

Authentic Online Learning

I have identified key researchers or theorists in this area such as Herrington, Reeves, Oliver, who are looking at how technology and online learning supports authentic learning. And I am discovering others working on studies in this topic its characteristics. It appears that most articles that I have looked at agree on the characteristics or components of authentic learning. A discussion continues on exactly how one defines “authentic”. A good number of articles are doing qualitative studies that examine cases of authentic course activity examples and are proving that authentic learning and technology complement each other.

Abbott, L. (2005). The nature of authentic professional development during curriculum based telecomputing. *Journal of Research on Technology in Education*. 37 (4), 379-398.

This article was a definite disappointment with a misleading title. The purpose of the study was to examine teacher authentic learning through their implementation of online student projects using one of five curriculum-based programs such as KidLink, ThinkQuest. And others. The research design was a multi-case study using naturalistic inquiry. The number of eligible and willing teacher participants ended up being eight. All had used one of the computer programs with their students at some point in the last three years. Qualitative data were collected through open-ended questions that were coded and then cross-analyzed. The article provided case summaries of each participant to represent results that were not that revealing. Basically, the study found that telecomputing does not change teaching styles. Rather, teachers that are already

innovative and use inquiry-based , student-centered learning will find telecomputing useful.

The introductory literature was weak as it only cited studies of computer use in the classroom and made a minimum connection to constructivism as a founding basis in any kind of application of learning theory. The research design was also not that convincing in accuracy since teachers had to think back on experiences that could have gone back three years. It is not easy to put faith in that kind of accurate recollection of busy people. If that got published, I feel like I have hope for one of my projects. Luckily not all was lost since I did still find a few article references that I can look into about documented problems of implementing technology in the classroom and to be able to read more on “authentic professional development” as defined by Harris and Gandgenett (2002).

Childress, M.D. & Braswell, R. (2006). Using massively multiplayer online role-playing games for online learning. *Distance Education*

It was interesting to see that the primary focus of this article was more on increasing collaboration and interactivity among learners, than on any value of authentic learning like I thought there would be. The comments on MMORPGs of this article will be interesting to compare with the Reeves et al. ten characteristics of authentic learning activities and to the revised constructivist definition of what an "activity" is that I have seen in other articles reviewed.

This was basically a descriptive article providing a very short overview of the history and evolution of MMOGs to MMORPGs. Second Life was the primary example of an MMORPG, which served as a launching point to discuss some campus uses of it for courses and how use improves collaboration. Some examples of class group and pair activities were given. There was not really any foundational theory that the authors addressed in connection with MMORPG. There was some discussion on the importance of seeing where these types of online games can be used best in education. A table of potential research issues for MMORPGs and MMOGs is given, in which is included the mention of the need to look at authenticity and constructivism and "problem solving processes".

Cronin, J. (1993). Four misconceptions about authentic learning. *Educational Leadership*, 50(7), 78.-80.

This is a short and informative article that is old, but still useful in terms of some of the impediments seen at this time in terms of implementing authentic learning activities. It would be interesting to see if the misconceptions that the author lists continue to be the same or if they have changed. In my mind, there still must be a good number of issues deterring or slowing down the implementation of authentic activities with our without technology if there was such a quantity of literature and studies conducted in the early Risner, 2010

90's, yet almost 20 years later, we have not advanced that much. During this literature review I have found a few citations of other authors discussing some of the obstacles for implementing authentic learning. This article will be a part of the list I compile. I would then like to look if those factors continue to be the same or are changing, and how technology is playing a role in this.

The four misconceptions observed by Cronin through his work with a school district are the following: 1) If a learning context is not 100% authentic, it doesn't count. He argues that the concept of authenticity exists on a continuum and teachers must regularly try to move more and more toward authentic type activities, 2) If you aren't an extremely experienced educator, you won't know how to create good authentic activities. Cronin argues that everyone knows something about the authentic concept and must start in small measures practicing with small ideas. 3) If authentic tasks are not creative and fun, they are not authentic. He argues that fun is great, but that not all authentic and

real- life activities are not fun, but are necessary and useful. 4) If your authentic activity is not lengthy and complex, it is not good. The argument here is that although many authentic learning activities can be long- term projects that take experience to coordinate well, there are many authentic activities that can be simple and useful. Beginning with small activities instructors will build expertise. The final point by Cronin is that instructors need to feel that they are capable of designing and using authentic approaches, materials, and strategies to be able to comfortably implement them.

Herrington, J. , Oliver, R., & Reeves, T. (2003). Patterns of engagement in authentic online learning environments. *Australian Journal of Educational Technology.* 19, 59-71.

These three authors are obviously some of the current gurus in authentic learning since I have found tons of studies they have done. In this article they examine six cases of authentic learning tasks. The introductory theory is tied to the argument that although authentic tasks are valuable, it is impossible to create totally authentic tasks in an a classroom environment. They cite authors like: Petraglia (1998), Barab, Squire, and Eueber (2000) and Kantor et al. (2000). They then discuss definitions of “authentic”. Unlike the other article by Audrey Rule(article on page 10), these authors chose their cases using a set of criteria for authentic tasks and only chose examples that had an authentic task as a core part of their course and with at least a major online component. Individuals such as course designers, instructors, tutors, etc. were interviewed and course websites were analyzed. Data was analyzed by themes and issues using techniques like clustering and contrasts/comparisons as proposed by Miles & Huberman (1994).

The major result discovered thus far with the small number of cases examined is that one of the major difficulties faced by learners in authentic learning environments is the “suspension of disbelief” and how that affects student ability for active engagement. I thought this was pretty interesting how they found that students resist authentic activities
Risner, 2010

because it takes them out of their comfort zone of traditional classroom settings that are teacher-centered and test-oriented. The authors also cited literature confirming these points from as far back as 1997.

