

# Walking the Talk:

## Signature Pedagogies and Metateaching

in  
Graduate-Level Education Courses

8: Friday, May 16  
11:30 – 12:30

Katrin  
Becker



# Overview

- Who AM I?
- What are Signature Pedagogies?
- The Usual Scenario in M.Ed.
- Who are M.Ed Students?
- Going Meta
- Cants
- A Few Examples







# What are Signature Pedagogies?

Lee Shulman:



“the types of teaching that organize the fundamental ways in which future practitioners are educated for their new professions (2005, p. 52).”



# Signature Pedagogies

## **surface structure**

concrete, operational acts  
of teaching and learning

## **implicit structure.**

beliefs about professional  
attitudes, values, and  
dispositions

## **deep structure**

assumptions about how best  
to impart a certain body of  
knowledge and know-how



# What are Signature Pedagogies?

## Medicine



WALTER WILLARD SMITH  
*Dr. Cushing Explaining a Neurological diagnosis*  
*Dr. Malcom*  
*Dr. F. B. R. R.*

<http://doc.med.yale.edu/historical/cushing/career.html>



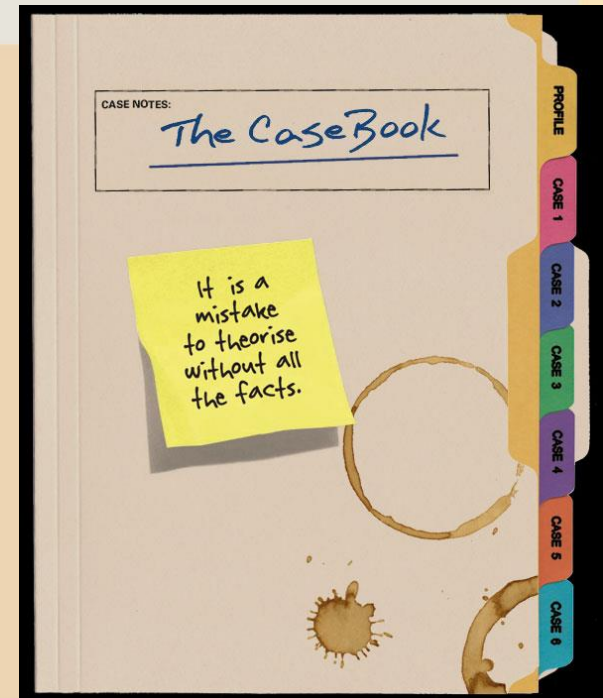
[http://www.ruralhealth.unimelb.edu.au/Study/MD%28Graduate%29/MD%20\\_RCS/student%20feedback/index.html](http://www.ruralhealth.unimelb.edu.au/Study/MD%28Graduate%29/MD%20_RCS/student%20feedback/index.html)

# What are Signature Pedagogies?



<http://lawmindscience.wordpress.com/2011/03/27/a-proposal-for-the-use-of-psychodrama-in-law-school/>

Law



# What are Signature Pedagogies?

Distinctive - to that profession

Pervasive – across courses & institutions

Computer Science → Programming

Chemistry → Lab Work

Drama → Theatre

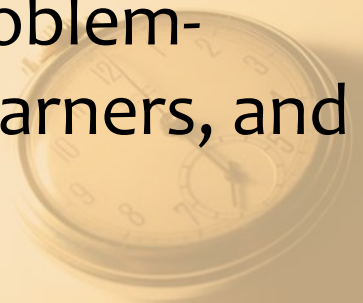
Music → Composition / Performance





# The Usual Scenario in M.Ed.

Many M.Ed. programs claim to incorporate signature pedagogies in their programs, which often include approaches such as inquiry-based, case-based, and problem-based learning, communities of learners, and more.



# But Do We Really?



What do our students *usually* DO?

What *usually* happens in our classrooms?

How do our students *usually* get assessed?



# The Usual Scenario in M.Ed. The Learner View

## RECEIVES

Listen

Watch

Read

## GIVES

Research  
Reports

Research  
Proposals

Ethics  
Applications

Research  
Papers

Blog  
Posts

Readings &  
Responses

Topical  
Presentation



# The Usual Scenario in M.Ed. The Instructor View

## GIVES

Purveyor of  
Knowledge

Discussion  
Leader/Host

M.C.

