INFORMATION SYSTEMS
EDUCATION JOURNAL

In this issue:

The **Information Systems Education Journal** (ISEDJ) is a double-blind peer-reviewed academic journal published by **EDSIG**, the Education Special Interest Group of AITP, the Association of Information Technology Professionals (Chicago, Illinois). Publishing frequency is six times per year. The first year of publication is 2003.

ISEDJ is published online (http://isedjorg). Our sister publication, the Proceedings of EDSIG (http://www.edsigcon.org) features all papers, panels, workshops, and presentations from the conference.

The journal acceptance review process involves a minimum of three double-blind peer reviews, where both the reviewer is not aware of the identities of the authors and the authors are not aware of the identities of the reviewers. The initial reviews happen before the conference. At that point papers are divided into award papers (top 15%), other journal papers (top 30%), unsettled papers, and non-journal papers. The unsettled papers are subjected to a second round of blind peer review to establish whether they will be accepted to the journal or not. Those papers that are deemed of sufficient quality are accepted for publication in the ISEDJ journal. Currently the target acceptance rate for the journal is under 40%.

Information Systems Education Journal is pleased to be listed in the 1st Edition of Cabell's Directory of Publishing Opportunities in Educational Technology and Library Science, in both the electronic and printed editions. Questions should be addressed to the editor at editor@isedj.org or the publisher at publisher@isedj.org.

INFORMATION SYSTEMS
EDUCATION JOURNAL

Editors

Adding Value: Online Student Engagement

Donna R. Everett
d.everett@moreheadstate.edu
Morehead State University
Morehead, KY 40351, USA

Abstract

This paper seeks to add to the emerging literature related to online student engagement with additional suggestions for instructional strategies. Student engagement is one of the tenets of effective online instruction; as such, particular attention to how it adds value to student learning is crucial and worth the time and effort to enhance learning outcomes. What strategies and technology enhance student engagement and add value to student learning? Continuing research into online student engagement strategies is needed to add value to student learning.

Keywords: student engagement, online teaching, instructional strategies, engagement using technology

The purpose of this paper is to reinforce how student engagement adds value to teaching and student learning in the online environment. The roots of student engagement are driven by the desire to enhance student learning and success.

Four elements are included in this paper: student engagement research, online teaching, instructional strategies, and how technology may be used to engage students with the course content. The first area, student engagement, includes a definition and a cursory review of literature that sets the foundation for the other three areas.

1. STUDENT ENGAGEMENT

"Tell me and I forget. Teach me and I remember. Engage me and I learn." – Chinese Proverb

Student engagement has been a topic of concern since the first classroom was set up. However, formal research into student engagement was only conceptualized in the 1980s as a way to reduce boredom, alienation, and dropout rates (Finn & Zimmer, 2013). Fisher & Berliner's (1985) study of engaged time for improving student achievement also made a strong contribution. Models of student engagement research have emerged: Newmann (1981) and the role of the school environment; a "self-system process" model, focusing on competence, autonomy, and relatedness (Connell. 1990; Connell & Wellborn, 1991); and the participation-identification model (Finn, 1989), focusing on quality of instruction and student abilities. Newer models focusing on academic engagement, social engagement, cognitive engagement, and affective engagement have added four important dimensions to student engagement (Appleton, Christenson, Kim, & Reschly, 2006; Darr, Ferral, & Stephenou, 2008; Fredericks, Blumenfeld, & Paris, 2004; Jimerson, Campos, & Greif, 2003; Libbey, 2004; Luckner, Englund, Coffey, & Nunn, 2006; Rumberger & Lim, 2008).

The participation-identification model as espoused by Finn (1989) has particular application to student engagement with the content since student behaviors related to learning, such as paying particular attention to the teacher, responding to teacher's questions, completing assignments, taking the initiative to look at materials differently, and engaging in extra activities, enhance student learning and achievement. Additionally, social and emotional

factors (attending class, following guidelines, and belonging) play a strong role in Finn's model. Later research by Finn, Pannozzo, & Voelkl (1995) has reinforced the efficacy of this model.

As research has shown, how to keep student focus on the course content remains a key element in student learning and teacher planning. The refocus on student engagement in later research has been exacerbated as the result of the introduction and proliferation of online courses. Student engagement again has become front and center of course planning and implementation.