Though more research on this needs to continue, the recommendations for success using authentic tasks (especially in the online environment where people are at a distance), learners need extra support in the early weeks of the course. Peer scaffolding is another strategy suggested to help learners early on. The research suggests that if students can be especially supported initially in a course and make it through the discomforting adjustment phase, they can successfully participate in the benefits of higher order thinking an learning through an authentic online learning task.

Herrington, J., & Oliver. R. (1995). Critical characteristics of situated learning: Implications for the instructional design of multimedia. In J. Pearce & A. Ellis (Eds.), *Learning with technology*, (pp. 235-262). Parkville, Vic: University of Melbourne. Retrieved June 6, 2009, from <http://www.ascilite.org.au/conferences/melbourne95/smtu/papers/herrington.pdf>

Herrington is a top researcher in the area of online authentic learning contexts and problem-based scenarios. This article gives an in-depth review of situated learning theory from its origins to its application to teaching environments. Key factors in situated learning are: apprenticeship, collaboration, reflection, coaching, multiple practice, and articulation. The authors propose a model that can be applied to instructional design and cite critical characteristics that are necessary in a learning environment to make knowledge useable. The proposed model is argued as going further than existing work from Lave and Wenger, which addresses only agent, activity, and world. And it goes farther than Brofenbrenner's person, process, and context approach. The uniqueness of the proposed model lies in the examination of roles and responsibilities of three mutually constitutive elements of learning: learner, implementation, and interactive multimedia program. The authors argue that all elements must be addressed and integrated throughout all stages of the design process to be effective, not in isolation. Aspects of each of the three element are explained in detail with citations of supporting theorists and examples of how these concepts can be applied to the design of better quality interactive media. The explanations are clear and useful, and well supported by citations of top theorists in the field. A project underway to apply this model at the author's institution is briefly explained, but "in preparation" to follow the current article. It will be interesting to look for that article and see the results.

This article is more than ten years old, but is still relevant as foundational literature for authentic learning and the integration of technology. There is actually quite a bit of interesting and useful literature on the subject from the early 1990s. It almost seems like there was more then than now, but I am still investigating.

Murphy, K., & Gazi, Y. (2001). Role Plays, Panel Discussions and Simulations: Project-Based Learning (PBL) in a Web-Based Course. *Educational Media International*, 38(4), 261-270.

The focus of the study conducted for this article was geared toward two questions. One was to determine the characteristics of PBL that help course participants meet learning objectives. The second was looking at strategies that student facilitators and participants use to prepare and conduct PBL activities. The questions are valid I suppose, but the study design or something about the article presentation seemed vague and not very convincing. The theoretical foundation in the article introduction touched briefly upon constructivism, collaborative learning, and a few other small points about the role of facilitators in PBL, but the theories and the study being introduced did not seem that well connected. The study was qualitative with 17 graduate student participants in a web

course. Data from the online courses was analyzed through content analyses, qualitative data analysis software, and coding. There was some discussion about details of the student experiences, but nothing earth shattering. For results, the authors found three characteristics necessary in a PBL environment to produce positive learning outcomes: authentic and meaningful activities, collaboration and communication, and opportunities for knowledge enhancement and skill building. The results for the question about strategies for facilitators and participants in course preparation was pretty obvious in that all involved had to work hard in advance and pay attention to detail to have clear instructions.

The article's intended goal to more or less determine best practices and necessary components for designing PBL activities into a course is a good one, but I am not sure that goal was achieved as is. This was another disappointing article, but I may get one reference out of it for learning more about PBL.

Reeves, T.C., Herrington, J., & Oliver, R. (2002). Authentic activities and online learning. In A. Goody, J. Herrington, & M. Northcote (Eds.), *Quality conversations: Research and development in higher education* (25), 562-567.

This entry is not a research study per se, but rather a brief paper that proposes a list of ten characteristics of "authentic" activities. Each characteristic has a sentence or two explanation and there is also a chart that lists the pertinent theories and researchers for each characteristic. Another valuable aspect in the introductory literature in the article is the look at the evolution of the definition of what an "activity" is over time and how constructivism has influenced that change. Finally, the authors, all well published experts in authentic learning list the ways that authentic learning fits perfectly into the online learning environment. These same ten characteristics are listed in more of their other articles.

Rule, Audrey C. (2006). The components of authentic learning. *Journal of Authentic Learning*, 3 (1), 1-10.

This article is an editorial for the *Journal of Authentic Learning*, which has incidentally missed a few issues in the last couple of years at University of New York at Oswego due to the lack of an editor. Here the author conducts a qualitative review of 45 articles recommended by colleagues at her institution's College of Education. The articles referred represented authentic learning and best practices in a variety of subjects according to the author's peers. I suppose this is a legitimate form of choosing articles to review, but it seems like a better explanation of the criteria given to those choosing the articles should have been provided for the reader of this article.

The qualitative review resulted in the classification of four main themes present in authentic learning. They are: use of real-world problems that engage learners in professional contexts, inquiry activities, discourse among a community of learners, and

learner empowerment through the ability to choose one's own path in the construction of knowledge. Under each theme the author gave examples from a variety of disciplines. It was a bit confusing and might have been presented better with some kind of logical chart for a summary. The article is not a loss and was definitely a lot of work to review so many articles and analyze them. The idea to do the review was good and the author did address the definition of "authentic learning" by some researchers, but I think a more precise and scientific method of selecting, procedures for reviewing, and analyzing the articles was needed.

Collaboration Through Communities of Practice

Since I had the good fortune to hear Etienne Wenger speak at UF in the spring of 2009, I became more interested in the concept of CoPs. I decided to establish my own in a professional area that I thought could benefit from one and have been reading more literature on the topic since. I find it interesting that CoPs seem to have started more in companies and other non-academic organizations, yet have been growing in popularity in education. Even more promising is research from the education perspective on how to integrate the CoP concept in to professional development experiments that go beyond educators meeting at the same school or district, and connecting professionals at a distance through online communities. It seems that CoPs or online communities have also become considered more desirable in post-secondary classrooms and area being integrated with instructional design models.