## RECEIVES

Papers  
*heavy emphasis  
on citations*

Project

PPT / Prezi  
Presentations  
on a Topic

Short  
Writings





# Signature Pedagogies

## surface structure

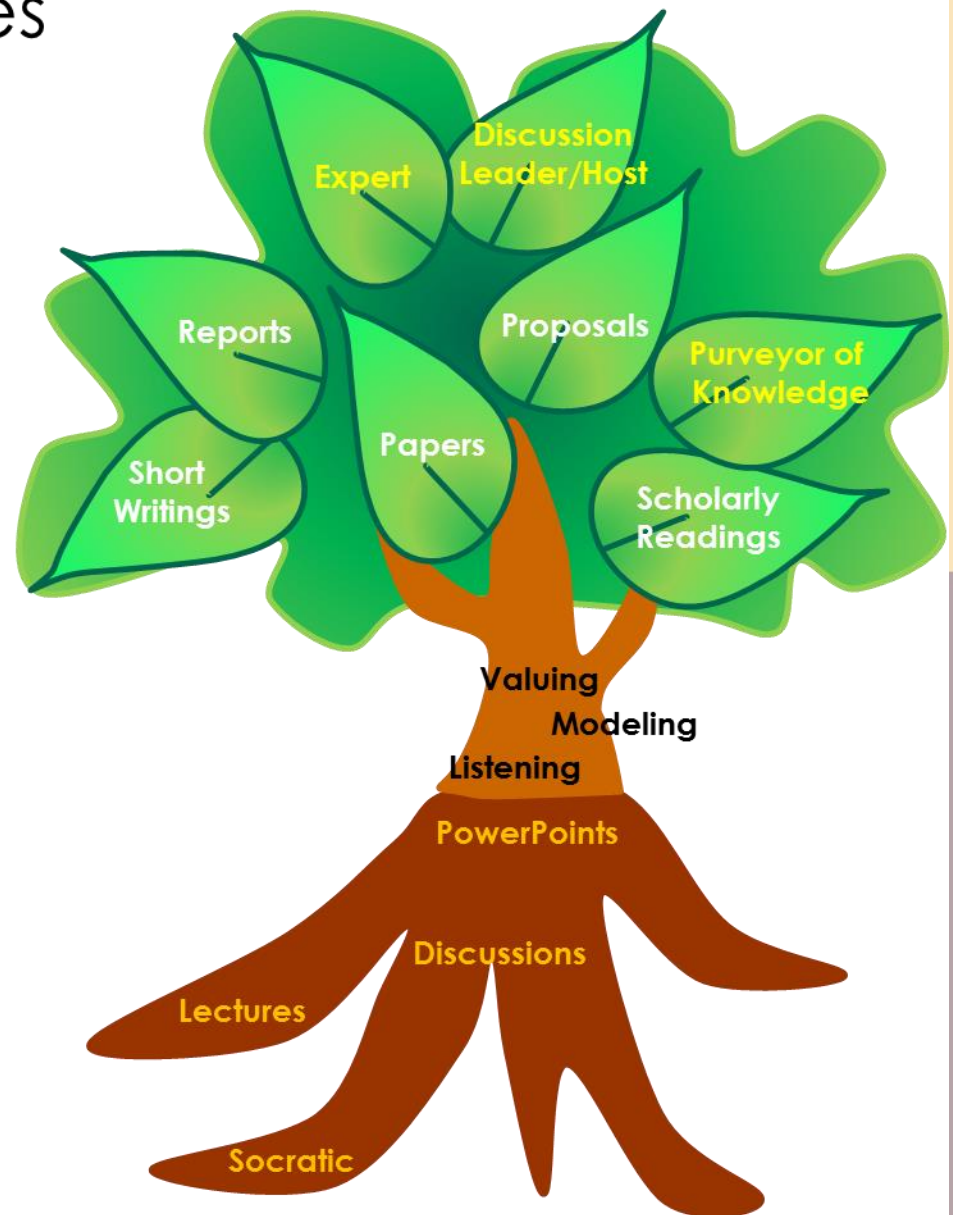
concrete, operational acts  
of teaching and learning

## implicit structure.

beliefs about professional  
attitudes, values, and  
dispositions

## deep structure

assumptions about how best  
to impart a certain body of  
knowledge and know-how



# The Usual Scenario in M.Ed.

What does our pedagogy reveal, intentionally or otherwise, about the habits of head, hand, and heart as we purport to foster through our disciplines?”