Definition

As reported in the *Handbook of Research on Student Engagement,* Christenson, Reschly, & Wylie, Eds., 2013, no one single definitive, operational definition of student engagement is forthcoming. However, various definitions include typologies of behaviors coming out of research by Fredericks, et.al, 2004, who state that student engagement is "multidimensional, interrelated, observable behavior, internal cognition, and emotion."

Another study defined engagement as a way to embrace active and collaborative learning, participation in challenging academic activities, formative communication with academic staff, involvement in enriching educational experiences, and feelings legitimated and supported by university learning communities (Coates, 2007).

For purposes of this paper, student engagement will be defined as the intention of a student to participate in a learning activity as loosely defined by Connell & Wellborn, 1991 and as reinforced in the participation-identification model detailed by Finn, 1989. The learning activity should include observable behavior that affects the internalization of the content, with social and emotional implications and an intentional decision to engage.

Why does Student Engagement Matter?

In order for instructors to choose instructional strategies and activities, a student engagement perspective is needed. The reasons for this include the following factors as proffered by Finn & Zimmer (2013):

- Engagement behaviors should be understood as essential to learning (not just "busy" work)

- Engagement behaviors parallel later behavior; e.g., they are directly relatable to "on and off the job behavior" (connecting to the appropriate work place)
- Remaining engaged (persistence) is an outcome of being in school (value is seen in completing the activity)
- Engagement behaviors have the possibility of improving academic achievement (the value of learning is reinforced). Additionally, student engagement behaviors have adjusted instructional dimensions and outcomes for social and emotional learning that provide motivation to learn and achieve. Students are able to identify with the activity and "see" the value for themselves.

Understanding student engagement is a way to improve student learning and enhance significant payoff for students. Choosing and manipulating instructional strategies to engage students shows a great deal of planning for student success.

The attention to student engagement as a hot topic is timely due to the proliferation of online courses and programs. The challenge in the online environment is how to engage students with the content, with each other, and with the instructor. Finding what works for students and instructors in the online environment is critical and crucial to enhancing not only learning but improving the feelings toward online learning. The next section focuses on a discussion of e-learning and its continuing growth across all education and training venues.

2. ONLINE TEACHING

E-Learning has revolutionized the educational sector, and has changed the way knowledge and skill acquisition are viewed. Because of modern educational technology, e-learning tools and techniques just keep getting bigger and better. Today, they are providing learners with a more impressive, and more effective, educational experience.

More and more students and employees are using e-Learning to earn their degrees, build upon their current knowledge base, and develop new skills. As such, an increasing number of online courses are now being offered in order to meet the ever-growing demand (eLearning Industry, 2014).

Eight new developments in online learning also were reported in the 2014 eLearning Industry report:

- In 2011, it was estimated that about $35.6 billion was spent on self-paced eLearning across the globe. Today, e-Learning is a $56.2 billion industry, and it's going to double by 2015.
- Corporations now report that e-Learning is the second most valuable training method that they use.
- Today, it is estimated that about 4.6 million college students are taking at least one course online. However, by 2019, roughly half of all college classes will be eLearning-based.
- Over 41.7% percent of global Fortune 500 companies now use some form of educational technology to instruct employees during formal learning hours, and that figure is only going to steadily increase in future years.
- According to a report released by IBM, companies who utilize e-Learning tools and strategies have the potential to boost productivity by up to 50%. For every $1 that company spends, it's estimated that they can receive $30 worth of productivity.
- According to a recent study conducted by The Research Institute of America, e-Learning has the power to increase information retention rates by up to 60%.
- It has been estimated that nearly 25% of all employees leave their job because there simply aren't enough training or learning opportunities. On the other hand, companies who do offer e-Learning and on-the-job training generate about 26% more revenue per employee.
- 72% of companies who were included in a recent survey stated that e-Learning helps them to keep up-to-date with changes in their industry, which helps them to remain competitive within their niche.

For these reasons and others, purposeful attention must be paid to how to engage online learners so that the predictions of its value come true. The next section of the paper focuses on strategies that take into account the factors of student engagement.

3. INSTRUCTIONAL STRATEGIES

> You can't fake farming or teaching.
> *John Soderman, Douglas County, Nevada, Superintendent*

Instructors' course outcomes intention and the manner in which they construct learning activities in the learning environment to meet the outcomes have an impact on student engagement. The online learning environment has an added challenge without face-to-face contact. However, a strong, balanced teacher social presence can make a difference in student engagement (Dixson, 2010). Dixson's findings report that "students identified a number of activities as engaging: application activities (having to apply the concepts to case studies or problem solving), discussion forums about the concepts, labs and group projects, research papers, and current events assignments."

