

Communities of Practice:

Constructivist Elements to Support Transformative Professional Learning

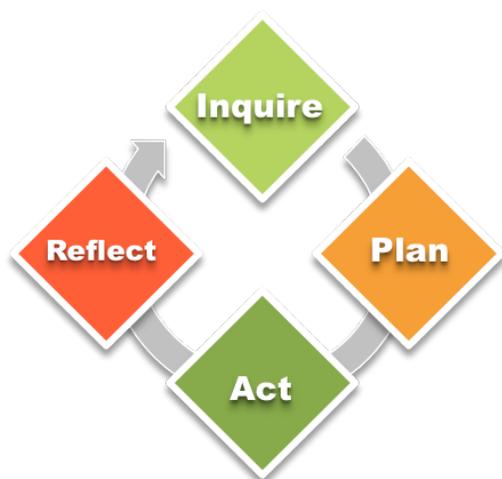
Kendra Grant

ETEC 530

University of British Columbia

If classrooms are to become collaborative environments where students construct knowledge using digital and online tools, then we need to challenge existing assumptions about how teachers change their practice.

Current professional development (PD), often the antithesis of constructivism, has failed to engage or empower teachers to change their transmissionist pedagogy. Communities of Practice (CoP) provide dynamic opportunities for teachers to experience constructivism as both learner and teacher. When properly structured and supported, CoPs create a transformative experience. Through a cycle of inquiry (Grant, Hamilton & Hamilton, 2012), that includes



reflective practice; teachers gain the skills and insights necessary to change their existing pedagogical schemata. (Cranton, 2002) However, in-person CoP are not enough. Teachers “...must learn new skills for facilitating learning in a technology-rich constructivist learning environment...” (Dimock & Boethel, 1999, p38

Figure 1 – Cycle of Inquiry and Reflective Practice as cited in Gensburg & Herman, n.d.) This calls for – Grant, Hamilton, Hamilton, 2012)

the community to move online (OCop), immersing teachers in the very tools and platforms they will use with their students with the ultimate goal, to “generate new knowledge to help people transform their practice to accommodate changes in needs and technologies.” (Cambridge, Kaplan, Suter, 2005)

### Seismic Shift in Instructional Practice

As teaching shifts from direct-instruction based on content delivery to student-centric learning based on constructivist principles (Dede, 2008), professional learning needs to shift as well. As the availability, number and use of mobile devices, online tools and social media increases, (Craig, Van Lom, 2009) so too does the pressure to use these tools effectively to support the development of resourceful, knowledgeable learners (Meyer, Rose & Gordon, 2013) actively engaged in constructing their own learning.

...transmissionist or presentation pedagogies need to be replaced by theories of learning that place inquiry based approaches, knowledge building and/or constructivist principles at the heart of classroom practice—whether or not technology is involved. The magnitude of the change in teacher thinking required for effective technology integration is enormous. (Clifford, Friesen, Lock 2004, p. 89-90)

Traditional PD reinforces the instructional status quo. After decades of PD involving millions of teachers, there are only pockets of innovation and change to show for our efforts. (Fullan, 2007) Treated as an event rather than a process, teachers assume a passive (resistant) role. Most PD, in the form of

### Overview

- **Learning cycle**
- **Constructivism**
  - Learning theory
  - Process
  - Instructional strategy
- **Classroom applications**
- **Instructor and student roles**

Figure 2: Constructivism: A Holistic Approach to Teaching and Learning (Lecture Slides) - Janet Giesen

workshops, presentations and courses, is highly structured and often didactic, with a defined set of knowledge or procedures to be learned. (Cole, 2004) The “expert” guides the session as outlined in their slides. (See Figure 2) Groups may work cooperatively to finish tasks and there is often sharing and discussion but very little opportunity exists to co-construct knowledge. These formalized activities rarely afford learners the time to direct their own learning, solve classroom or instructional problems or explore their “long held beliefs about teaching and learning.” (Owston, 2004) As such while the tasks have academic value, they do not model constructivist principles and they rarely result in change of practice.

