

Assessment and Game Based Learning

Center for Teaching and Learning
Summer Symposium
August 2015

Sandra Davidson – Faculty of Nursing
sjdaids@ualberta.ca @Sandra_Davidson

The Challenge



Nurs 301: Nursing Research

Undergraduate research course (required)

Reputation as dull, dry, difficult

Lacked relevance for students; not as important as “clinical courses”



Engagement & Relevance

Focus on how research is used in clinical settings = **Evidence Based Practice**

Focus on developing knowledge users not knowledge generators (researchers)



Learning & Gamification

Made research “come to life”

Pedagogically sound basis in:

Mastery Learning

Authentic Assessment

Student-centered Learning

What are we talking about?

“**Gamification** is using game-based mechanics, aesthetics and game thinking to engage people, motivate action, promote learning and solve problems” .

(Kapp, 2012, p.10)

Game-Based

- System
- Abstract challenge
- Rules
- Interactivity
- Feedback
- Quantifiable results

Mechanics & Aesthetics

- Levels
- Badges
- Point systems
- Time constraints
- User interface
- User experience

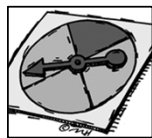
Game Thinking

- Turning everyday experience into a game
- Competition
- Cooperation
- Exploration
- Storytelling

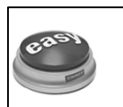
Kapp, 2012

What It is Not

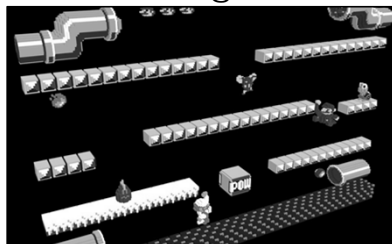
Trivialization of Learning



New!



Easy to Create



Perfect for every learning situation



Badges, Points, & Rewards



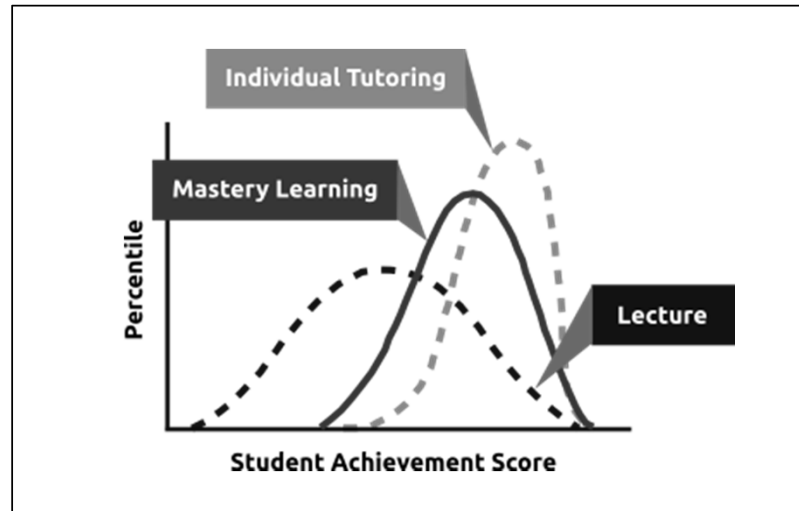
"Only" Gamification

Kapp, 2012

The screenshot shows the 3D GameLab website interface. At the top, the user profile for 'postmodern' is visible, showing Level 1 and System XP 1590. Below the profile, there are statistics for 'Available' (47), 'In Progress' (0), and 'Completed' (0) quests. A table lists several quests with their names, XP values, average times, ratings, categories, and due dates.

Name	XP	Avg Time	Rating	Category	Due Date
"You can steer yourself any direction you choose"	25	53 mins	★★★★	Level 1	No end date
Application to Practice	50	109 mins	★★★★☆	Level 5	No end date
Burning Questions - The Fuel for Research	25	23 mins	★★★★	Level 2	No end date
Clinical Practice Guidelines	50	45 mins	★★★★	Level 5	No end date

Mastery Learning



Authentic Assessment

- ▶ A form of assessment in which students are asked to perform **real-world tasks** that demonstrate **meaningful application** of essential knowledge and skills -Jon Mueller
- ▶ "...Engaging and worthy problems or questions of importance, in which students must **use knowledge to fashion performances effectively and creatively**. The tasks are either replicas of or analogous to the kinds of problems faced by professionals in the field." - Grant Wiggins

Traditional

- ▶ Selecting a Response
- ▶ Contrived
- ▶ Recall/Recognition
- ▶ Teacher-structured
- ▶ Indirect Evidence

Authentic

- ▶ Performing a Task
- ▶ Real-life
- ▶ Construction/Application
- ▶ Student-structured
- ▶ Direct Evidence

Mueller (2014)