In a presentation at the Quality Matters conference, Jones (2013) offered "support for a strong social presence" in the online environment by presenting the following activities:

- Identify preferred method of communication (e-mail will not work as well with student enrollments of 30+)
- Share response timeline with students
- Post weekly announcements
- Consider having weekly web conferencing meetings (optional meetings may be best)
- Use facilitators – to support more "one-on-one" communications.

In the same presentation, other suggestions from Jones emerged related to "cognitive and emotional" factors:

- Set up course-centered study groups for online courses by providing a group-meeting place (group site, web conferencing, or something similar).
- Explain purpose and expectations of the group site.
- Provide supportive instructional resources (e.g., narrated slides, *YouTube* videos, online research, quick web cam videos)
- Add an introduction message from the instructor at the beginning of each module/unit
- Never use just a PowerPoint/bullet list without an explanation of key points
- Be certain to explain the purpose of the resources (i.e., why the resource is needed or important for students; what they should learn or gain from the resource)
- Provide week by week instructions for individual work needed toward group projects
- Emphasize problem-based learning
- Permit student choice and initiative

- Encourage depth rather than breadth: require student thinking (apply, analyze, evaluate, create)
- Offer multiple levels of challenge
- Design activities to be relevant and authentic

All of the activities cited above have one thing in common: they require *active* learning (defined as focusing the responsibility for learning on students as first cited in a study conducted by Association for the Study of Higher Education [ASHE]) by Bonwell & Eison, 1991) and engaged teaching.

Some aspects of a flipped classroom (a form of blended learning in which students learn new content online by watching video lectures, usually at home; what used to be homework [assigned problems] is now done in class with teachers offering more personalized guidance and interaction with students, replacing the hour-long lecture (Bergmann & Sams, 2012). A connection between students and instructors and students and peers enhance the well being of students in the online environment.

4. ENGAGEMENT USING TECHNOLOGY

Information technology is tightly woven in our personal and professional lives and has made a world of difference in being able to engage students with the instructor, with other students, and with the content. Learning management systems have become increasingly more sophisticated and widely used since their debut in the 1950s and offer a myriad of chances for students to interact with the content, the instructor, and their peers. The National Education Technology Plan 2010 calls for revolutionary changes in education using technologies that engage and empower. The role that technology plays in the classroom depends on district funding and support, teachers' comfort level and knowledge, and knowing how to leverage technology as an instructional tool. Students, on the other hand, have experience with technology that supports multimedia, communication, and network access, and fosters creativity, problem solving, and collaboration experiences—worldwide.

Asynchronous
Robust asynchronous tools—(v) podcasts, mobile apps, Facebook, Twitter, LinkedIn, YouTube, Teacher tube, Pinterest (class or topic bulletin board), Todaysmeet.com (a Twitter-like tool that elicits student comments as a class is in progress), Google Apps, cloud computing,

flipped classroom (where both asynchronous and synchronous tools may be used before and during class), smartphones with tablet capability (e.g., notetaking in LectureNotes), tablet computers—all take advantage of content engagement by students in a venue that is appealing and ever-changing. The key to effective use is the choice of content and tool.

Synchronous
Synchronous tools require person to person or persons to persons live interaction. These tools include Skype, online chat rooms (such as Collaborate in Blackboard or Webex, collaborative publishing with wikis and blogs, smartphones, and interactive" notles."

"Notles" (for lack of a better term) are used by the author in a weekly live chat as a way for students to write notes, comments, or answers directly on PowerPoint slides for class participation. In this way, students must come prepared to the live chat by completing readings and/or viewing videos. This approach uses the theory of the "flipped" classroom.

The ultimate synchronous tool will be gamification in the classroom. Thomas & Brown (2011) propose a "learning environment that uses the components of gaming (collaborating, solving problems, creating solutions, acting, and reflecting) for a new culture of learning."

How these strategies and tools are chosen to engage students depends on the subject matter, the course objectives and outcomes, the instructor's comfort with the tools, and the students' willingness to invest interest and time to realize a return on investment. The value is added when strategies and tools are useful to prepare students for jobs, advancement, lifelong learning, and self-worth. Emerging research related to online instruction is the topic of the next section.