There is extremely compelling evidence in the literature that mandated, discrete events that are unrelated to student learning, the context or learning needs of teachers do not encourage sustained, internalized professional learning and/or change in practice. (Broad & Evans 2006, p. 40)

As networks, devices and on demand Internet access expanded, so too did professional development: in the form of webinars, video channels and structured courses. Old methods of instruction, content and organization were often transferred to the new medium without questioning whether they were effective or necessary. (Grant, 2012) Moving online only served to reinforce passive, one-way learning. As noted above, decades of PD did little to change teacher practice: neither did moving the venue. (Marra, 2004)

Many teachers, eager to try something new create their own Personal Learning Networks

(PLN) where “Learners create connections and develop a network that contributes to their professional development and knowledge.” (Wikipedia, 2014) Although PLNs can be exciting, real-time professional learning opportunities, creating one does not guarantee the teacher will explore new pedagogies, socially construct knowledge, use technology beyond substitution (Puentedura, 2013) or implement a change in practice. PLNs are important aspects of professional learning but they are not enough. (Grant, 2013)

To move teacher practice requires a more formal, organized learning environment than a PLN provides, and a more personalized and flexible experience than most courses or traditional PD provides. As Easton (2008) notes, teachers need to move away from being “trained” or “developed”, if they are to become active learners. It is a delicate combination of collaboration and problem solving as teachers explore new concept; ownership and choice as teachers assumes responsibility for their professional growth; and support and guidance as teachers question their practice.

### **Community of Practice**

This is where a Community of Practice can support and effect change as it is uniquely both a constructivist learning experience and a model of constructivist teaching. Constructivist theory focuses on the learner as agent of their own learning: dynamically constructing their own knowledge through action, interaction and reflection. (Elements of Constructivism, n.d.). Learning is not a passive process. When teachers apply constructivism as “...a theory, a tool, a lens for examining educational practices.” (Dougiamas,2014) it can serve a transformative

function. (Wicks, n.d.)

A Community of Practice is “...a process of social learning that occurs when people who have a common interest in a subject or area collaborate over an extended period of time, sharing ideas and strategies, determine solutions and build innovations.” (Learning theories in plain English, 2015). These communities are, by design and intent, constructivist spaces. However, unless the topic to be explored within the community is the topic of constructivism itself, then additional constructivist components are needed to help teachers identify and implement constructivist principles within their area of teaching. These additional components will help to ensure the CoP is a catalyst for transformational change rather than just a “shared knowledge repository”.

### **Knowledge Construction**

According to constructivist theory, learners construct their understanding and knowledge of the world as they actively engage in new experiences. When learners encounter new concepts or ideas, they “question, explore and access what they know.” (Doyle, Wilson, Liepolt & Matsuoka, 2004) in order to adapt and master, and return to a state of equilibrium or balance. To accomplish this learners assimilate (explain with existing schema), accommodate (changing schema), (McLeod, 2009) or ignore the new information.

By definition CoPs are knowledge construction environments, where members actively ask questions and solve problems. The community is used to both identify solutions to

commonly shared problems and as a repository to organize and share existing knowledge.

(Smith, 2009) Questions and tasks are authentic to the learner. Teachers, used to prescriptive professional development, now have personal choice. They are an active co-learner rather than a passive student. The format, focus and activities are no longer chosen by a presenter but placed in the hands of the learner. The teacher experiences the engagement and motivation associated with pursuing personal goals that are relevant and meaningful. (Boulos, 2013, Zappala, 2007)

### **Socially Constructed Learning**

Social constructivism maintains that learning is a social activity. Learning does not happen within the individual but through social interaction. Together, through language and relationships, people construct knowledge. (Vygotsky cited in Welk, 2006 ) Learning then is the product of both the culture of the group and the interactions, activities and sharing within the group. Learning is deepened when there is a shared context for learning and processes to encourage a free flow of questions, ideas and solutions. (Cambridge, Kaplan, Suter, 2005, Wicks n.d.)

By definition, CoP are collaborative communities with a defined purpose and context. The goal upon entering a community is to build relationships by engaging in shared activities: helping others and in turn being helped. (Wenger, n.d.) This focus on relationships builds both a sense of community and trust between its members. Through dialogue, sharing and knowledge creation members “...explore new possibilities, solve challenging problems, and create new, mutually beneficial opportunities.” (Cambridge, Kaplan, Suter, 2005) Teachers, need this sense

of community and trust (Henry, Meadow, 2008), without which few will risk questioning their practice, sharing information openly or considering new ideas. (Taylor, 2007) By working collaboratively and supportively with other practitioners, teachers experience first hand the benefits of socially constructed learning both as a professional and as a learner. (Cranton, 1994 as cited in Zappala, 2007)

### **Additional Requirements**

Communities of Practice are flexible learning spaces where members are encouraged but not forced to actively participate and construct knowledge. However, this freedom can also result in surface learning. If CoP are to support transformational change, then more formal support and guidance is required to help move the knowledge constructed and the insights gained out of the community and into the classroom.