## Habits of Mind

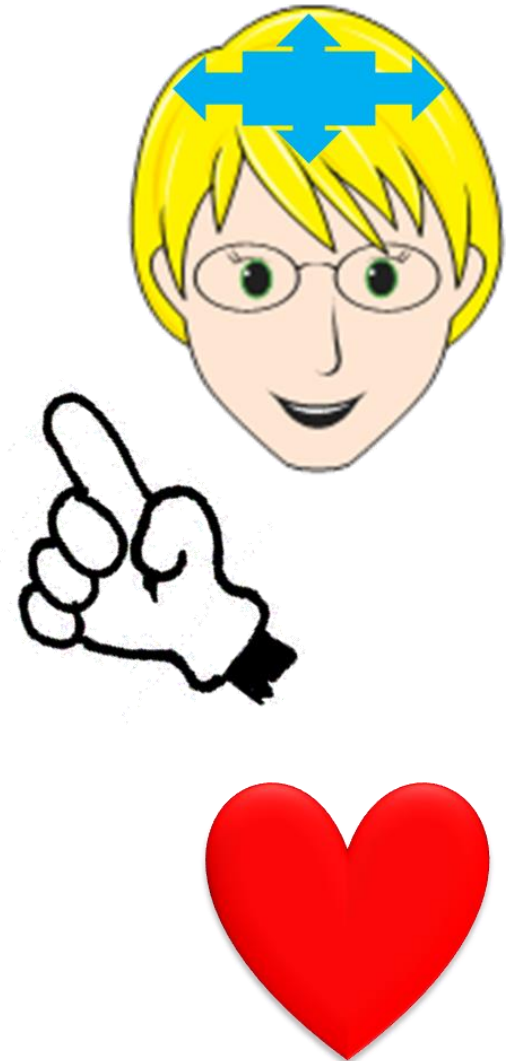
content

## Habits of Hand

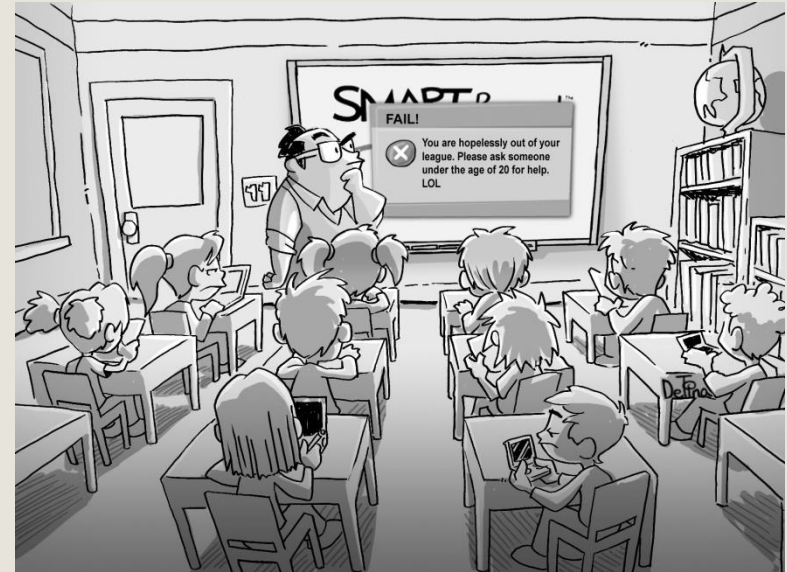
skills

## Habits of Heart

values



# Learning TO BE vs Learning ABOUT



Is there, or should there be, a consistent connection between a way a discipline *creates or discovers new knowledge* and the way it apprentices new learners?

(Ciccone, 2009, p. xii).

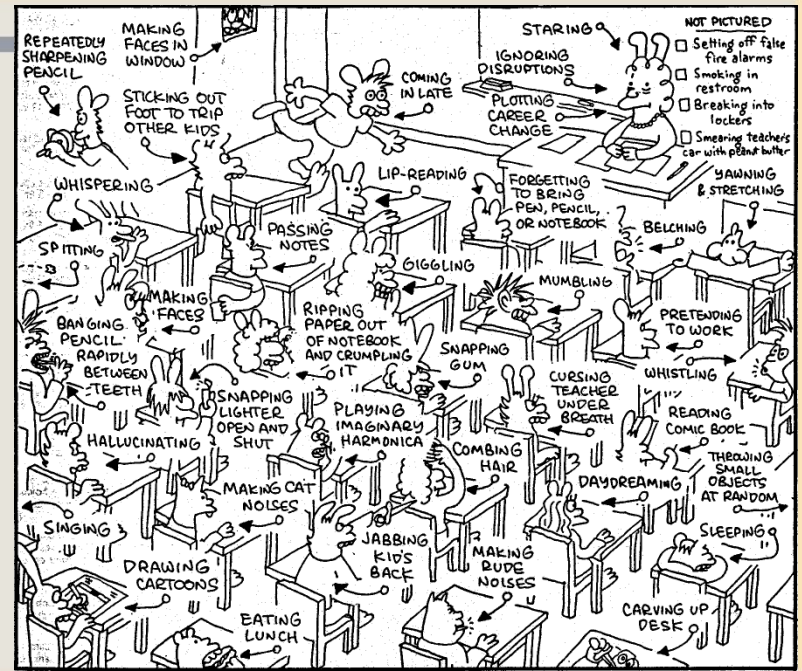


# Who are M.Ed Students?





# Learning TO BE vs Learning ABOUT



Is there, or should there be, a consistent connection between a way a profession is practiced and the way it apprentices new learners?



# How We See the World



To a (an) ....

Everything is a(n) ...

Computer Scientist

➔ Algorithm.

Musician

➔ Song.

Writer

➔ Story.

Thespian

➔ Play.

Film-maker

➔ Movie.

Set Designer

➔ Set.

Educator

➔ *LESSON.*



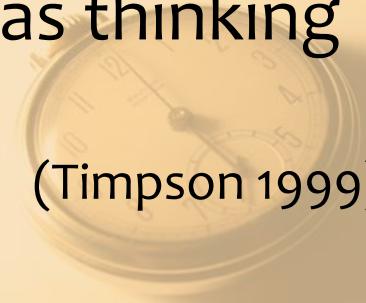
# Going Meta



Given that metacognition is thinking about thinking,

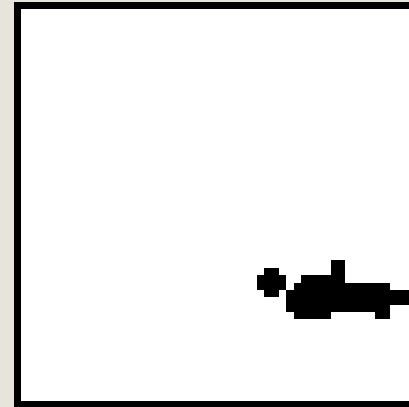
Metateaching has been defined as thinking about teaching.