5. RESEARCH FINDINGS RELATED TO ONLINE INSTRUCTIONAL STRATEGIES

Research studies into student engagement in the online learning environment will provide insights into whether the instructional strategies noted here are being put to use and with what results. Several studies are included here.

The National Survey of Student Engagement (NSSE) Annual Results 2014 are based on nearly 335,000 census-administered or randomly sampled first-year and senior students attending 568 U.S. bachelor's degree granting institutions

that participated in NSSE in spring 2013 and reported in 2014. Four areas of engagement were surveyed: academic challenge, learning with peers, experiences with faculty, and campus environment Specific findings related to the four areas are highlighted here:

- Effective learning strategies were more frequently used by "students who were older, enrolled part-time, or taking all their coursework online, and were associated with higher self-reported college grades."
- On average, "seniors in engineering and biology were most engaged in collaborative learning, while their peers majoring in arts and humanities, social sciences, and social service professions were engaged in collaborative learning the least."
- Students taking all of their courses online were "significantly less engaged" in collaborative learning.
- Seniors majoring in arts and humanities observed the "highest levels of effective teaching practices by instructors, while those in STEM fields – especially engineering – observed the lowest levels of teaching practice."
- About "one student in ten" never met with an academic advisor during the academic year.
- Students report "learning with peers as sometimes and often" helpful.
- Both "learning with technology and courses that improved students' understanding and use of technology" had a positive association with all four of the NSSE academic challenge indicators.

Dixson (2010) sought to discover what activities and/or interaction channels might be expected to lead to more highly engaged online students. After first creating a scale to measure online student engagement, and then surveying 186 students from six campuses in the Midwest, the results indicate "no particular activity will automatically help students to be more engaged in online classes." However, the results also suggest "multiple communication channels may be related to higher engagement and that student-student and instructor-student communication are clearly strongly correlated with higher student engagement with the course, in general." Thus, advice for online instructors is still to use active learning but to be sure to incorporate meaningful and multiple ways of interacting with students and encouraging and requiring students to interact with each other.

A study by Baker (2010) sought to examine instructor immediacy and presence in an online learning environment in relation to student affective learning, cognition, and motivation. The study found "a statistically significant positive relationship between instructor immediacy and presence and also found that the linear combination of instructor immediacy and presence is a statistically significant predictor of student affective learning, cognition, and motivation. However, it did not find instructor immediacy to be a significant individual predictor; however, it did find instructor presence to be a significant individual predictor." The study also showed that students in synchronous online courses reported significantly higher instructor immediacy and presence.

In order to create a strong sense of community and to help students engage with learning in online courses, instructors need to find ways to help students feel more strongly connected with each other, with the instructor, and with the content to facilitate activities that more actively involve students in their own learning. Instructors who decisively design learning activities to create opportunities for students to learn about each other, thereby decreasing transactional distance and increasing social presence (Robinson & Hullinger, 2008; Rovai, 2002), are likely to improve learners' sense of classroom community. Students from marginalized populations may especially benefit from a sense of belonging and community (Pittman & Richmond, 2008).

Errey & Wood (2011) designed a pilot study to foster an understanding of the factors that influence engagement in undergraduate students in the business school at a regional Australian university. Two focus groups were conducted with the assistance of 22 students enrolled in the major study areas of the school. The information obtained informed the development of an on-line questionnaire aimed at exploring the drivers of engagement and disengagement. Eighty-five students completed the questionnaire, and 67 usable responses were available for analysis—a response rate of 17 per cent, which could be seen as illustrative of student disengagement. However, the findings of the pilot study suggest "the majority of students believed themselves to be engaged with their studies. Students reported that the instructors' approach, class and assignment structure, learning support and other personal factors affected their level of engagement."

Dracup (2012) formulated a study that viewed models of distance education that have "evolved over decades, just in time to collide with modern pedagogies in which communication, interaction, student engagement, and active learning are of critical importance." This paper examines the relevant published literature, looking at online learning activities through the prism of the defining characteristics of today. The number of college students taking online classes continues to grow. Today, nearly 30% of college students are taking at least one online class. The social media technologies encompass a wide variety of Web-based technologies such as blogs, wikis, online social networking, and virtual worlds and communication technologies.