One of the most interesting (findings) was the recognition that epistemological change among some participants was not adequate for a transformation to reach fruition. In other words, cognitive awareness of underlying epistemic assumptions and changing the form of meaning making was not enough, other factors needed to be in place. Those factors include ongoing institutional support to act on this new understanding as well as, at times explicit guidance on how to act on this new understanding in practice. (Garvett 2004 as cited in Taylor 2007, p. 186-187)

### **More Knowledgeable Other - Cognitive Apprenticeship**

Most forms of constructivism include the concept of a “teacher” who provides varying levels of guidance. Piaget theorized that knowledge is actively constructed by the learner, not passively received from the environment. This is achieved through disequilibrium, carefully crafted by a teacher or other adult. (McLeod, 2009) Vygotsky, who suggested social interaction was necessary for learning, also included the concept of a More Knowledgeable Other (MKO), with “...a better understanding or a higher ability level than the learner, with respect to a particular task, process or concept.” (Learning theories in plain English 2015) This MKO plans for each learner's Zone of Proximal Development, providing just-in-time, and just enough, challenge and support. Collins, Brown and Newman (1969) refer to Cognitive Apprenticeship in which the learner, through observation, imitation and modeling, learns from others, usually an expert mentor. (Cognitive Apprenticeship, n.d.)

To support this transfer, CoP require one or more leaders/instructors who are experts on the community's topic or focus. While an organizer, in any CoP may informally or formally act as an expert, a mentor, a coach or a guide, they are not required to assume any of these roles. In fact, the goal is for the community to create shared knowledge and understanding and as such leadership and direction is often a shared, collaborative task. (Cambridge, Kaplan, Suter, 2005) However, to create professional learning that turns into professional action, a guiding role is necessary to create disequilibrium, challenge thinking, encourage reflection and help translate conceptual understanding into external action. Without someone actively and specifically engaged in guiding the community, many of the lessons learned in the CoP may remain there.

Depending on the goals and experience of participants in a CoP the leadership role may vary. If the community is part of a district initiative where teachers are resistant, wary of change or unfamiliar with online tools and platforms, it may require someone to help establish the purpose of the community, define processes and build relationships and trust, before the community tackles problems or challenges their assumptions and beliefs. If the CoP includes a wide range of learners, a More Knowledgeable Other, who plans activities and discussions within the community based on participants' Zone of Proximal Development (Vygotsky cited in Welk, 2006) might be needed. In this role, the MKO "...take an interactive role providing scaffolding and collaboration for learners." (Ford & Lott, n.d.) In communities for pre-service or new teachers, the role of cognitive apprentice may better suit learners as they directly learn from mentors. The community may need several experts, practitioners of some skill, who directly support the learning of novice teachers, gradually releasing responsibility as they grow professionally.

### **Critical Reflection**

Regardless of the role, the position cannot be one of the traditional "expert" directing all aspects of learning but one as guide to keep the community focused on the big picture: a change in instructional practice. To do this, guides are tasked with introducing or encouraging a cycle of reflective practice. Reflection begins by identify assumptions and beliefs about teaching and learning. Then with the support of a guide, and the community, digging deeper to validate current practice or adopt different pedagogical approaches. (Taylor, 2007) Without someone to

guide this process, many teachers become focused on the how or what of teaching, rather than the why, so necessary for change. (Kreber, 2004 as cited in Taylor, 2007)

### **Connectivism**

The last constructivist element required is connectivism. This theory explains how communication, sharing of information and learning is enabled and enhanced through online connected networks. (Learning theories in plain English, 2015) Its importance cannot be ignored in the creation of Communities of Practice if they are to be relevant to the needs of today's learner. Although CoP can happen in face-to-face venues, given the plethora of online tools, integrated learning platforms and mobile devices available, it is clear Communities of Practice must, for the most part, exist online (OCoP).