Through review of the few articles below, progress and significant contributions have been made in the study of CoPs since Wenger et al. (2002) published their book with detailed information on how to establish one. Other researchers have since determined more specific characteristics for identifying stages of CoPs and ways of evaluating them for each unique CoP situation.

Although much research has been done, much still remains. The Hew & Hara article on the obstacles to online sharing has given some insight, but still has found no solution to guaranteeing that all online communities be more dynamic and interactive. CoPs continue to be difficult to maintain and more studies are needed about what makes some successful and others not.

Gunawardena, C., Ortegado, Layne, L., Carabajal, K., Frechette, C., Lindemann, K., & Jennings, B. (2006). New Model, New Strategies: Instructional design for building online wisdom communities. *Distance Education*, 27(2), 217-232.

The WisCom community model is based on socio-constructivist and socio-cultural learning theory (Vygotsky, 1978). It is also has foundations in theories of distributed cognition (Hutchins, 1991), the social construction of knowledge in communities of practice (Lave & Wenger, 1991), and the significance of situated learning as described by Brown, Collins, and Duguid (1989). The model targets learning environments with ill-structured knowledge domains (Jonassen 1997) and aims to achieve transformational learning at the individual and community level.

The "Cycle of Inquiry" for the model consists of three primary dimensions: WisCom makes sense in terms of its connections to all the theories presented, and this type of model has potential depending on what conditions the wisdom community was created under to determine whether it will actually thrive. I would think the success of using WisCom might vary by learner maturity level, personal interest, and motivation. The article presents it in the context of a graduate course, but I will definitely keep some

of the points from the article in mind as I work with K-12 teachers in the communities of practice I am starting. The most pertinent ones that would be useful to me are the mentoring and learner support aspects, as well as the use of social presence techniques to build a closer community that is dedicated to its mission and overall outcomes of the group.

Vavasseur, C.B. & MacGregor, K.S. (2008). Extending content –focused professional development through online communities of practice. *Journal of Research on Technology in Education*, 40 (4), 517-536.

Vavasseur is not a well-known top researcher that I can see, but works at Nicholls State University where she has interests in the integration of technology into quality K-12 professional development. However, I liked her article because of her pragmatic concern for finding ways to offer better professional development opportunities through longer term learning opportunities that increase teacher content knowledge while acquiring technology skills that are mandated by states. The literature review is very thorough in the justification for a collaborative, online and ongoing community of practice approach. The article describes a mixed-method comparative case study that compared two middle school teacher groups, one of consisting of 16 teachers and the

Risner, 2010
other 24. Quantitative data were collected through a teacher efficacy survey self-report at the beginning and end of the training program and the use of a rubric for evaluating the teacher produced unit plan. Each were analyzed using statistical procedures. Qualitative data were collected through focus group interviews and online threaded discussions. They were analyzed using constant comparative analysis.

The use of a variety of different measures using theoretically supported data analysis methods seems to support that the research study was rigorous. Detailed results were included as well as recommendations for enhancing an online community and limitations of the study. A major limitation was the short time the community was observed, thus no indication of whether it would sustain over time. The overall conclusions do indicate that an online community of practice in conjunction with face-to-face technology professional development can increase communication and collaboration among teachers. Inclusion of administrators in the process also seemed to be an enhancement to the program. Another strength was that the online community allowed for continuing dialog among teachers between meetings.

This article has interesting implications since it addresses authentic learning in conjunction with the utility of COPs as stated by Lave and Wenger, which is included in the theory and design of this current project is also mentioned as critical pieces of situated learning according to the 1995 Herrington & Oliver article reviewed above.

Dubé, L., Bourhis, A., & Jacob, R. (2006). Towards a Typology of Virtual Communities of Practice. *Interdisciplinary Journal of Information, Knowledge, and Management*, 1, 69-93.

This article moves beyond some of the more general characteristics of communities of practice (CoP) originally described by Wenger. Through a thorough review of the literature and analysis of 18 virtual CoPs, the authors created a “typology” of 21 structural characteristics. This research is a useful addition to build on Wenger’s CoP work and brings necessary attention to the broad range of CoP formats that exist and that must be managed and assessed according to the specific characteristics unique to each CoP. I found the article useful as I compared the typologies to my project NOBLE.

Hew, K.F. & Hara, N. (2007). Empirical study of motivators and barriers of teacher online knowledge sharing. *Educational Technology Research and Development*, 55, 573-595.

This was a much needed study to determine online posting and sharing behaviors among teachers. Data was collected through analysis and observation of a listserv and 20 interviews with teachers. The top two motivators for sharing were collectivism and principilism. Some of the obstacles to knowledge sharing that the authors found were lack of knowledge, lack of time, and worry about online comments being misinterpreted due to the absence of visual clues. The article was interesting for me as I am finding similar issues in my online communities and continue to seek ways to overcome them and increase online interaction.

Hoadley, C. & Ke, F. (2009). Evaluating online learning communities. *Education Technology Research and Development*, 57, 487–510

Similar to the Dubé et al. study that created a typology on the array of possible CoP structures, this research attempts to break away from the one-size fits all approach to the study of CoPs focusing on alternative evaluation perspectives. Forty-two CoP studies were analyzed from which the authors proposed a taxonomy for types of evaluation: evaluation purpose, evaluation approach, measures for evaluation, and evaluation techniques. The authors argue against generalization of CoP evaluations as “good” or “bad”. They encourage an ongoing systematic and diagnostic approach that examines specific indicators and causal relationships assumed by evaluators between what is measured and what is considered success of a community. This research is another current and valuable contribution to the study of CoPs since the true secret to successful online communities remains a mystery due to the very unique nature of each community.