Wang, Lin, Yu, & Wu (2013) compared the effectiveness of different learning environments between interactive Facebook instructional method and non-Facebook instructional method for undergraduate students. Two outcome dimensions were measured: student grades and learning engagement. A pre-test-posttest control group experimental design was used. The experimental group (n=134) received the interactive Facebook instructional method, and the control group students (n=57) received the non-Facebook instructional method. Data pertaining to student Facebook use and activities were also collected. Independent samples t-tests were used to measure significant differences in grades and engagement between the Facebook and non-Facebook classroom contexts. Pearson's correlation coefficient was used to measure the relationships between interactive Facebook instructional method and grades. A linear regression was also performed to analyze the predictors of student grades. Content analyses of samples of Facebook communication exchanges were also conducted. The results revealed that "the experimental group had a significant positive effect on grades and engagement", concluding that Facebook use in instructional method assists students in achieving better grades, higher engagement, and greater satisfaction with the university learning experience. Thus, the authors provide experimental evidence that Facebook can be used as an educational communication and interaction tool to enable faculty to assume a more active and participatory role.

Mokoena (2013) reports on a small-scale study that examined student engagement with and participation in a university online discussion forum site. The main aim of the study was to identify factors that encourage or discourage student participation in the forum. The study involved the tasks posted on the forum site with which students could engage and provide answers. The content of the discussion forums provided data for this study. The study used a post-graduate module with relatively high student numbers offered by an open and distance learning (ODL) institution of higher education in South Africa. A grounded theory approach was used for data analysis. The results show "that participation does not mean that the discussion forums are being used effectively, and it certainly does not indicate that student learning is being enhanced." Discussion forum effectiveness and student interaction are increased "by greater social presence on the part of lecturers, especially in the form of technical support, providing constructive feedback, and by setting clear expectations to help students understand what is expected of them."

A paper developed by Maloy, Edwards, & Evans (2014) describes utilizing wiki technology, small group workshops, and reflective writing assignments to "flip" a community engagement/service-learning course for college undergraduates who are tutoring culturally and linguistically diverse students in K-12 schools. Flipped classrooms are gaining popularity in the teaching of science, accounting, and other traditionally lecture-based college courses. In this flipped structure, in-class faculty lectures and presentations were replaced by assignments in a wikispace featuring multimodal resources that students hear, view or read, and write about weekly. During class, students rotated through a series of three learning workshops facilitated by faculty and student leaders. Conclusions and recommendations from the study included the following:

- Wikis are an effective flipped course technology. Flipping a college class would not be possible without the capacity of computers and the Internet to create anywhere/anytime learning through vodcasts and podcasts, interactive websites, and access to multimedia resources. Technology enables shifting much of the information presentation function of teaching to online audio or video lectures and presentations, PowerPoint or Prezi slides, and other relevant learning materials.
- Implement a flipped classroom approach one feature at a time. It has taken several semesters to flip the Tutoring in Schools course.

Tromba (2013) reported on the use of a popular online game as a tool for learning. It also brought into stark relief the misconceptions many career educators have regarding gaming in education. Peter Tromba, formerly a science, math, and computer teacher before becoming a middle and high school principal in Eugene, Oregon, "describes an experiment in which Minecraft gaming was used to improve student achievement, and along the way it was discovered that computer gaming presents a challenge and opportunity to improve both learning and class attendance." (Although Tromba's experiment was not conducted in higher education, the implications for the use of video games at this level are far-reaching.)

Interaction is crucial to student satisfaction in online courses as espoused in a study by Martin, Parker, & Deale (2012). Adding synchronous components (virtual classroom technologies) to online courses can facilitate interaction. In this study, interaction within a synchronous virtual classroom was investigated by surveying 21 graduate students in an instructional technology program in the southeastern United States. The students were asked about learner-learner, learner-instructor, learner-content, and learner-interface interactions. In addition, the academic, social, and technical aspects of interactions were examined in three course archives using Schullo's (2005) schema. Participants reported "that the Wimba interface was easy to use and that various features, such as text chat and the webcam, facilitated interaction among the students and with the instructor in the virtual classroom." The importance of students' ability to receive immediate feedback and their experience as presenters was highlighted across the various kinds of interaction. The instructor's teaching style and visual presence were "instrumental in engaging students with the content." The results suggest that student interaction, and hence learning, were aided by the live communication that occurred through the virtual classroom. This study has implications for those who are teaching in the online environment and want to expand their repertoire of teaching strategies.

6. CONCLUSIONS

Early research in student engagement focused on K-12 students. The focus on engaging students has set the foundation for research emphasis and concern for enhancing achievement, persistence, and success for students in online courses in higher education. With the advent of online instruction and the increase in instructional technology tools (especially social media), the need to engage students with the content, with peers, and with instructors becomes even more crucial.

