 5 because the theme "social" has a connectivity score of eight percent. This meant that the employment of connectivity scores not only provided for the determination of convergences and interrelationships but also was an effective means for identifying conceptual outliers and conceptual variability. Figure 5 - see Fall 2014 issue website http://rapidintellect.com/AEQweb/5515-4j-7.pdf

Conducting a trend analysis was accomplished using the tagging feature of Leximancer. When uploading individual files (documents) or folders (sets of documents), the user tagged either the files or the folders, and asked the software to include these tags in the concept map. The location of these tags and the concepts provided important analysis. As seen in Figure 6, all seven years are spread around the concept map. The closer a concept is to the year: the more that concept is associated with that year. The concepts and themes located in the center of the map are shared across the seven years. Themes such as "learning," "online," and "research" are located in the center of the map and therefore are shared across the seven years. These themes are common underlying themes that provide the foundation of online education, which include "effective and efficient learning" and "teaching and designing online courses" that will provide an appropriate environment to promote efficient learning and teaching. Figure 6 - see Fall 2014 issue website http://rapidintellect.com/AEQweb/5515-4j-7.pdf

An additional study objective was to identify and analyze trends within online education. Since online education is heavily impacted by the rapid advancements of technology, results indicate that seven years provides an adequate range of time to analyze trends within online education because the time frame allows significant opportunity for Leximancer to distinguish concepts from themes. This trend analysis was accomplished using the tagging feature of Leximancer. When individual files (documents) or folders (sets of documents) were uploaded, the user could tag either the files or the folders and could ask the software to include these tags in the concept map. As a result, the location of these tags and concepts provided important analysis of emergent trends. Seen in Figure 6, all seven years were spread around the concept map. The closer a concept was to the year, the more likely the concept was to be associated with that year. The concepts and themes located in the center of the map were shared across the seven years. Themes such as "learning", "online", and "research" were located in the center of the map and therefore were shared across the seven years. These were common underlying themes that provided the online education foundation, which includes effective and efficient learning and teaching and designing online courses that provided an appropriate environment to promote efficient learning and teaching.

Initially, in 2006, technologies and technical issues were distinguishable, prevalent trends. As online education was still emerging, focus on technology use, which tools to use (Smith & Humphreys, 2006), and the problems technology could create for online education dominated publications (Bradshaw & Crutcher, 2006). Articles concerning technical knowledge acquisition, technology utilization, analysis, and application were common within journals published in this year. However, another notable aspect of this 2006 trend was divergence from other identified trends. Based on the location of tags in and around the concept map, the year 2007 was noticeably further away from 2006 on the conceptual map. As seen from the map, the main themes "group", "discussion", and "class" were within close proximities of the year 2007. While the previous year was focused on available technologies, the studies conducted in 2007 were focused on

groups, group work, and conducting effective discussions within online classrooms. Trends from the years 2006 and 2007 functioned as foundational years: these years created a framework for what online teaching and learning involved through the exploration of technologies (Martin & Rice, 2007), technical issues, and how to employ and leverage said technologies in a classroom setting.

Training, higher education institutional applicability, challenges, and reclassification of educational delivery modes were prevalent trends from 2008, 2009, and 2010. Situated immediately after the foundational years, trends for 2008 focused on how to improve the newly established discipline. As a consequence, 2008 trends delved more specifically with questions pertaining to the applicability of online teaching in higher education. Cain and Pitre (2008) exemplify this trend with their exploration of the effects of computer assisted outcomes on student learning. Articles published during this year reflected these trends with article emphasis on the feasibility of using online education in a higher education setting, feasibility of training higher education staff and students to employ and apply online education, and challenges resulting from the application of online education to higher education. In contrast, online teaching relationships were the dominant trend in 2009. In a study of medical students, web based options were already well established and questions pertaining to teacher relationships were poised (May, Acquaviva, Dorfman, & Posey, 2009). With an emphasis on students, classroom, and student-instructor relationships, trends from 2009 demonstrate a now integrated and established online educational presence and strove to hone the human interactions necessary in order to make online education successful. This trend shift was distinguishable by the presence of the concept data within the "students" theme. Trends from 2010 focused on course development and the emergence of a reclassification of lecture delivery as face-to-face delivery. Davie and Berlach (2010) discuss course development through use of best web practice. Farwell and Waters (2010) discussed variation of content delivery style as it pertained to lecture and delivery. More detailed analysis on face-to-face as a concept yielded the result that studies were now focused on more traditional methods of delivery, best practices, programs, and community. This concept also included specific methods used to conduct research, such as face-to-face interviews. In summary, trends from 2008 and 2009 emphasized integrating online education in higher education and how to utilize this integration, and trends from the year 2010 redefined educational terminology and with this reclassification that poised challenges to the established online education.