Lock, Jennifer. (2006). A new image: Online communities to facilitate teacher professional development. *Journal of Technology and Teacher Education*. 14(4), 663-678.

Lock's article is not a study and does not bring forth any real new information about CoPs. It does however present arguments for the value of using CoPs in the context of professional development. The author lists key factors to address in the design of communities for teachers and what some of the barriers are. The article contains good foundational theory, but lacks more practical suggestions and guidance of how to create successful CoPs for teachers.

Tu, C. H., & Corry, M. (2002). ELearning communities. *The Quarterly Review of Distance Education*, 3(2), 207–218.

These authors present the idea that “community learning” has been neglected in traditional and electronic learning environments. They argue that online CoPs go beyond community members learning together and that they should be considered “communities that learn”. They point out four weaknesses in current literature on CoPs: 1) failure to differentiate between eLearning and face-to-face communities, 2) current studies only examine end product messages and not why members are participating, 3) current studies are too short-term, when they need to be more longitudinal in nature, 4) existing frameworks fail to take into account key variables that affect the development of CoPs. I think some of their critiques are valid and would be interesting to gather data on.

The authors also present their own framework for understanding CoPs and provide a table of activities recommended to help build effective ones based on three dimensions: instruction, social interaction, and technology. It is always positive when researchers actually make some substantive suggestions for a solution after listing a series of problems.

Wenger, E., McDermott, R.A., Snyder, W. (2002). *Cultivating communities of practice: A guide to managing knowledge*. Boston, MA: Harvard Business School Press.

This book is a necessary foundation for learning about CoPs and how they are developed. It provides advice and practical methods for building communities and helping them to reach full potential. I used the text to help me develop my CoP checklist. From there I then added steps as I was establishing my community and found new research with suggestions for developing and maintaining effective CoPs.

Blended Learning in the Context of Professional Development

This review of articles is a bit blended itself with other topics that are not specifically on blended learning. I have included Guskey's levels of evaluation here and articles on effective professional development since they were pieces included in my scholarly activity for the blended PD model I propose. I believe the blended model for professional development will be a great solution for teachers in terms of cost, schedule, flexibility, and coming into contact with more content experts. Much more research is needed to show the benefits for others to accept the idea. Teacher training in the use of learning management systems seems to be an issue to address, in addition to helping teachers feel comfortable with sharing and commenting on each other's work to make improvements or changes.

Guskey, T. (2002). Redesigning professional development-Does it make a difference? Evaluating professional development. *Educational Leadership*, 59 (6), 45-51.

Guskey asserts that traditionally educators have not dedicated much time or effort to evaluating professional development experiences. Resistance to evaluation has been due to concerns of cost and time involved. However, Guskey proposes a simple approach that only demands thoughtful planning and good questions. His approach consists of five levels requiring data collection and analysis: (1) participants' reactions, (2) participants' learning, (3) organization support and change, (4) participants' use of new knowledge and skills, and (5) student learning outcomes. Each level builds on those before it, so success at one level is typically needed to succeed at subsequent levels. This article is very valuable for anyone involved in designing and delivering professional development. Unfortunately, I did not find this article until after I had developed my survey instruments for my workshop, so my evaluation approach is not as strong as it could have been. I will definitely use Guskey's levels to improve my data collection methods for the next workshop implementation.

Hiebert, J., Gallimore, R., & Stigler, J. W. (2002). A knowledge base for the teaching profession: What would it look like and how can we get one? *Educational Researcher*, 31(5), 3-15.

The authors examine the problem of connecting researcher theory with teacher knowledge and experience. They argue that minimal advances in professional development are made and much work is repeated due to this gap between the two communities. Obviously, with the size of this issue no easy solutions are readily available, but at least someone has recognized and described the situation in hopes that it can be addressed over time. It is a bit disheartening that this article is almost ten years old though and not much seems to have changed in terms of researchers really

communicating with teachers on the same level. I hope to work on this aspect of professional development improvement as I continue to work with K-12 teachers through my proposed blended model.

Helmig, L. (2008) Blended learning for teacher's professional development. E-Learning Baltics-eLBa. Conference Proceedings, Retrieved from www.math.uni-rostock.de/~lhellmig/publikationen/elba_paper_hellmig.pdf

This research is from proceedings found online for a project in Germany and is based on a study conducted by Owston et al. (Also included in this bibliography.) Helmig worked with 44 fifth-grade math teachers from several schools. Over a year the UPOLA program combined four face-to-face meetings with three phases of observation of teachers on the job. These segments lasted 8 to 12 weeks and were accompanied by Risner, 2010

online modules, which emphasized discussion forums as the primary activity. Similar to the Owston TeL study, the content of this program was designed to help teachers improve skills in classroom pedagogy and to integrate critical thinking activities more than acquiring technology skills and content knowledge. As in the case of Owston et al., the model was assessed using Guskey's five levels of professional development evaluation. The findings indicated overall satisfaction with the program, but most of that was directed toward positive feelings for the face-to-face meetings and the opportunity to share ideas and network with other teachers. The online discussion forum did not have the interaction the program developers had hoped for. The primary recommendations from the study were to better train teachers to use the Learning Management System (LMS) involved and to give them more time at the beginning of the workshop to become familiar with the online system. Another issue found was the difficulty teachers experienced when it came to reflecting upon and discussing their work with others.

This study found results similar to mine in terms of: lack of teacher know-how for using the Learning Management System(LMS), minimal interaction on forums (maybe related to lack of confidence using the LMS?), and teacher hesitance and discomfort related to reflecting upon and discussing one's work and how to improve it.

Herrington, J., Reeves, T., & Oliver, R. (2006). Authentic Tasks Online: A synergy among learner, task, and technology. Distance Education, 27(2), 233-247.