Research is emerging that underscores the value of asynchronous and synchronous tools to enhance learning, social interaction, content immersion, self-efficacy, and community building. The choice of asynchronous or synchronous tools depends on course content, student outcomes, and instructor vision. Student engagement becomes an important element of course and lesson planning so that the value of the content, the tools, and outcomes lead to making one's way in workplaces that are embracing lifelong learning and working in communities that are more virtual.

Several areas for future research into student engagement in the online environment could further the discussion:

1. Which online instructional tools work best for specific academic areas?
2. Partial results of the NSSE 2014 report revealed that students taking all of their courses online were "significantly less engaged" in collaborative learning. Why this occurs should be followed up with more research.
3. How can students be more engaged and collaborative with each other in the online environment? Which tools work best to make interaction happen?
4. How is online teaching and learning elevated in the minds of its users and critics to recognize its value as a legitimate delivery system? Although this topic was not included in this paper, it is the hidden unanswered question for online instructors.
5. Emerging technologies offer the promise of "reaching" teachers and learners. What are these technologies and how will they be used to engage learners?

Continuing research into student engagement and its dimensions in online learning and its tools and strategies is needed to further define the best use of tools and strategies to add value to students' learning and preparation for an ever-changing workplace.

7. REFERENCES

Appleton, J., Christenson, S., Kim, D., & Reschly, A. (2006). Measuring cognitive and psychological engagement: Validation of the

student engagement instrument. *Journal of School Psychology, 44.* 427-445.

Baker, C. (January, 2010). The Impact of Instructor Immediacy and Presence for Online Student Affective Learning, Cognition, and Motivation. *The Journal of Educators Online*, 7 *(1)*, 1-30.

Bergmann, J. & Sams, A. (2012). *Flip Your Classroom: Reach Every Student in Every Class Every Day.* Washington, D.C.: ISTE; Alexandria, VA: ASCS.

Bonwell, C.; Eison, J. (1991). Active Learning: Creating Excitement in the Classroom AEHE-ERIC Higher Education Report No. 1. Washington, D.C.: Jossey-Bass. ISBN 1-878380-08-7.

Christenson, S. L.; Reschly, A. L.; & Wylie, C. Eds., 2013, *Research on Student Engagement.* New York: Springer.

Coates, H. (2007). *Student Engagement in Campus*-Based *and Online Education: University Connections.* EBook retrieved on June 12, 2014, from http://books.google.com/books?id=smcFiaZ cP-0C&dq=Coates+and+student+engagement& lr=.

Connell, J.P. (1990). Context, self and action: A motivational analysis of self-system processes across the life span. In D. Cicchetti & M. Beeghly (Eds.), *The self in transition: Infancy to childhood* (61-97). Chicago: University of Chicago Press.

Connell, J.P & Wellborn, J.G. (1991). Competence, autonomy, & relatedness: A motivational analysis of self-esteem processes. In M.R. Gunnar & L.A. Sroufe (Eds.), *Self-process and* development*: The Minnesota symposia on child development* (Vol. 23, 43-77). Hillsdale, N.J.: Erlbaum.

Darr, C., Ferral, H., & Stephenou A. (2008, January). *The development of a scale to measure student engagement.* Paper presented at the Third International Rasch Measurement Conference, Perth, Western Australia.

Dixson, M. (June 2010). Creating effective student *engagement* in online courses: What do students find engaging? *Journal of the*

Scholarship of Teaching and Learning, (10), *2*, 1-13.

Dracup, M. (2012). Designing online role plays with a focus on story development to support engagement and critical learning for higher education students. *Journal of Learning Design.* 5*(2).* 12-24.

ELearning Industry Report. (2014). 10 eLearning Statistics for 2014. Retrieved on June 11, 2014, from http://elearningindustry.com/top-10-e-learning-statistics-for-2014-you-need-to-know.

Errey, R. & Wood, G. (2011). Lessons from a student engagement pilot study. *Australian Universities Review,* 53*(1).* 21-34.

Finn, J. (1989). Withdrawing from school. *Review of Educational Research, 59,* 117-142.

Finn, J., Pannozzo, G., & Voelkl, K. (1995). Disruptive and inattentive withdrawn behavior and achievement among fourth graders. *The Elementary School Journal, 95,* 421-434.

