Dr. Rudiger Article Review 1

Commonsense solutions from Tech Leaders Alan November
Kim M. Smithgall
Vanguard [SAANYS] Fall 2010 Volume 39, No.3

Abstract:
Alan November begins by quoting Winston Churchill, "The father backward you can look, the farther forward you are likely to see." He is implying the ideas and best practices of the old one room schoolhouse, where students were inherently required to work collaboratively and teach each other. This paradigm is essential for success in todays "flat world," as we prepare students to become global participants in a "culture of sharing." Alan November points out several important aspects of collaborative problem solving essential to supporting digital learners.

- Problem Based Learning requires students to work collaboratively to solve a problem by asking the right questions.
- Teachers need to stop "spoon-feeding" information as allow students the ability to collect information to learn themselves.
- Students need to adopt to roles similar to an apprenticeship where they are strong supporters and advocates for their role and responsibility.
- Technology in and of itself does not improve learning, it is the application of the technology, that ensures productive growth.
- Teachers will be more necessary to foster appropriate question asking and teach information management effectively.
- Learning needs to be student centered, not teacher [directed] centered.
- US Education needs to reduce focus on standardized testing for all.

About the Authors' subject:
Alan November is considered one of the leading experts in education and 21st century skill application. I have heard him speak at several conferences including those held by SAANYS and LIASCD. He supports the use of media and technology in developing student's communication and information gathering to best support their preparation for a global society. He encourages schools to adopt open policies regarding the use of mobile technology, you tube, Wikipedia, and social networks.

Application:
In learning analytics, data is collected, measured, analyzed, and used to redirect instruction for maximizing an individuals differentiated needs so productive learning goals can be set and attained for that individual. Alan November, one of the most widely recognized educational leaders of 21st century learning reform, shares the understanding that if we approach learning similar to "the way students learned in the era of one-room schoolhouses," we would be supporting learning more similar to real world business employment and less like the fixed NCLB mandates governing all students are simply a number. Learning Analytics supports this understanding by providing more accurate and instant data to learners and facilitators so modifications can support reform in a timely manner.

Dr. Rudiger Article Review 2

Knewton – the Future of Education?
George Siemens posted April 14, 2011
http://www.learninganalytics.net/

Abstract:
Learning analytics is the "measurement, collection, analysis and reporting of data about learners and their contexts, for purposes of understanding and optimizing learning and the environments in which it occurs." Current research supports its growth is rapidly exceeding expectations in the "policy level decisions [of] universities and schools." The rapid growth of interest in learning analytics is a result of a desire for pedagogical reform with the 21st century learner and instructor. In attempting to fully understand what "learning analytics" are, interested parties are planning to hold a conference in Alberta, Canada in the spring of 2011. Many educational technology companies and publishers are attempting to offer content that supports 21st century skills to attack the "multi-billion dollar education market of content, teaching, and testing." Knewton, a test prep company, is using advanced algorithms and automated data analysis for individualized student reporting. Understanding this new platform in conjunction with computer adaptive testing (CAT) will provide real-time information to instructors and students is valuable for achieving student growth analysis through using data.

About the Author:
George Siemens Founder and President of Complexive Systems Inc. and author of several books about learning and knowledge in the 21st century. Currently he works at Athabasca University as a social media strategist with focus on systematic and institutional change. He maintains a theory of Connectivism which states that learning rests in diversity of opinions.

Application:
Learning analytics is a modern pedagogical philosophy which "promises to harness the power of advances in data mining, interpretation, and modeling to improve understandings of teaching and learning, and to tailor education to individual students more effectively." This quote was taken from the 2011 Horizon Report. George Siemens is attempting to garner support for a Learning Analytics and Knowledge (LAK) conference.