In this article, this well known research team has investigated another aspect of authentic learning by analyzing the relationship between the learner, the task, and the technology used. Similar to other studies described by these authors, few eligible courses (only 3) that met their criteria for the project were available for analysis. So the number of examples are not huge, but the research model and foundational theory to support the research is fairly rigorous. Cases were found through journal research and professional contacts of colleagues that knew of an established and successful course that was not just a sample idea described in an article. For each of three cases, a description of task,

learner and technology was provided. Analysis of the cases was based on the authors' own ten characteristics of authentic learning, and research of others such as Jonassen, Lebow & Wager, etc. The article's conclusions suggest that the synergies among learner, task, and technology contribute greatly to the success of learning environments. It is too much to list here, but the article provides charts of the influences of each element on the other.

The charts do provide interesting information for me. Additionally, I have found a citation in this article that talks about the impediments to and the reasons why more authentic learning is not currently being applied by faculty when we know it is effective. In this citation, the cause is lack of time and funding, as well as convenience to just post simple and non-complex online courses. (Sharda, 2005)

Henry, Paul. (2001). E-learning technology, content and services. *Education & Training*. 43(4), 249-255.

This article is more of a summary of what an executive recommends in terms of best practices for implementing organizational e-learning, rather than an actual study. The value of his recommendations is supposed from his expertise and experience in the industry as opposed to conducting a specific study to back up claims. Primary points made are the importance of having a clear vision of why your organization is looking to begin an e-learning program, will it address small "point" trainings or long-term changes in corporate culture or initiatives, how to assess needs to prepare the appropriate content, is senior management committed, and how will you prove that the e-learning initiatives are delivering what they are desired for in terms of workplace application. Other issues mentioned are a focus on integrated systems, choice of vendor content, and types of technology that must be acquired.

Loucks-Horsley, S., Love, N., Stiles, K. E., Mundry, S., & Hewson, P. W. (2003). *Designing professional development for teachers of science and mathematics*. Thousand Oaks, CA: Corwin Pres

The authors present an updated version of their 1998 framework for effective professional learning in math and science. Four of the main elements are that:

- 1) workshop trainers must understand learners and learning, teachers and teaching, the nature of the math, the nature of professional learning, and the process of change.*
- 2) the context of professional learning is key to sustained teacher learning.*
- 3) issues such as time, professional culture, and sustainability, among others should be kept in mind.*
- 4) strategies for professional learning need to include such items as alignment with the curriculum, immersion in content, coaching and mentoring, and collaboration with colleagues.*

*Although these principles address math, I would say they are applicable across the curriculum. I included these elements in my CABIT blended design. Interesting that I have yet to find literature about more models along these lines in other subject areas. The two studies I have cited in this annotated bibliography also deal with math and science. *Since writing this I just came across one for social studies, don't have time to read and annotate now.*

McKenzie, Jamie. (2001). How teachers learn technology best. *The Educational Technology Journal*. 10(6).

**<http://74.125.155.132/scholar?q=cache:iKdKTr74iGcJ:scholar.google.com/+technology+professional+development+and+social+studies&hl=en>
Retrieved on October 16, 2009.**

This is a very engaging and well written article that promotes the application of adult learning theory in teacher professional development by focusing on autonomy in learning and the usefulness what is learned for the teacher workplace context. The author makes a number of excellent points that amazingly still have not become mainstream in teacher PD considering that this article is almost ten years old. First, technology training must be tied to the curriculum and not taught in isolation in order for it to be more effective and eventually have impact in the classroom. PD must emphasize changing daily practice and increasing student learning outcomes. Finally, teachers must see the value of project based learning and new technology tools. This can be achieved by "learning by doing" and working on collaborative teams. I agree with the author though he did not cite much research based theory for his claims. He did include a large number of links to projects that have attempted to implement some of the elements he names as necessary for effective PD. However, due to the age of the article many links are no longer working.

Owston, R., Sinclair, M, & Wideman, H. (2006). Evaluation of a blended learning professional development program for middle-school mathematics and science teachers. *Institute for Research on Learning Technologies*.

**<http://74.125.155.132/scholar?q=cache:aUzV1zNoB-UJ:scholar.google.com/+++blended+learning+in+professional+development&hl=en>
Retrieved on October 16, 2009.**

This study found that blended learning has the potential to change teaching practice and attitudes while reducing costs. The program model was funded by a non-profit agency and examined two one-year professional development programs. Its goals were to improve teacher practice and improve student attitudes and learning. The first year of the program observed 68 mathematics teachers and the second year 65 science/technology teachers, in addition to observing and analyzing their respective students. Study results based on Guskey's levels of evaluation (2000) indicated teacher

satisfaction with the program as a whole, though less of that satisfaction seemed to come from the online modules. Another finding was that the teachers felt the PD program did not prepare them to integrate new pedagogies dealing with many of the themes covered. This was determined to be due to weak subject area knowledge that would need to be addressed in future PD models. The program developers also recognized that funding is not available for teacher release time for most school districts.

Again, I came across this article after the design of my model, but I will be able to use some lessons learned from this study in future implementations. It was interesting to note the weakness in teacher subject matter knowledge that was found. Providing teachers
 Risner, 2010

with content was a focus on my CABIT model in addition to pedagogical approaches and the integration of technology, and was one of the aspects teachers appreciated the most from the Caribbean workshops. It would be interesting to survey a district's training over a year to see just how much exposure to subject expertise teachers get as opposed to administrative and pure technology use training.

Sprague, Debra. (2006). Research agenda for online teacher professional development. *Journal of Technology and Teacher Education*. 14(4), 657-661.