Finn, J. & Zimmer, K. (2013. Student Engagement: What Is It? Why Does It Matter? In S. Christenson, Reschly, & Wylie (Eds.), *Handbook of Research on Student Engagement* (97-131). New York: Springer.

Fisher, C. & Berliner, D. (1985). *Perspectives on instructional time.* New York: Longman.

Fredericks, J., Blumenfeld, P., & Paris, A. (2004). School engagement: Potential of the concept, state of the evidence. *Review of Educational Research, 74,* 59-109.

Friedman, L. & Friedman, H. (2013). Using Social Media Technologies to Enhance Online Learning. *Journal of Educators Online, 10*(1), 1-21.

Jimerson, S., Campos, E., & Greif, J. (2003). Toward an understanding of definitions and measures of school engagement and related terms. *California School Psychologist, 8, 7-27.

Jones, P. (2013). *Steps to support student engagement in online courses with large enrollments.* Paper presented at the 2013 Quality Matters 5th Annual Conference.

Accessed on June 11, 2014, from https://www.qualitymatters.org/steps-support-student-engage-ment-online-courses-large-enrollments.

Libbey, H. (2004). Measuring student relationships to school: Attachment, bonding, connectedness, and engagement. *Journal of School Health, 74,* 274-283.

Luckner, A., Englund, M., Coffey, T., & Nunn, A. (2006). Validation of a global measure of school engagement in early and middle adolescence. In M. M. Englund (Chair). *Adolescent engagement in school: Issues of definition and measurement symposium* conducted at the biennial meeting of the Society for Research on Adolescence, San Francisco, CA.

Maloy, R., Edwards, S., Evans, A. (2014). Wikis, Workshops and Writing: Strategies for Flipping a College Community Engagement Course. *Journal of Educators Online.* 11*(1).* 1-23.

Martin, F., Parker, M., Deale, D. (June 2012). Examining Interactivity in Synchronous Virtual Classrooms. *International Review of Research in Open and Distance Learning, 13(3).* 228-261.

Mokoena, S. (April 2013). Engagement with and participation in online discussion forums. *The Turkish Online Journal of Educational Technology.* 12*(2)*. 97-105.

National Education Plan, 2010. Accessed on June 12, 2014, from http://www.ed.gov/technology/netp-2010.

National Survey of Student Engagement (2014). Retrieved on June 11, 2014, and December 30, 2014, from http://nsse.iub.edu/html/annual_results.cfm

Newmann, F. (1981). Reducing student alienation in high schools: Implications of theory. *Harvard Education Review. 51.* 546-564.

Pittman, L., & Richmond, A. (2008). University belonging and friendship quality during the transition to college: Links to self-perceptions and psychological symptoms. *Journal of Experimental Education, 76*, 343-361.

Robinson, C. & Hullinger, H. (June 2008). New benchmarks in higher education: Student engagement in online learning. *Journal of Education for Business.* 84*(2)*. 101-109.

Rovai, A. (April 2002). Building a sense of community at a distance. *The International Review of Research in Open and Distance Learning, 3(1).* n.p.

Rumberger, R., & Lim, S. (2008). *Why students drop out of school: A review of 25 years of research* (Project Report No. 15. Santa Barbara, CA: University of California, California Dropout Research Program.

Schullo, S. (2005). An analysis of pedagogical strategies: Using synchronous web-based course systems in the online classroom (Unpublished dissertation). University of South Florida.

Thomas, D. & Brown, J. (2011). *A new culture of learning: Cultivating the imagination for a world of constant change.* Self-published by Douglas Thomas and John Seely Brown, 2011, ISBN 13-978-1456458881.

Tromba, P. (June/July2013). Build engagement and knowledge one block at a time with Minecraft. *Learning & Leading with Technology.* 21-23.

Wang, J., Lin, C., Yu, W., Wu, E. (2013). Meaningful *engagement* in Facebook learning environments: Merging social and academic lives. *Turkish Online Journal of Distance Education*. 14(1). 302-322.

Other Resources

Barkley, E. (2011). Student *Engagement Techniques: A handbook for college faculty.* San Francisco: Jossey-Bass.

Christenson, S., Reschly, A, Wyllie, C. Eds. (2013). *Handbook of Research on Student Engagement.* New York: Springer.

The International Review of Research in Open and Distance Learning. May be accessed at http://www.irrodl.org/index.php/irrodl/ind