The final two years, 2011 and 2012, were on the opposite sides of the concept map. While trends of 2011 emphasized social issues, communication and knowledge, publication trends of 2012 focused more on faculty and quality. In fact, the concept of quality began to become dominant in 2012. The connection between quality and faculty showed that the effectiveness and efficiency of online education depended not only on design of courses and tools, but also the individual designing the course and facilitating the use of the tools. Dittmar and McCracken (2012), for instance, conducted a study to promote continuous quality improvement in online teaching. Another aspect of quality was the quality of student outputs and how quality relates to course outcomes. Alden (2011) conducted a study on how to accurately assess the quality of student contributions in group projects. Together, these particular findings accentuated the opposing aspects of the two years, the communal versus the optimal.

Social theories and Constructivism influenced pedagogical practices of 2011. Pedagogical practices sought broad points of social connectivity by employing

techniques, taxonomies, and models that could address macro-level concerns to answer globalization and multiculturalism questions (Alden, 2011). Trend analysis from 2011 affirmed social issues were prevalent within these pedagogical practices. Despite the fundamental theory employed, social issues trends unified the pedagogy of 2011, reflecting the year's concern for communicating across ethnic, racial, and global dividing lines. Pedagogical practices of 2012 evaluated the quality of business, psychological, sociological, and educational theoretical frameworks, with emphasis placed on how each framework employed collaboration, mentorship, and ongoing teacher and student development. For example, satisfaction with the use of Second Life in an interactive learning environment was a study conducted in 2012 (Tapsis, Tsolakidis, & Chryssi, 2012). In 2012, pedagogy appraised the advantages and disadvantages educators and their auxiliaries experienced with the adaptation of each theory, recommending and negating theories in order to hone the best standards. This was supported by the trend analysis of 2012 that suggested quality significantly impacted pedagogical practices. By demonstrating recurring connectivity between faculty, quality, and course design, trend analysis from 2012 affirmed the notion that these multi-disciplinary ideological structures could be optimized to encourage best teaching practices.

Communication was integral to teaching in 2011.Teachers frequently devised communication strategies that promoted peer learning, partnerships, teamwork, and the hypothesized use of supplemental Web 2.0 technologies to build learning environments that best consolidated online and face-to-face resources. Alden (2011) particularly emphasized questions pertaining to effective teamwork in online settings. These communication strategies adhered to the reoccurring 2011 trend of communicative teaching. Building upon the socially-oriented pedagogical practices that propagated 2011, the 2011 communication trend in teaching offered a possible explanation for the prevalence of activities and designs that encourage communication. Teaching practices of 2012 assessed the quality of asynchronous and synchronous learning environments and how teachers effectively or ineffectively employed tools within these environments.

Reviewing how teachers and tutors utilized multi-user virtual environments (MUVES), Facebook, Blackboard, and Open Education Resources (OER) in online learning environments as well as face-to-face (F2F) learning environments, teaching practices of 2012 discerned results for the following: which teaching practices created barriers, which teaching practices encouraged inclusivity, how content curation tools can be hindrances or beneficial supplementary resources for teaching, and mixed results for ideal teaching environment (Woodley & Meredith, 2012; Tapsis, Tsolakidis, & Chryssi, 2012).Trend analysis of 2012 concurred with these findings by asserting that quality impacts teachers and teacher facilitation of tools. Therefore, trend analysis suggested that despite mixed findings on the teaching environment, teachers maximized learning through their ability to demonstrate a particular kind of tool functionality.

Knowledge base synthesis for learning characteristics, learning community creation, and converging learning systems were common themes found in 2011. Attention was given to building a base of learning outcomes, extracting learning from discussion threads, and how to employ Facebook, YouTube, and Google resources. Confirmed by the 2011 trend analysis, the acquiring knowledge trend prevailed throughout learning. Trend analysis of 2011 also revealed that the shared objective of teachers and researchers was the accumulation of knowledge in order to find out what learners actually retained and gravitated towards. Learning practices of 2012 critiqued how

students acquired knowledge in F2F, blended, and online learning environments as well as how knowledge acquisition within each could be amplified. These practices analyzed collaborative and independent learning, learning competencies, teacher impact on student learning, and how gender, race, and ethnicity influence learning. Trend analysis of 2012 found student outputs and course outcomes related to the quality of learning accomplished by students. Connecting all these queries by quality, the 2012 trend analysis connected what appears to be disparate aspects of learning and organizes them under the theme of quality.