This article was an editorial in JTATE dedicated to a conference on online teacher professional development (oTPD) held at Harvard. She presents the opportunities and challenges tied to oTPD as an introduction to the remaining articles in this special issue. She proposes a list of research questions such as:

1) What is the value of "blended" learning? 2) What does face-to-face add to online programs and vice-versa? 3) What impact will emerging technologies have on oTPD? 4) What is the extent to which teacher PD can teach (and k-12 students can learn) 21st century skills while also preparing teachers (and students) in the era of NCLB and standardized testing?

Wentling, T., Waight, C., Strazzo, D., File, J., LaFleur, J., Kanfer, A. (2000). The future of e-learning: a corporate and academic perspective. *Knowledge and Learning Systems Group*, 1-27.

The goal of this study was to discover the future potential of e-learning in the corporate and academic worlds over the next five to ten years. The study was descriptive and exploratory nature using a qualitative approach with data collected through two two-hour scenario building sessions. One session was with academics and corporate professionals while the other session was academics only. I am not sure why they broke it down like that and it was not explained in the article. It seems like the corporate professionals should have had their own session as well. Some of the recurrent themes found from the scenario building activities follow: e-learning will continue to grow, e-learning will be more humanized with more interactive software for teams to interact

face-to-face and in a synchronous fashion, more attention will be paid to diversity in learners according to age, ethnicity, nationality, etc, partnerships between academic and corporate professionals, e-learning will be come more customized for individuals, module based courses and professional certificates will be more valued than lengthy degrees, and finally there may be issues to address concerning collaboration and threats to intellectual property rights.

Evaluation of Online Corporate Training

This topic was chosen due to my interest in evaluation and ways to ensure quality online learning, my interest in adult learning, and my past experience working with the corporate world.

The area of evaluation in the world of corporate e-learning is definitely in need of more research. The literature reviewed thus far seems to be strong in the theoretical foundation of the four-level evaluation model proposed by Kirkpatrick, in addition to an occasional mention of Phillips fifth level that evaluates return on investment. However, the bulk of the articles here only provide general overview surveys of the field and conceptual models proposed, but not necessarily tested and applied in a corporation. Recurrent themes addressed in the literature do tend to deal with self reports of e-learning managers or human resources individuals which tend to focus on managerial issues of choosing vendors for learning systems and content.

Potential areas of interesting and innovative future research would be in the area of getting feedback specifically from course participants and how they are learning and the types of interaction going on in the courses as it ties into pedagogical approaches and use of web tools. A final topic that could prove useful would be examining the dynamics of and ways to increase partnerships between universities and the corporate world to create mutually beneficial relationships while guaranteeing quality e-learning.

Berge Z.L. (2002). Obstacles to distance training and education in corporate organizations. *The Journal of Workplace Learning*, 14 (5), 182-189.

The author 's goal is to go beyond listing distance education (DE) barriers. He administered a survey that questioned whether distance educators in the corporate sector perceive different barriers in relation to the phase of distance education that the organization is in. Additionally, he examined whether this perception of barriers change over time as the organization becomes more adept at distance education. The authors ANOVA results support the implications that it is common for that barriers may be perceived as huge and overwhelming at the beginning stages, but that they will decrease as the organization's skills in DE develop. Additionally, the author found that the ranking of problems defined as most difficult to resolve change as the organization gains expertise in DE.

Bonk, J.C. (2002). Online Training in an Online World. Jones Knowledge Inc. and CourseShare.com. 1-149.

The information presented in this article is the result of an online survey distributed to determine the current state of online learning in corporate and other settings. The survey was completed by 201 respondents. Though the response rate is small due to weak design in the sampling and survey methods, some valuable information was still gathered from those individuals that did respond and this data is presented well in the 150 page report. Many issues were addressed, but some of the main ones follow: the need to train instructors and instructional designers in web-based tools and pedagogy, more solid infrastructure for a systems support of e-learning endeavors, assessment that goes beyond the first two levels of Kirkpatrick's framework, and finally a need for information about online training and learning systems to aid in decision making for acquiring new technologies.

Clarke, T., Hermens A. (2001). Corporate developments and strategic alliances in e-learning. Education + Training, 43(4-5), 256-267.

This article poses the question of whether the full potential of interactive online knowledge building will be reached through strategic alliances between traditional universities, e-companies, and corporations. The authors enumerate and describe key aspects some of the major e-learning alliances that exist currently. A list of desired components of a complete e-learning solution is provided, some of which include: assessment and curriculum design and development, branded educational content, engaging user experience, scalable technology, etc. Conclusions are that strategic alliances could create a revolution in how training and education is delivered, or e-learning could just become company specific skills training, or a branch of the infotainment industry. The article was not a methodologically designed study, but did provide a good background on strategic alliances and summaries of what some of the major ones are achieving.

Dobrovolsky, J. (2006). How Adults Learn from Self-Paced, Technology-Based Corporate Training: New focus for learners, new focus for designers. Distance Education, 27(2), 155-170.

The study for this article addresses the good question of "how", not "if" adults learn in a self-paced technology based training course in a corporate context. The theoretical framework is based on constructivist and adult learning theories, sociocultural learning, reflection, and metacognition. The methodology chosen was qualitative to gather more in depth information from course participants. A phenomenological approach was implemented in order to extract details on the meaning of specific experiences through interviews, think aloud analysis, and critical incident journals. The results of the study are the following in terms of recommendations for instructional designers: adult

Risner, 2010

learners need ample opportunity to self-assess and correct through practice exercises and simulations; learners need to be able to connect past experiences with current learning for it to make more sense; learners like to be able to return to certain aspects of a course to refresh their memory on what they learned after completing a training, and adult learners want the freedom to personalize their learning by working on particular modules that are applicable to their skill needs and current work assignment as opposed to completing an entire course that may not all apply to them. The authors suggest that designers should think about how to meet learner needs with module style courses that are possible to be personalized and accessed for future use.