The resistance to technology and its substitutive use in the classroom (Puentedura, 2013) requires this move to a virtual learning space. Despite decades of training, "...teachers most frequently used technology to support, rather than alter, their existing teacher-centered practices". (Peck, Cuban & Kirkpatrick, 2002) In an OCoP teachers will construct, question and learn in an online environment, using the same tools, with the same constructivist intent as they students. As teachers are encouraged to examine their beliefs about teaching and learning, the conversation about technology's role will be self-evident rather than ignored. As Sharma et al (2008) wrote, "technology-enhanced constructivist learning environments offer many opportunities to engage students in authentic, complex, and guided learning interactions". Providing teachers the same opportunity is necessary if Communities of Practice are to be

catalysts for change. (As cited in Gensburg & Herman, n.d.)

Perhaps the greatest benefit from participating in the community of practice was the gaining of experience and confidence to undertake new educational ventures. Professional Development is often seen in terms of technical skills development at the expense of social support and shared knowledge building. Technical skills alone are not enough to sustain long term projects of this nature. What this group found was a strong need to build technical capabilities through collaborative reflection and an understanding of multiple perspectives. What was gained from participating in this community of practice was the sharing of experiences that in turn empowered each member to look beyond the group to trial their new knowledge and skills in a variety of new educational forums. (Molphy, Pocknee & Young 2007, p. 715)

## **Conclusion**

If teachers are to design constructivist classroom environments that take advantage of the plethora of digital tools and platforms in existence then professional learning needs to change. It needs to be online, it needs to seamlessly embed social media and digital tools and it needs to embrace constructivist principles, where teachers are focused on collaborative, hands on and minds on learning. One way to accomplish this is through online Communities of Practice. These digital learning spaces are based upon constructivist principles and as such members

actively construct learning within the social aspect of a community. Although the design of CoP includes leaders and self-reflective practices, these additional aspects of a CoP need to be explicitly addressed, as they are fundamental to the goal of transformational learning. With these in place, teachers can challenge their assumptions and construct new knowledge, with others, confident in their ability to create constructivist classroom environments for today's learner.

### References

- Beauchamp, L., Klassen, R., Parsons, T., Durksen, T., & Taylor, L. (2014). Exploring the Development of Teacher Efficacy Through Professional Learning Experiences. Retrieved from <http://tinyurl.com/mtk85nb>
- Boulos, L. (2013). Professional learning communities vs personal learning networks. [Web log post]. Retrieved from <http://raine6.blogspot.ca/2013/01/professional-learning-communities-vs.html#.VP0h2LPF9Wi>
- Boulos, L. (2015). Teacher agency - Who owns professional learning? [Web log post]. Retrieved from <http://raine6.blogspot.ca/search?updated-min=2015-01-01T00:00:00-08:00&updated-max=2016-01-01T00:00:00-08:00&max-results=1#.VPyW5LPF9Wg>
- Brindley, J., Blaschke, L. M., & Walti, C. (2009). Creating effective collaborative learning groups in an online environment. *The International Review of Research in Open and Distributed Learning*, 10(3).
- Broad, K., & Evans, M. (2006). A Review of literature on professional development content and delivery modes for experienced teachers. Retrieved from <http://www.oise.utoronto.ca/ite/UserFiles/File/AReviewofLiteratureonPD.pdf>

Brown, J. S., Collins, A., & Duguid, P. (1989). Situated Cognition and the Culture of Learning. *Educational Researcher*, 18(1), 32-42. doi:10.3102/0013189X018001032

Cambridge, D., Kaplan, S., & Suter, V. (2005). Community of practice design guide. Educause. Retrieved from <http://net.educause.edu/ir/library/pdf/nli0531.pdf>

Clifford, P., & Friesen, S., Lock, J. (2004). Coming to teaching in the 21st century. Retrieved from The Galileo Educational Network website: <http://www.galileo.org/research/publications/ctt.pdf>

Chapter 6: Metacognition and constructivism. (n.d.). Retrieved from [http://peoplelearn.homestead.com/beduc/chapter\\_6.pdf](http://peoplelearn.homestead.com/beduc/chapter_6.pdf)

Cognitive apprenticeship. (n.d.). Retrieved from <http://www.learning-theories.com/cognitive-apprenticeship-collins-et-al.html>