(Timpson 1999)



# Going Meta

*But it's not.....*

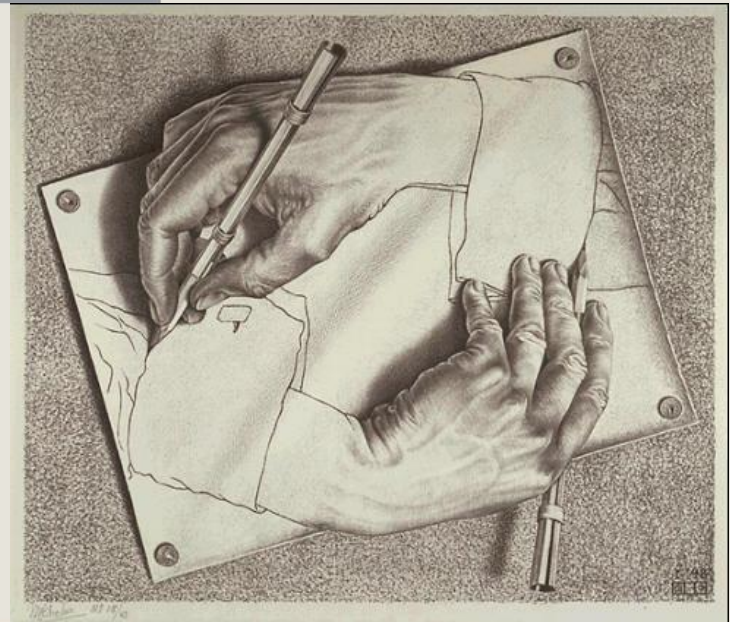


Meta-**X** = **X** about **X**





# Going Meta



So, if metacognition is thinking about thinking,  
and a meta-language is a language about languages,  
then meta-teaching is in fact:

***teaching about teaching.***



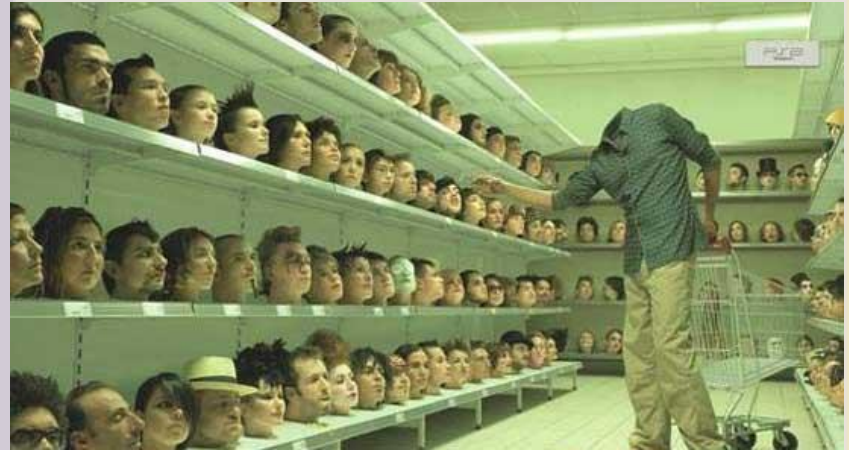
# Going Meta



Teacher education is unique among disciplines in that we are doing what we are teaching.



# Going Meta

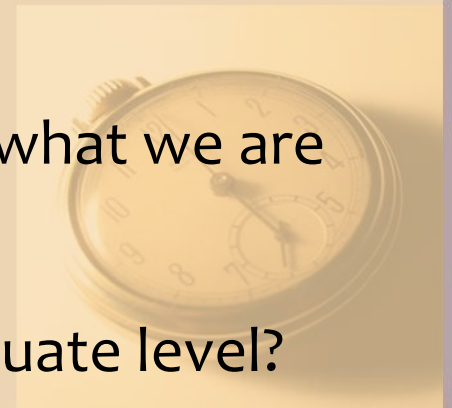


If we combine this  
with notions of signature pedagogies

and

the idea that we should be modeling what we are  
teaching,

then what does this mean at the graduate level?



# WARNING:

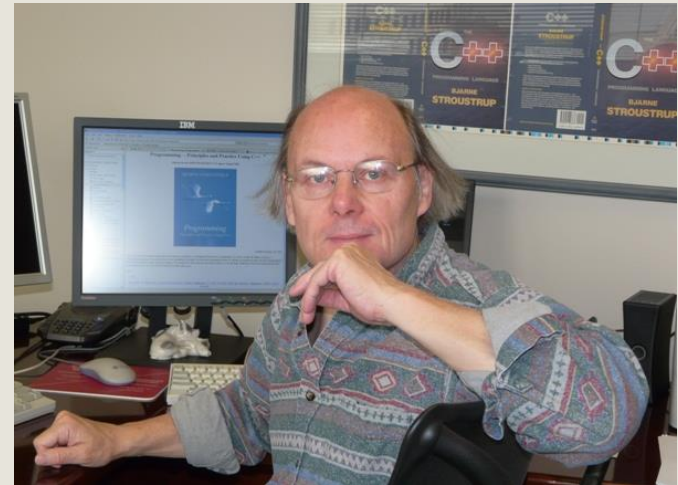


The following contains opinions and suggestions that some may find distasteful.





# Bjarne's Can't



"[Y]ou can't teach what you don't practice  
...  
and therefore don't understand."