Dooley, K., Lindner, J., Dooley, L., & Alagaraja, M. (2004). Behaviorally anchored competencies: evaluation tool for training via distance. *Human Resource Development International*, 7(3), 315-332.

The purpose of this study is to take evaluation methods a step beyond the typical perceived achievement measured through learner self-evaluation to a deeper measurement of observable changed behaviors. The authors designed and delivered an online technology training course to 28 participants in Costa Rica . The methodology consisted of qualitative and quantitative methods which assessed participant performance in six core competencies defined for distance education professionals. The self-assessment tool used by participants was created by the authors and complemented by ratings from experts assessing performance and using competency based behavior anchors. Results indicated overall improvement in technology skills acquired and capacity to implement them for the majority of participants.

Ettinger, E. (2005). Xerox takes a strategic approach to e-learning: Communication is the key to success *Human Resource Management International Digest*,13(1), 6 – 8.

The author summarizes the primary concerns of Xerox since the company has set a goal of reaching 50% of training via technology in their European offices. E in terms of maintaining quality training delivered in an online format. Xerox believes that blended learning is the best approach and does not wish to replace traditional training with all online format. Obstacles encountered by the company in distance education training has been due primarily to lack of high quality internet connections in addition to most materials being in English, when many employees prefer to receive training in their mother tongue. The author also affirms that the key to successful online learning is to require some online coursework to supplement training on location, and to include senior managers in the planning of strategic content that engages the employee and keeps the company competitive . Constant professional and eye-catching promotion of online courses must also be considered.

Hallet, K. & Essex, C. (2002). Evaluating online instructions: adapting a training model to e-learning in higher education. *ERIC*, 2-8.

Although this is technically an academic article available on ERIC, there is no study or methodology implemented, though the authors' discussion is based on Kirkpatrick's (1975) four levels of evaluation. The authors go through the levels pointing out where the Kirkpatrick model can be adapted and used to advantage in post-secondary education evaluation to improve online courses. The final arguments for higher education using the Kirkpatrick model are that it is a systematic process that builds on one level to another. The authors claim that most university evaluations are not systematic, that evaluation emphasizes student overall satisfaction with a course as opposed to measuring actual learning, and that the transferability of a course to the work (or real) world is not assessed. The authors suggest that their adapted model will serve as a source of important data to make more solid decisions about infrastructure and the future of e-learning at institutions of higher learning.

Jones, A.B. (2001). The knowledge supply model: a framework for developing education and training in the new economy.

This is another article authored by a professional from the private sector not implementing an actual study to obtain results and reach conclusions. He describes briefly the knowledge supply model which is basically a typology breakdown of knowledge suppliers in the economy. These suppliers are divided into seven groups, each representing a different knowledge market (basically a breakdown of employee position and level within an organization). Three of the groups are internal to the firm while the remaining four are external. He then suggests that understanding of the knowledge supply model will help firms and learning institutions determine strategies and ways to work together to meet demands for knowledge in different sectors of the economy.

Julien, Anne. (2005). Classifying e-trainer standards. *The Journal of Workplace Learning*, 17(5/6), 291-303.

The researcher sets out to propose a new framework to help establish quality standards for e-trainers that break away from the traditional use of technical standards to evaluate distance learning programs. She conducted a series of interviews and surveys at companies from four countries in the European Union. She utilized the Isfol model to classify and analyze the types of professional profiles necessary to work together for the delivery of quality e-training. The five major profiles that appeared in all four countries were: systems administrator, project manager, contents expert, designer, and tutor. The implications of the study are that with the ease of new technologies, there is more need to focus on pedagogy, content, and needs of learner in their specific project-based or work context than on technical concerns. Managers of today must be able to manage

content as it relates to specific tasks and work with instructional designers to deliver effective e-training for employees to better achieve goals of long-term corporate strategies.

Jurich, S. (2001). Corporate e-training: Three examples from across the world. *TechKnowLogia*, May/June, 29-30.

This brief article is descriptive only in that it lists why these organizations chose to implement e-learning and the key elements that have made e-learning a success. The three companies chosen are from France, Brazil, and the U.S. All entered the e-learning arena for reasons of economy to reach distant company locations without so much travel and all were interested in convenient flex scheduling as well as the need for “just in time” customized training that can be updated quickly as industry and company needs change. Key concerns addressed for successful e-learning implementation were the need for upper level management support and buy-in”, attention to learning preferences across cultures/countries, availability of online mentors, flexibility in choice of training to take upon demand and need, and offering of modules as opposed to full programs. Interestingly, only the U.S. firm discussed made a mention of assessment techniques and the storing of trackable training files.

Kramer, Heidi. (2007). *Measuring the effect of e-learning on job performance*. Retrieved from Dissertations and Theses Database ProQuest.

The objective of this dissertation was to create a valid and reliable assessment tool to measure the alignment of e-learning in a corporate IT department with the corresponding departmental and company strategies. The theoretical foundation used by the author was specifically Level 3 of Kirkpatrick’s model, which measures change in behavior on the job. The methodology for the study utilized quantitative and qualitative approaches through administration of a survey after completion of an online training class. In addition, the balanced scorecard method was used to track the alignment of corporate goals and the e-training. The data from the 145 completed surveys indicates that the online course had a positive impact and was useful to employees for improving their understanding of security policy. Some percent change was seen in behavior of certain areas, but not in others. The author suggests this could be because the lag time between the course and the survey did not allow for time to demonstrate a behavior in that area and proposes future research to apply survey again six months after training ended. Final recommendations for measuring and achieving behavior change are being sure to align training with organizational goals, develop an overarching strategic theme that is broken down to sub categories that can be easily measured through an evaluation instrument.

Macpherson, A., Elliot, M., Harris, I., & Homan, G. (2004). . E-learning: reflections and evaluation of corporate programs. *Human Resource Development International*, 7(3), 295-313.