“

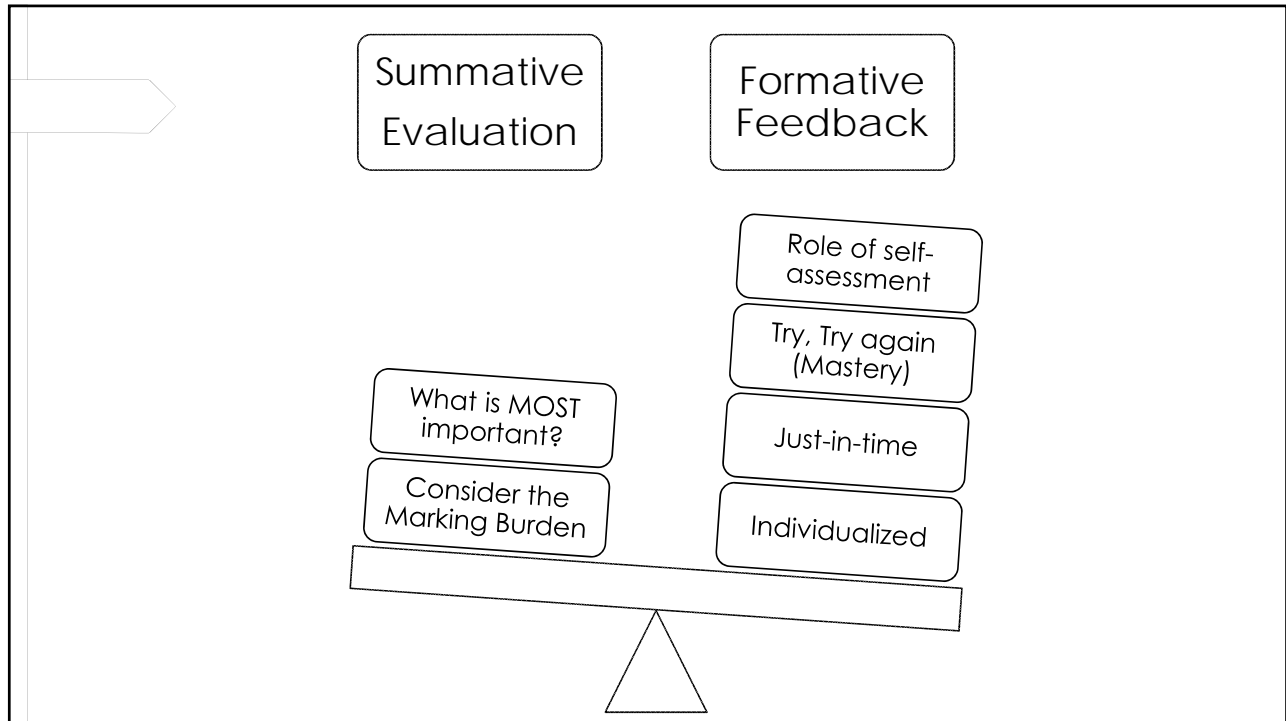
**What you assess is what
you get; if you don't test it
you won't get it.**

”

Lauren Resnick

Essential intellectual competencies are falling through the cracks of conventional testing.

- “Underdetermined” and complex environments (such as clinical practice)



Shift from Evaluation to Appraisal

Teacher: How many diamonds have you got?

Student: I don't have any diamonds.

Teacher: Then you FAIL!

Student: But you didn't ask me about my rubies.



► "Learners amass "treasure", not just diamonds."

(Biggs, 1996)

Lessons Learned...

- ▶ Real-life application and relevance are key
- ▶ Students will work harder and interact with course material longer if they are intrinsically motivated and engaged
- ▶ Student choice is HUGE
- ▶ One word "Flow"
- ▶ Make feedback individualized, just-in-time and actionable
- ▶ Gamification is not a panacea
- ▶ Beware of trivialization and gimmicky use of GBL
- ▶ Start from a foundation of evidence & good pedagogy

Resources

Biggs, J. (1996). Enhancing teaching through constructive alignment. *Higher Education*, 32, 347-364. Retrieved from http://www.are.uwa.edu.au/_data/assets/pdf_file/0003/2199045/Biggs-1996-HE-enhancing-teaching-through-constructive-alignment.pdf

Bloom, B. (1984). The 2 sigma problem: The search for methods of group instruction as effective as one-to-one tutoring. *Educational Researcher*, 13(6), 4-16.

Mueller, J. (2014). Authentic assessment toolbox. [Website]. Retrieved from <http://jfmuller.faculty.noctrl.edu/toolbox/whatisit.htm>

Kapp, K. M. (2012). *The gamification of learning and instruction*. San Francisco: Pfeiffer.

Wiggins, G. P. (1993). *Assessing student performance*. San Francisco: Jossey-Bass Publishers.

Wiggins, G. P. (1990). The case for authentic assessment. *Practical Assessment, Research & Evaluation*, 2(2). Retrieved July 27, 2015 from <http://PAREonline.net/getvn.asp?v=2&n=2>