Bjarne Stroustrup

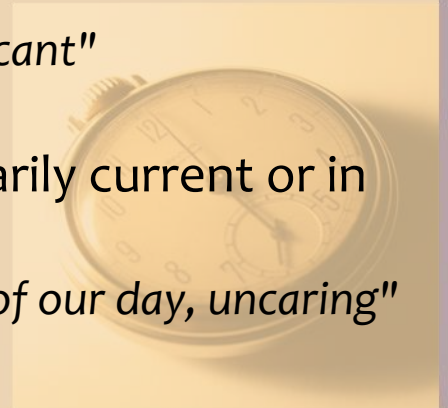
<http://cacm.acm.org/magazines/2010/1/55760-what-should-we-teach-new-software-developers-why/fulltext>



# .... and other Cants

cant:

1. hypocritical and sanctimonious talk, typically of a moral, religious, or political nature.  
*"the liberal case against all censorship is often cant"*
2. denoting a phrase or catchword temporarily current or in fashion.  
*"they are misrepresented as, in the cant word of our day, uncaring"*



# What We Teach vs How We Teach

Variety of Sources

New Media

Innovation

Embracing Change

Scholarly Papers

Textbooks

Traditional CMS

PPT

MSOffice

Discussion



# What We Preach vs What We Assess

Authentic Experiences

New Theories & Models

Active Learning

Just-in-Time

Personalization

Leading by Example

Presentations

Papers

Blog Posts

Reflections



# Example: A DGBL Course, Gamified

## Achievement Quest 2.02: Profiling Mission 50p 1x

Source: K. Becker © 2013. Adapted from an assignment by Robert Rabin (Beaumont 4990 Circulation), University of Arizona.

Due Dates: This Quest has no set due date, but it is recommended you complete at least one achievement quest every three weeks.



### Objective

Choose an anonymous blog on the web and find out as much as you can about the owner.

### Introduction and Background

"They that would give up essential liberty to obtain a little temporary safety, deserve neither liberty nor safety." - Benjamin Franklin

Privacy is likely one of the most important values of the decade. Do you value your privacy? Many people don't realize just how much they reveal about themselves on the web. One often hears that it shouldn't matter if someone is tracking everything you do on the web, so long as you have nothing to hide. The truth is that basic privacy is necessary for one's wellbeing and for basic dignity, and most people feel violated when they see just what strangers can find out about them. Have more than ever before, it is important to be aware of the trail you leave for others and what that might mean to you in the future.

### Resources

- <http://www.seasatime.com/>
  - <http://www.murmel.com/blogs/how-to-blog-anonymously>
- Watch:
- [Data Surveillance Video \(2006\)](#)

### Goals, Skills and Concepts

COMP 1103 Learning Outcomes					
Computer Literacy	Recall & Explain	Operational Skills	Tool-Based Problem Solving	Specific Application	Information Management
Communications	Meaningful Writing	Meaningful Writing	Tool-Based Problem Solving	Specific Application	Information Management
Thinking Skills	Research Skills	Research Skills	Tool-Based Problem Solving	Specific Application	Information Management
Information Retrieval & Evaluation	Searching Skills	Citing Sources	Tool-Based Problem Solving	Specific Application	Information Management
Course and Discipline Outcomes	Vocabulary	Use of Tools & Systems	Use of Tools & Systems	Tool-Based Problem Solving	Information Management

- Searching for information (beyond the 1st page of Google)
- Other forms of searches
- APA formatted references
- Appreciation for how easy it can be to collect information from several sources.



## 1103 Leaderboard

Week	1	2	3	4	5	6	7	7.5	8	8.5	9	9.5	10	11	11	12	12	13	13	14	14	14.5	End Game				
(date posted)	Sept 12	Sept 18	Sept 21	Sept 23	Sept 27	Sept 30	Oct 3	Oct 7	Oct 14	Oct 21	Oct 24	Oct 28	Oct 31	Nov 4	Nov 6	Nov 11	Nov 15	Nov 18	Nov 21	Nov 25	Nov 28	Dec 2	Dec 6	Dec 9	Dec 13	Dec 22	
Current mean	40	50	50	80	110	150	175	200	270	340	370	400	435	470	500	540	580	620	660	700	740	780	820	850	850	1000+	
XP	40	50	50	80	110	150	175	200	270	340	370	400	435	470	500	540	580	620	660	700	740	780	820	850	850	1000+	
where you should be	Level	0	0	0	0	0	0	1	1	1	1	2	2	3	3	4	5	5	8	8	10	10	12	12	13		
1	40	50	71	71	99	99	135	231	231	235	369	429	459	459	577	722	722	769	769	824	916	936	952	952	956	1165	A+ 1,165
2	40	40	50	55	95	95	134	164	170	231	280	325	350	447	509	622	647	716	726	794	903	903	903	923	952	1127	A+ 1,127
3	40	40	50	50	75	93	130	160	164	204	251	322	332	382	459	572	604	670	672	726	820	870	880	880	923	1044	A+ 1,044
4	40	40	50	50	71	87	128	138	160	194	235	307	327	350	439	509	592	657	670	695	789	839	870	870	897	1003	A+ 1,003
5	30	30	50	67	75	99	117	139	160	197	245	307	332	332	449	474	474	597	607	767	767	789	789	890	956	A+ 956	
6	30	30	49	67	71	89	99	138	151	194	235	256	256	256	363	363	459	474	506	605	605	767	767	870	925	A 925	
7	20	30	40	50	65	69	87	99	117	148	186	197	255	255	255	275	314	400	400	545	576	630	685	789	924	A 924	
8	20	30	40	50	67	87	97	99	109	141	171	244	244	244	244	244	329	359	397	482	502	527	527	695	890	A 890	
9	30	40	49	50	65	67	70	97	97	103	146	181	204	244	244	244	244	268	359	476	475	475	475	638	853	A 853	
10	30	40	40	50	60	65	67	67	67	85	103	103	107	191	191	191	201	244	244	333	383	383	383	428	603	769	B 769
11	20	40	40	50	50	50	55	66	81	85	87	103	103	103	103	103	189	189	239	328	328	328	328	413	551	D+ 551	
12	40	40	50	50	50	50	50	55	67	67	85	85	85	85	85	85	124	189	267	267	267	267	349	530	D 530		
13	40	40	40	40	50	50	50	58	58	58	67	67	67	75	75	75	85	85	172	264	264	264	264	267	374	F 374	
14	40	30	30	30	47	47	47	47	50	50	50	60	60	60	67	67	58	85	85	134	134	134	134	264	349	F 349	
15							30	40	40	40	40	40	58	58	58	58	58	58	85	85	85	85	85	85	178	F 178	
16							20	37	37	37	37	37	50	50	50	50	50	37	50	85	85	85	85	85	85	F 85	
17							20	37	37	37	37	37	37	37	37	37	37	0	0	0	0	0	0	0	0	F 0	