Cole, P. (2004). Professional development: A great way to avoid change. IARTV, 140. Retrieved from [http://www.aitsl.edu.au/docs/default-source/professional-growth-resources/performance-and-development-resources/professional\\_development\\_a\\_great\\_way\\_to\\_avoid\\_change\\_-\\_pcole\\_2004\\_iartv.pdf](http://www.aitsl.edu.au/docs/default-source/professional-growth-resources/performance-and-development-resources/professional_development_a_great_way_to_avoid_change_-_pcole_2004_iartv.pdf)

Craig, T., Van Lom, M., (2009) Impact Constructivist Learning Theory and Mobile Technology

Integration, Theories of Educational Technology, EDTech, Boise State University, retrieved

from [https://sites.google.com/a/boisestate.edu/edtechtheories/craig\\_and\\_vanlom](https://sites.google.com/a/boisestate.edu/edtechtheories/craig_and_vanlom)

Cranton, P. (2002). Teaching for transformation. *New Directions for Adult and Continuing Education*,

2002(93), 63-72. doi:10.1002/ace.50

<http://www.cod.edu/people/faculty/liudejan/CAHA501/CAHA501/crantontft.pdf>

Dede, C. (2008, May 07). A Seismic shift in epistemology. Retrieved from

<http://www.educause.edu/ero/article/seismic-shift-epistemology>

Dougiamas, M. (2014, September 08). A Journey into constructivism. Retrieved from

<https://dougiamas.com/archives/a-journey-into-constructivism/>

Doyle, A., Wilson, S., Liepolt, W., & Matsuoka, B. (2004). Constructivism as a paradigm for teaching

and learning. Retrieved from <http://www.thirteen.org/edonline/concept2class/constructivism/>

Easton, L. (2008). From professional development to professional learning. *Phi Delta Kappan*, 89(10),

755-759. Retrieved from

<http://pdingt.pbworks.com/f/From%20PD%20to%20Prof%20Lrng.pdf>

Elements of Constructivism. (n.d.). Retrieved from

<http://www.colorado.edu/geography/foote/TeachingGIS/activelearning/a.html>

Ford, K., & Lott, L. (n.d.). The impact of technology on constructivist pedagogies. Retrieved from

<https://sites.google.com/a/boisestate.edu/edtechtheories/the-impact-of-technology-on-constructivist-pedagogies-1>

Fullan, M. (2007). Professional development is not professional learning. Retrieved from

<http://www.michaelfullan.ca/media/13435883790.html>

Gensburg, R., & Herman, B. (n.d.). An Analysis of the theory of constructivism as it Relates to Pre-service and In-service Teachers and Technology - Theories of educational technology.

Retrieved from <https://sites.google.com/a/boisestate.edu/edtechtheories/an-analysis-of-the-theory-of-constructivism-as-it-relates-to-pre-service-and-in-service-teachers-and-technology-1>

Giesen, J. (2004). Constructivism: A Holistic approach to teaching and learning. Northern Illinois

University. Retrieved from <http://www.niu.edu/facdev/programs/handouts/constructivism.pdf>

Grant, K. (2012). eTeachables: Supporting transformational practices in classroom instruction.

Portland, OR: Sublime Learning. Retrieved from

<http://www.scribd.com/doc/138240888/eTeachables-Supporting-Transformational-Practices-in-Classroom-Instruction>

Grant, K., Hamilton, T., & Hamilton, J. (2012). Professional Learning Guide. Retrieved from

<https://drive.google.com/file/d/0B-fljwsm-ORuNnZtN1QwUVVXRWM/edit>

Grant, K. (2013). A Pedagogical Framework to Support Online Teacher Professional Learning.

Retrieved from [http://media.wix.com/ugd/c2f101\\_c5aef80c7d914c7ba0ea04531652ac07.pdf](http://media.wix.com/ugd/c2f101_c5aef80c7d914c7ba0ea04531652ac07.pdf)

Henry, J., & Meadows, J. (2008). An absolutely riveting online course: Nine principles for excellence in web-based teaching. *Canadian Journal Of Learning And Technology / La Revue Canadienne De L'Apprentissage Et De La Technologie*, 34(1). Retrieved from

<http://www.cjlt.ca/index.php/cjlt/article/view/179/177>

Karagiorgi, Y., Symeou, L., (2005) Translating Constructivism into Instructional Design: Potential and Limitations, *Educational Technology & Society*, Vol. 8, No. 1, pg., 17-27

Learning theories in plain English [1]. (2015.). Retrieved from [www.learning-theories.com](http://www.learning-theories.com)

Marra, R. M. (2004). An online course to help teachers “use technology to enhance learning”:

Successes and limitations. *Journal of Technology and Teacher Education*, 12(3), 411-429.