Demonstrating thematic and conceptual variability, trend analysis throughout the years can provide a detailed overview on how the focus of studies conducted in online education shifted according to changing supply and demand. One year technological issues were important; the next year training was emphasized. In contrast to this variability, certain trends remained constant. The changes in issues were found in the constant reemergence of themes delving in how to assess the effectiveness and efficiency of online courses. Therefore, despite reported changes in trends, effectiveness and efficiency were reoccurring. These trends could offer researchers and practitioners a theoretical evolutionary framework that can evaluate future modes of technical innovation in education. Contrarily, researchers have argued the effectiveness of employing a timeline in order to document trends. Particularly, this use of the seven-year timeline may not have been sufficient to analyze trends in any other discipline; however, since online education has been directly dependent on technology and technology has been advancing so rapidly, seven years has provided an adequate range to analyze trends within online education. With the transitioning from WebCT to Blackboard, from voice-over PowerPoint to Wimba lectures, and employing social media tools such as Facebook and Twitter, each upgrade in technology reflects on the way students learn and faculty members teach.

Conclusion

This study revealed a substantial focal shift and growth of a workable delivery from technical application, application, and best practices to enhance quality from 2008 to 2012 in online education. Growth was seen as a specific, workable delivery system. Theme analysis emphasized foundational technology in 2006. In 2007, theme analysis shifted to technological applicants. Integration and utilization themes dominated the years 2008, 2009, and 2010.Themes in 2008 focused on online education applicability. Online teaching relationships themes prevailed in 2009; whereas, redefining educational terminology marked themes in 2010. Communal and quality objectives rounded out themes for 2011 and 2012. Themes in 2011 focused on social issues, and themes in 2012 addressed the concept of faculty quality.

Additionally, trend analysis supported theme analysis from 2006 to 2012. Foundational trends such as tools and the pros and cons of tool use proliferated 2006. Trends in 2007 mirrored a technological applicant theme with emphasis on groups, discussion, and class pairings. In 2008, an applicability theme was supported by feasibility trends – feasibility for staff, faculty, students, and administration were frequently identified. Trends in 2009 emphasized integration by delving into online teaching relationships between students and instructors. The reclassification theme was supported by 2010 trends of course development, lecture, and face-to-face delivery trends, which marked novel systems of paradigm reclassification. Social issue themes for 2011 were marked by optimal communication teaching trends and emphasis of social theories and constructivism trends. Whereas, the quality theme of 2012 was supported by emergent content curation tools trends.

Limitations

The potential value of the research conducted also included the limitations and therefore is open to future research opportunities. One of the limitations of this study was that the themes and concepts emerging from the body of knowledge were still used as proxy for program quality. The inclusion of quality as a concept that is measured directly brings new research opportunities. Also, the results obtained here and additional studies need to be included in benchmarking and standards studies, that is how practitioners can use these studies as benchmarks. Since the field is changing, the themes that are currently dominant may also change in another seven years. While themes identifying technologies, integration into higher education, teaching practice, knowledge basis, and communication have the appearance of demonstrating an evolution of thought and process, further investigation will be needed in order to determine if this established pattern and expression of themes will be applicable for future technological educational innovations. Expanding the scope of this study, adding new journals to the database, and extending the timeline, are venues that may provide a broader perspective to the field of online education.

References

Alden, J. (2011). Assessment of individual student performance in online team projects. Journal of Asynchronous Learning Networks, 15(3), 5-20.

Allen, E., & Seaman, J. (2013) Changing course: Ten years of tracking online education in the United States (Research Report No. 1). Retrieved from Online Learning Survey: http://www.onlinelearningsurvey.com/reports/changingcourse.pdf

Bradshaw, G. L., & Crutcher, R. J. (2006). Beyond the printed page: Style suggestions for electronic texts. Journal of Online Learning and Teaching, 2(4), 226-232.