Avatar	<your avatar>	Item Max Count	Item Max Score
<b>Totals</b>			
<b>Epic Quest [Guild]</b>			
1.00 IGNITE Presentation		1	200
<b>Achievement Quests [Solo : Do at least 4]</b>			
2.01 One - Two Minute Minute Pitch		1	50
2.02 Profiling Mission		1	50
2.03 A.I. Mission (Chicken Paper)		1	50
2.04 Excel Game/Sim		1	50
2.05 Data Analysis Mission		1	50
<b>The Game [Solo Standard &amp; Mini Quests]</b>			
3.01 Timed Quest [Posting A self-Introduction]		1	20
3.02 Persuasion Quest [Editorial Response/Reflection]		4	20
3.03 Defend Quest [Respond to someone else's comment]		10	10
3.04 Talk To Quest [Comment on a post made by another]		5	10
3.05 Collection Quest [Create a class poll.]		4	25
3.06 Craftskill I [Create an Avatar]		2	10
3.07 Craftskill II [Screensapture]		5	10
3.08 Craftskill III [Image Editing]		4	15
3.09 Delivery Quest [Out of Class Mission]		4	10
3.10 Discovery Quest [IN Class Mission]		4	10
3.11 Interact Quest [Create a LinkedIn account]		1	25
3.12 Test of Lore [Quiz]		5	10
3.13 Turn-In Quest [QIC - Form]		4	25
<b>Boss Battle [The Final]</b>			
4.00 Boss Battle (a.k.a. Final Exam)		1	250



Various Challenges and Other Goals worth 50% Individually Weighted Challenges

Solo Due: April 15 (plus multiple intermediate due dates) Assessment see Moodle

This portion of the course embodies a gamified design. All work in this part is individually assessed.

For this component you are asked to choose from among various challenges. In order to 'win' you must complete sufficient challenges to achieve the full 200 points.

The challenges are designed to help you consolidate and expand your growing understanding of the potential and process of game based learning, including gamification. Challenges will be allotted various point values, depending on their level of difficulty and the quality of the work produced. Some items will be counted as don't do, while others may be allotted a range of points based on quality. The instructor (a.k.a. W. Puppelmaster) determines the level of quality of each completed challenge.

There are some challenges that MUST be attempted<sup>1)</sup> in order to earn your final grade, but there is no limit to the number of challenges / goals any one participant may achieve - i.e. less than full points on any one challenge simply means you will have completed an additional challenge if you want a full score.

### Possible Challenges

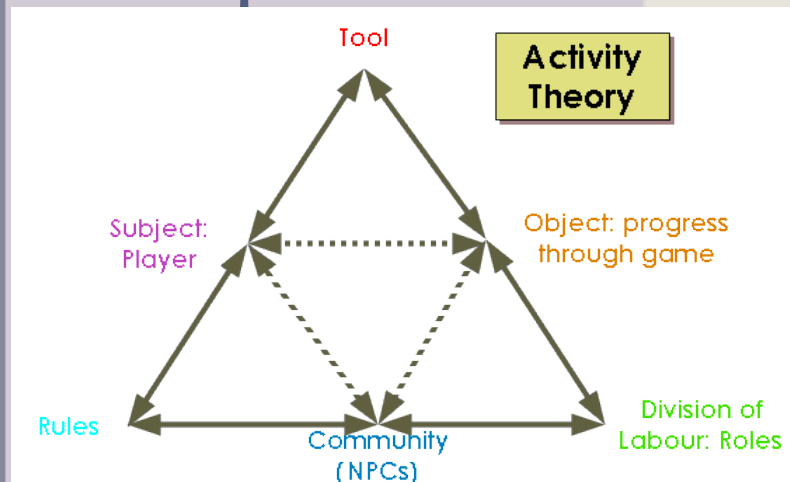
Item	Points	Maximum # of Items	Details
1	20	2	Posting Pre-Course Game Review in a form accessible to class members.
2	5	5	Annotating resources provided by the instructor.
3	10	10	Contributing new annotated resources.
4	25	2	Posting an editorial response to a news item, blog post, or other article.
5	25	2	Writing a critical review of a research or development project conducted by others.
6	15	2	Writing a blog entry.
7	5	10	Adding meaningful comments to the posts, reviews, resources, etc. of other participants.
8	5	10	Rating course resources (either instructor or participant contributions).
7	TBD	?	Other challenges as appropriate.