This article describes a qualitative study consisting of one to two-hour interviews with ten Financial Times firms using e-learning. The authors had reviewed results from quantitative surveys conducted prior by the American Society for Training and Development (ASTD) and the Chartered Institute of Personnel and Development (CIPD), but felt that a more in depth analysis was needed. Results were that there are issues related to balancing cost and quality with matters of instructional design, technology and pedagogy. It was found that most e-learning is used for mass delivery of standardized skills without concern for customization, basically a learner looking at the computer screen without interactivity, colleague online discussion, or online mentor. Additionally, it was found that there is not much connection with corporate strategy or an overall training vision with e-learning.

Other key issues highlighted in terms of needs for organizational readiness to implement e-learning were the importance of management support, motivational drive for initiatives, research for adequate e-systems and products, marketing of e-learning within the organization, and content quality, among other issues. Implicit was the lack of conversation about the learner and the impact of e-learning of stakeholders or their acceptance of online training. The article was well introduced with summaries of prior corporate e-learning and complemented with the results from the current qualitative one. Many insightful suggestions for further research in areas of need were provided.

Moon, S., Birchall, D., & Williams, S. (2005). Developing design principles for an e-learning programme for SME managers to support accelerated learning at the workplace. *The Journal of Workplace Learning*, 17(5/6), 370-384.

In this article the authors present an e-learning program for small and medium enterprise (SME) managers in five European countries. The course was developed through a literature review of e-learning and management topics, focus groups with managers to identify key issues related to accelerating workplace learning, and through test workshops in all five of the participating countries. The focus groups identified major themes to address and created case studies and stories to be used in the course. During the test workshops there was agreement on sharing ideas, reflecting, providing feedback, etc.; but there was doubt about how this could be achieved in an online course format. The authors learned that through shared ownership and discussion of day-to-day needs of SME companies that are to be addressed in e-learning ensure better collaboration and more effective content and learning. Some of the final features designed for the course are the following: practical and not theoretical tasks, cases, reflection, stand alone modules for participants to choose as needed, and interactivity.

Servage, L. (2005). Strategizing for workplace e-learning: some critical considerations. *The Journal of Workplace Learning*, 17(5/6), 304-317.

The goal of this research was to explore the inconsistent and often confusing terminology used by industry to define e-learning and how this vagueness is carried over into the actual implementation and quality of corporate e-learning. The author's approach was to examine policy documents tied to learning in the workplace, websites, professional publications, and other online resources in the U.S. and Canada. Internet and print searches with the keyword "e-learning" were conducted from which salient themes were drawn. The author found the following from the literature analysis: knowledge and learning are perceived as products for possible mass production and distribution to be passed on to employees, there is a major focus on e-learning costs and the return on investment, much importance is placed on what technology or system is used over the actual concern for learning strategies and learner needs. This literature is revealing, and in conclusion, the author suggests that decision makers put forth more effort into the affective needs of learners in order to create a more creative, productive, and lasting learning environment.

Strother, J. (2002). As assessment of the effectiveness of e-learning in corporate training programs. *International Review in Open and Distance Learning*, 3(1), 1-17.

Although written by an academic, this is another article that really does not conduct any type of actual study, but reviews the literature and reiterates the evaluation model proposed by Kirkpatrick for evaluating organizational e-learning. She does add one element that other articles reviewed did not address and that is a fifth level to be added to Kirkpatrick's model which was proposed by Phillips (1996). This level measures return on investment, the cost-benefit ratio of training. The author discusses previous research as it relates to levels of Kirkpatrick's model and criticizes the fact that most research conducted on the topic lacks a theoretical foundation. In conclusion, she poses some questions for future research needed, but does not propose how to go about doing that. The main novel contribution of the article would be the discussion of the fifth level of evaluation proposed by Phillips that I had not seen mentioned before.

Waight, C.L. (2005). Valuing the adult learner in e-learning: part one- a conceptual model for corporate settings. *Journal of Workplace Learning*, 17 (5/6), 337-345.

The authors of this article conducted a literature review to ascertain key elements needed for an e-learning design team to create successful courses for adult learners in a corporate setting. The authors state that although substantial research has been done on adult learning in academic setting, little has been done in the private sector. In order for e-learning to achieve engagement, learning, skills transfer; the authors identified

what they call championing factors, antecedents, and moderators to create a conceptual
Risner, 2010

model for organizational e-learning. The championing factors relate to the need for leadership along with organizational and financial support. The moderators refer the importance of return on investment and applying appropriate learning theories in addition to technology and creativity. (It is interesting in the learning theories stressed by the authors include behaviorist, cognitivist, and social learning, but not constructivist.) The antecedents deal with needs assessment, content, and context of the work setting to meet individual learning plans. The authors discuss the results of applying their proposed conceptual model in a "Part Two" article.

Waight, C.L. (2005). Valuing the adult learner en e-learning: part-two- insights from four companies. *Journal of Workplace Learning*, 17(5/6), 398-414.

As a continuation of a previous article, this one uses a qualitative case study method to examine the practices of four Fortune 500 companies that have been active in e-learning for at least four years. The qualitative interviews were semi-structured by phone and addressed issues such as the e-learning context of the organization, how the adult learner is valued in e-learning, and what factors must be considered when valuing adult learning in a corporate setting. A comparative analysis was done between the interview results and the Waight/Stewart conceptual model, the results of which indicated that adult learners are valued in these four firms. The comparative analysis was based on incidence of occurrence and not frequency, so more research needs to be conducted. The results indicate that all of the firms' e-learning teams had the championing and antecedent factors listed above in Part 1 of the article. However, none of the e-learning teams showed incidence of return of investment, but all did emphasize learning theories, technology skills, and creativity. Only one team put effort toward transfer. The issue of self reporting by the firms could be an influencing factor here in the results and there is no input from the company employee learners to determine their assessment of the training adequacy.