<http://marianrosenberg.wiki.westga.edu/file/view/MarraRAnOnlineCourse.pdf>

McLeod, S. (2009). Jean Piaget. Retrieved from

<http://www.simplypsychology.org/piaget.html#schema>

Meyer, A., Rose, D., & Gordon, D. (2013). Universal design for learning: Theory and practice.

Retrieved from <http://udltheorypractice.cast.org/login>

Mezirow, J. (1997). Transformative learning: Theory to practice. *New Directions for Adult and Continuing Education*, (74). Retrieved from

[http://www.hrdmax.com/images/column\\_1325932983/Mezirow%20Transformative%20Learning.pdf](http://www.hrdmax.com/images/column_1325932983/Mezirow%20Transformative%20Learning.pdf)

Ministry of Education (2010). Collaborative teacher inquiry. Retrieved from

[http://www.edugains.ca/resourcesLNS/Monographs/CapacityBuildingSeries/CBS\\_Collaborative\\_Teacher\\_Inquiry.pdf](http://www.edugains.ca/resourcesLNS/Monographs/CapacityBuildingSeries/CBS_Collaborative_Teacher_Inquiry.pdf)

Molphy, M., Pocknee, C., & Young, T. (2007). Online communities of practice: Are they principled and how do they work? Retrieved from

<http://www.ascilite.org.au/conferences/singapore07/procs/molphy.pdf>

Owston, R. (2004). Sustaining technology innovation in the classroom: What does it take? Retrieved

from <http://www.yorku.ca/abelearn/documents/Sustaining-Technology-Innovation--Owston.pdf>

Peck, C., Cuban, L., & Kirkpatrick, H. (2002). Techno-promoter dreams, student realities. Retrieved from <https://www.questia.com/library/journal/1G1-82782383/techno-promoter-dreams-student-realities>

Wikipedia. (2014) Personal learning network. Retrieved March 5, 2015, from [http://en.wikipedia.org/wiki/Personal\\_learning\\_network](http://en.wikipedia.org/wiki/Personal_learning_network)

Puentedura, R. R. (Writer). (2013). Technology in education: A Brief introduction [Video]. YouTube. Retrieved from: <https://www.youtube.com/watch?v=rMazGEAiZ9c>

Smith, M. K. (2003, 2009). Communities of practice, The encyclopedia of informal education. Retrieved from [www.infed.org/biblio/communities\\_of\\_practice.htm](http://www.infed.org/biblio/communities_of_practice.htm)

Taylor, E. W. (2007). An update of transformative learning theory: A critical review of the empirical research (1999–2005). *International Journal of Lifelong Education*, 26(2), 173-191. doi:10.1080/02601370701219475

Transformative Learning. (n.d.). TRANSFORMATIVE LEARNING. Retrieved from <https://www.uco.edu/academic-affairs/cettl/TLGuideFiles/2012-03-tl.pdf>

- Welk, D. (2006). The Trainer's application of Vygotsky's "zone of proximal development" to asynchronous online training of faculty facilitators. *British Journal of Educational Studies*, 48(2), 183-198. Retrieved from <http://www.westga.edu/~distance/ojdla/winter94/welk94.pdf>
- Wenger, E. (n.d.). Communities of practice: A Brief introduction. Retrieved from <http://wenger-trayner.com/wp-content/uploads/2013/10/06-Brief-introduction-to-communities-of-practice.pdf>
- Wicks, D. (n.d.). Emerging theories and online learning environments for adults. Retrieved from <https://sites.google.com/a/boisestate.edu/edtechtheories/emerging-theories-and-online-learning-environments-for-adults-1>
- Zappala, A. (2007). Social Constructivism and Transformative Learning Theories in the development of Online Instructors: Best Andragogical Practices. In C. Montgomerie & J. Seale (Eds.), *Proceedings of World Conference on Educational Media and Technology 2007* (pp. 2487-2493). Association for the Advancement of Computing in Education (AACE). Retrieved from <http://www.editlib.org/p/25721>