## GRADE & GPA Table (Used to calculate student grades on the Gradebook sheet)

Score	Letter Grade	GPA	XP	Level
0 - 19	F	0.00	0 - 199	0
20 - 39	F	0.00	200 - 399	1
40 - 49	F	0.00	400 - 499	2
50 - 54	D	1.00	500 - 549	3
55 - 59	D+	1.70	550 - 599	4
60 - 62	C-	1.70	600 - 629	5
63 - 66	C	2.00	630 - 669	6
67 - 69	C+	2.30	670 - 699	7
70 - 72	B-	2.70	700 - 729	8
73 - 76	B	3.00	730 - 769	9
77 - 79	B+	3.30	770 - 799	10
80 - 84	A-	3.70	800 - 849	11
85 - 94	A	4.00	850 - 949	12
95 - 100	A+	4.00	950 - 1000	13
101+	A+	4.00	1001+	14



# Example: An ID Course

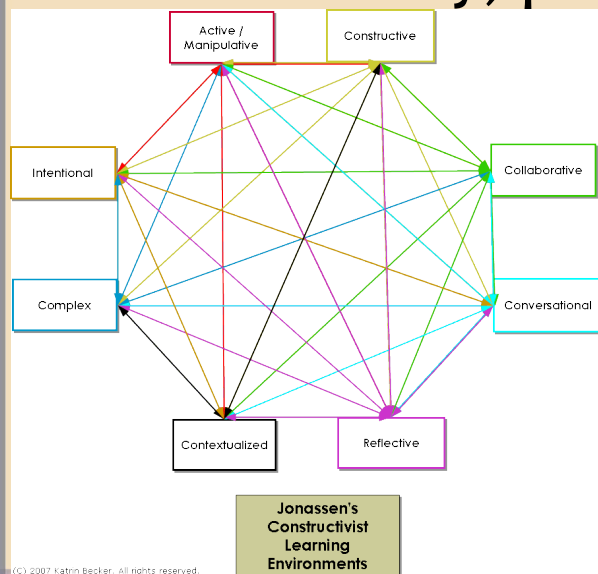


## Merrill's First Principles of Instruction

- 1. Problem**  
Engage them in solving real-world problems.
- 2. Activation**  
Start where the learner is.
- 3. Demonstration**  
Show people what we want them to learn, not simply tell them
- 4. Application**  
New knowledge must be applied to solve problems.
- 5. Integration**  
Learners are motivated to apply what they have learned.

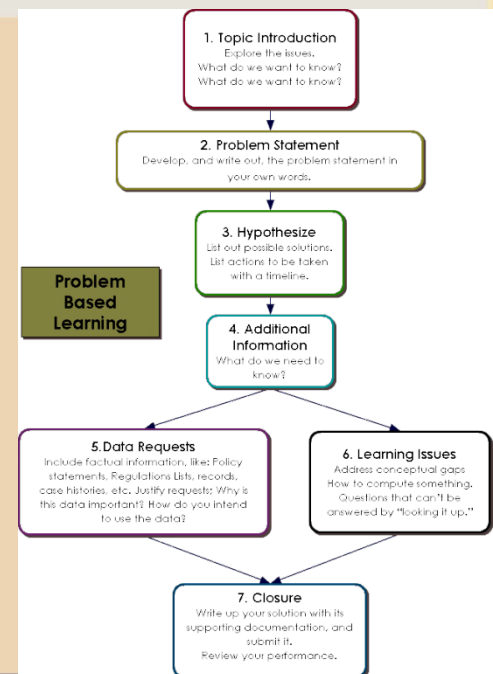
(C) 2007 Katrin Becker. All rights reserved.

## Each ID theory, personified.



(C) 2007 Katrin Becker. All rights reserved.

## Problem Based Learning



# Example: A Digital Content / Media Course



Where the instructor uses the tools discussed.



EDER 679.17 Digital Game-Based Learning  
Katrin Becker, PhD

Table of Contents

Welcome to The University of Calgary's Educational Research 679.17: Digital Game-Based Learning.

- Summer 2008 - July 7 - 18

I have missed more than 5,000 shots in my life. I have lost almost 500 games. 25 times I have been round to take the game-winning shot and missed. I have failed over and over and over again. That is why I succeed. - Al Michaels

Please note: Unless otherwise noted, all course materials are © Katrin Becker. All rights reserved.

facebook

Essentials - Summer 2008

WLS1 - Class # 51125  
Course website: <http://www.minkhollow.ca/dgb-course/> [you are here.]  
Instructor: Katrin Becker, Ph.D.  
Seminar: M-T-W-R-F 1:00 - 4:00 PM  
Office hrs: By Appointment

Location: #EDB 252 (Also Called Education Classroom Block)

This course is an introduction to the use of digital games and gaming for instruction and learning. In it, students explore the theories; possibilities, considerations and constraints related to the design of instructional games, and the use of learning and commercial entertainment games in classroom and out-of-class settings.