Cain, D. L., & Pitre, P. E. (2008). The effect of computer mediated conferencing and computer assisted instruction on student learning outcomes. Journal of Asynchronous Learning Networks, 12(3-4), 31-52.

Campbell, C., Pitt, L. F., Parent, M. & Berthon, P. R. (2011). Understanding consumer conversations around ads in a Web 2.0 world. Journal of Advertising, 40, 87-102.

Cretchley, J., Rooney, D. & Gallois, C. (2010). Mapping a 40-year history with Leximancer: Themes and concepts in the Journal of Cross-Cultural Psychology. Journal of Cross-Cultural Psychology, 41, 318-328.

Cummings, S., & Daellenbach, U. (2009). A guide to the future of strategy? The history of long range planning. Long Range Planning, 42, 234-263.

Davie, S., & Berlach, R. G. (2010). Using wikis to facilitate communication for rural, remote and at-risk practicum students. Journal of Online Learning and Teaching, 6(1), 78-88.

Dann, S. (2010). Redefining social marketing with contemporary commercial marketing definitions. Journal of Business Research, 63, 147-153.

Dittmar, E., & McCracken, H. (2012). Promoting continuous quality improvement in online teaching: The meta model. Journal of Asynchronous Learning Networks, 16(2), 163-175.

Farwell, T. M., & Waters, R. D. (2010). Exploring the use of social bookmarking technology in education: An analysis of students' experiences using a course-specific Delicious.com account. Journal of Online Learning and Teaching, 6(2), 398-408.

Lederman, D. & Jaschik, S. (2013, August 27). Survey of faculty attitudes on technology [newsgroup]. Retrieved from http://www.insidehighered.com/news/survey/survey-faculty-attitudes-technology#sthash.GPHqPzPI.dpbs

Martin, N. J., & Rice, J. L. (2007). Profiling enterprise risks in large computer companies using the Leximancer software tool. Risk Management, 9, 188-206.

May, L., Acquaviva, K. D., Dorfman, A., & Posey, L. (2009). Medical student perceptions of self-paced, Web-based electives. American Journal of Distance Education, 23, 212-223.

Mayadas, A., Bourne, J., & Bacsich, P. (2009). Online education today. Journal of Asynchronous Learning Networks, 13(2), 49-56.

Rooney, D., Paulsen, N., Callan, V. J., Brabant, M., Gallois, C., & Jones, E. (2010). A new role for place identity in managing organizational change. Management Communication Quarterly, 24, 44-73.
Smith, A. E., & Humphreys, M. S. (2006). Evaluation of unsupervised semantic mapping of natural language with Leximancer. Behavior Research Methods, 38, 262-279.
Tapsis, N., Tsolakidis, K., & Chryssi, V. (2012). Virtual worlds and course dialogue. American Journal of Distance Education, 26(2), 96-109.
Woodley, C., & Meredith, C. (2012). Supporting student transition through social media. American Journal of Distance Education, 26(2), 86-95.

The Nation's Leading Provider of Teaching Solutions

Academic Exchange Quarterly: double-blind-peer-reviewed journal, having readership base of over twenty three thousand educators, welcomes research, commentary, and other manuscripts that contribute to effective instruction and learning regardless of level or subject. In addition to faculty submissions, our primary authorship group, we accept articles co-authored by graduate students and professors.

Submission Procedure: manuscripts, length 2000-3000 words, can be submitted by e-mail, details at http://rapidintellect.com/AEQweb/rufen1.htm All articles are accepted with the understanding that they have not been accepted or published elsewhere. Review and editorial evaluation takes about nine weeks. Track review progress at http://rapidintellect.com/AEQweb/redak1.htm

Deadline: *AEQ* is published four times a year:

-- Spring in March
-- Summer in June
-- Fall in September
-- Winter in December

In general, material intended for a particular issue should be in the *AEQ* office at least three months ahead of the publication date. Submissions are not returned.

Subscription: annual subscription, four issues, USA or any foreign country $189.00. Single copy $48.00. Back issue, when available, $62.00. Various discounts are available at http://www.rapidintellect.com/AE/8karte1.htm

Academic Exchange Quarterly
P.O. Box 131 Stuyvesant Falls, NY 12174 USA
http://rapidintellect.com/AEQweb/

After 18 years of publishing, AEQ print edition enjoys wide global recognition - authors and readers in 50+ countries
http://www.rapidintellect.com/AE/8indekg.htm