Dr. Rudiger Article Review 3

Interpreting Item Analysis: What do all the Numbers Mean?
Virginia Peterson-Graziose
Long Island Education Review Volume 10, Issue 1, Spring 2011

Abstract:
An item analysis is a valuable tool for "interpreting the validity and reliability of a multiple choice" assessment. The knowledge gained from statistical concepts such as measures of central tendency, standard deviation, p-value, point biserial index (PBI), reliability coefficient, Standard Error of Measurement (SEM), and item distractors can facilitate the assessment creator to better understand inaccuracies and help identify questions that may have bias. Measures of central tendency include the average, mean median, and mode. Standard deviation explains how much the scores vary plus or minus from the median. P-value helps determine how difficult a question is by determining the level of correct responses. PBI helps understand the reliability of the assessment by showing the level of discrimination between high and low achieving performers. An assessments reliability from test taker to test taker is confirmed by the reliability coefficient. SEM predicts the consistency of multiple attempts at the same assessment although the individual cannot take it multiple times. Item distractor analysis informs the test creator if distractors are being frequently selected by both high and low achieving performers.

About the Author:
Virginia Peterson-Graziose is an assistant professor of Nursing at Farmingdale State College. Dr. Peterson-Graziose is a Doctorate in Nursing Practice, Registered Nurse-Board Certified, and Advanced Practice RN, Board Certified.

Application:
The use of item analysis reports is important for understanding the end results of an assessment. To better understand how to interpret the information a basic understanding of statistical concepts is equally important. This article presents a general overview of many of the statistical concepts that could be extrapolated from an item analysis. Without performing statistical analysis, understanding correct and incorrect item frequencies, would be incomplete. You would not understand the possible reason for significant error achieved by most students or the presence of distractors that equally affected all test subjects, independent of ability.

Dr. Rudiger Article Review 4

Learning Analytics: Definitions, Processes and Potential
Tanya Elias
Creative Commons, January 2011

Abstract:
The author presents that earning is developed through the process of interacting with others. She elaborates that there are various field of study that improve the methods of interaction and learning, they include; business intelligence, web analytics, academic analytics, action analytics, and learning analytics. Learning analytics includes identifying information in real time and supporting learning through the inclusion of easily accessible data. The process of incorporating learning analytics requires an understanding of the knowledge continuum, including data with information with knowledge with wisdom. Using this model to understand learning, predictive models can be generated to support reducing loss instruction and a predictive view of success. Additional models of learning analytics include a five or seven step process. All models of analytics require ***information, analysis, and action***.

About the Author:
The only information I could learn about the author is she is a professor at Athabasca University in Canada who maintains a blog. This difficult search lead me to join her blog and the opportunity to communicate with her regarding the process of learning analytics and where she sees the impact of them in the policies of education. I am hopeful to have the chance to meet her if I get to attend the LAK conference in Alberta Canada 2012.

Application:
Since this is one of the first articles I have read in my quest to understand the concept and application of learning analytics, I am pleased to grasp the greater understanding that learning analytics is rooted in the acquisition of information, analysis, and action. Although the article references several different approaches to using analytics, these rooted characteristics appear to be the essence of all learning analytics. It is from this article that I am seeing the application for my study and future considerations towards a doctoral dissertation develop in my mind.

Dr. Rudiger Article Review 5

Gaming as a Platform for the Development of Innovative Problem-Based Learning Opportunities
By J Felipe Echeverri and Troy D. Sadler
Science Educator Spring 2011 Volume 20, No. 1 pgs. 44-48

Abstract:
Researchers and educators recognize the need to create enhanced learning opportunities in the areas of science and technology as a result of global assessments showing the decline in US student achievement. Problem –Based Learning (PBL) is an instructional strategy that supports inquiry based lessons and promotes collaboration similar to 21st century skills. Since most students learn in traditional lecture settings, PBL would generate greater interest and enhance the student's application of taught/learned material. The inherent goal of gaming in the PBL model is to enhance the learning by creating a simulated environment that could otherwise not be experienced for various reasons including, identity, transportation, historical significance, emotional setting, cost and timely feedback.

About the Author:
Felipe Echeverri is the recipient of the 2010 Humanitarian Award from Biorep Technologies. As he shared in a video of himself, "I have the best job in the world because it is like I get to go to the playground everyday…I love my work and I really hope a lot of people get to be an engineer."

Application:
I was introduced to the idea of reading literature about learning analytics by reading the Horizon Report 2011. In addition to the information in the Horizon Report about educational shifts coming in the next five years, gaming was mentioned and implied as having a critical role in the future of teaching. The authors here share that vision through the development of their own tool that could provide real opportunities for students to experience simulated historical events and other opportunities normally reserved for stories or film. The use of gaming could revolutionize the concept of experience through affordable and interesting digital medias.