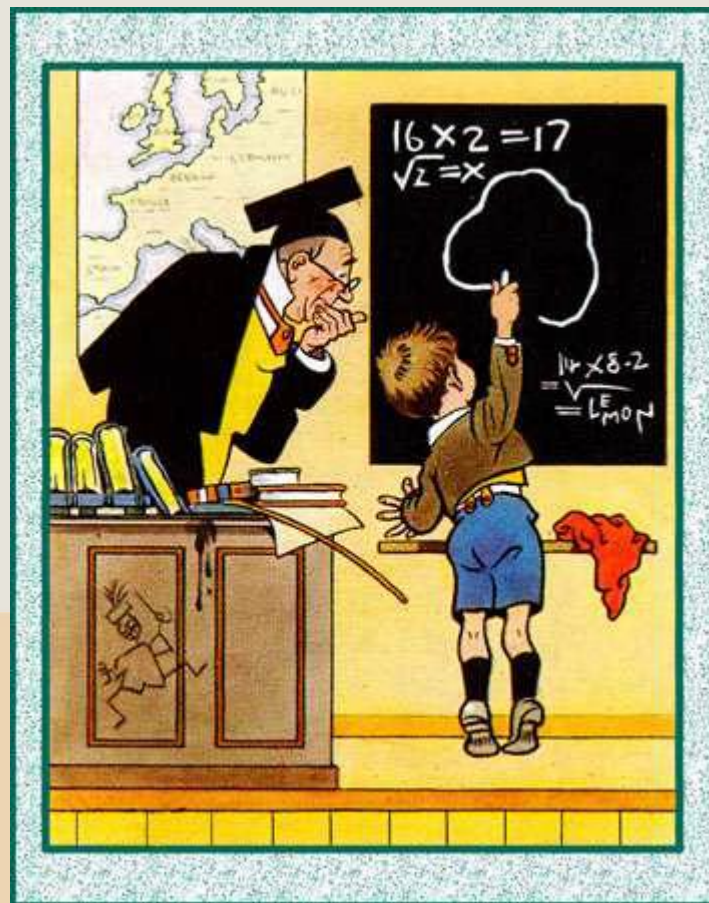
**Definition:** Serious Games: The use of computer and video games for non-entertainment purposes (i.e., public policy, education, corporate management, healthcare, military).

The use of computer and video games for learning is an emerging area of research, and interest is growing rapidly. As a sub-field of Serious Games, digital game-based learning poses some unique problems and challenges. As more and more young people grow up with digital games as one of their primary forms of entertainment, it behooves us to become familiar with this genre, how it affects people, and how we might use it for educational goals. Computer technology has advanced to the point where it is feasible (we now have the horsepower to accomplish this) to use games in a classroom setting. However, the process also has its challenges. In the 1970s, BBN (the "Bolt, Beranek & Newman" firm) published "The use of computers in education."



# What About....

Collaborative Culture  
Assessment  
Counselling  
Educational Leadership  
Curriculum  
STEM Education



# Thanks!



Katrin Becker  
Adjunct, Computer Science & Information Systems  
Mount Royal University

[kbecker@mtroyal.ca](mailto:kbecker@mtroyal.ca)



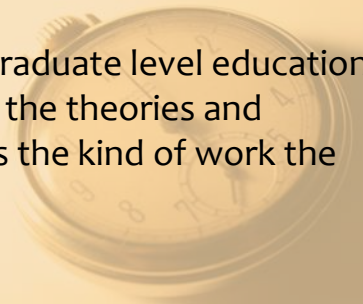
# Abstract

Many M.Ed. programs claim to incorporate signature pedagogies in their programs, which often include approaches such as inquiry-based, case-based, and problem-based learning, communities of learners, and more.

Teacher education is unique among disciplines in that we are doing what we are teaching. Metateaching has been defined as thinking about teaching (Timpson 1999), but if metacognition is thinking about thinking, and a meta-language is a language about languages, then metateaching is in fact *teaching* about teaching. If we combine this with notions of signature pedagogies and the idea that we should be modeling what we are teaching, then what does this mean at the graduate level?

It means that graduate instructors should themselves be modeling what they are teaching. Wouldn't signature pedagogy in education be one that actually implements the theories and models being studied in order to teach those same theories and models? Shouldn't it be one that employs experimental designs and invites the students (most of who are teachers) to examine the course design as it's being taught? Wouldn't it make sense to have the students have input into the design and/or teaching?

This presentation will examine the common approach to teaching graduate level education courses - the seminar - and suggest an alternate approach that uses the theories and models being taught and where the teaching methodology matches the kind of work the participants will do when they graduate.





# Resources

- Shulman, L. S. (2005). Signature Pedagogies in the Professions. *Daedalus*, 134(3), 52-59. doi: 10.2307/20027998.
- Timpson, W. M. (1999). *Metateaching and the instructional map*. Madison, Wis.: Atwood Pub.
- Gurung, R. A. R., Chick, N. L., & Haynie, A. (2009). *Exploring signature pedagogies : approaches to teaching disciplinary habits of mind* (1st ed.). Sterling, Va.: Stylus Pub.

