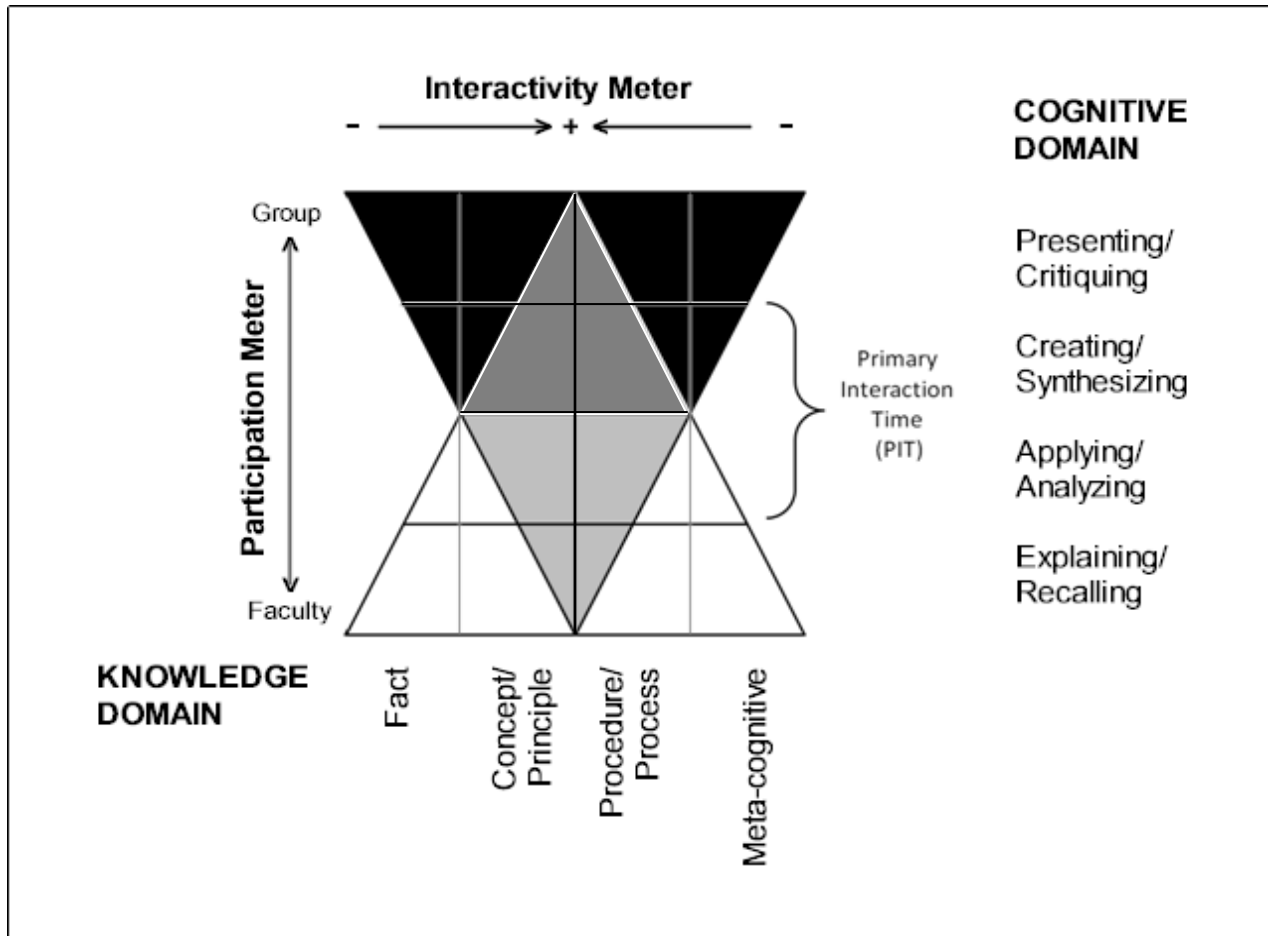


The Yin-yang in Learning

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Challenges

- How can we bring Bloom's Taxonomy further into the 21st Century?
- Where should our focus be to maximize student learning?
- Should pedagogy change as student learning progresses?



SKILL		
INTERNAL	YIN-YANG PAIRING	EXTERNAL
Critiquing	CONTRIBUTING	Presenting
Synthesizing	COLLABORATING	Creating
Analyzing	DOING	Applying
Recalling	KNOWING	Explaining

Cognitive Learning Context	Yin-yang Skill Pairing
Student to Group (vice-versa)	Presenting
Student with Group	Collaborating
Instructor with Student	Doing
Instructor to Student (vice-versa)	Knowing

Challenges

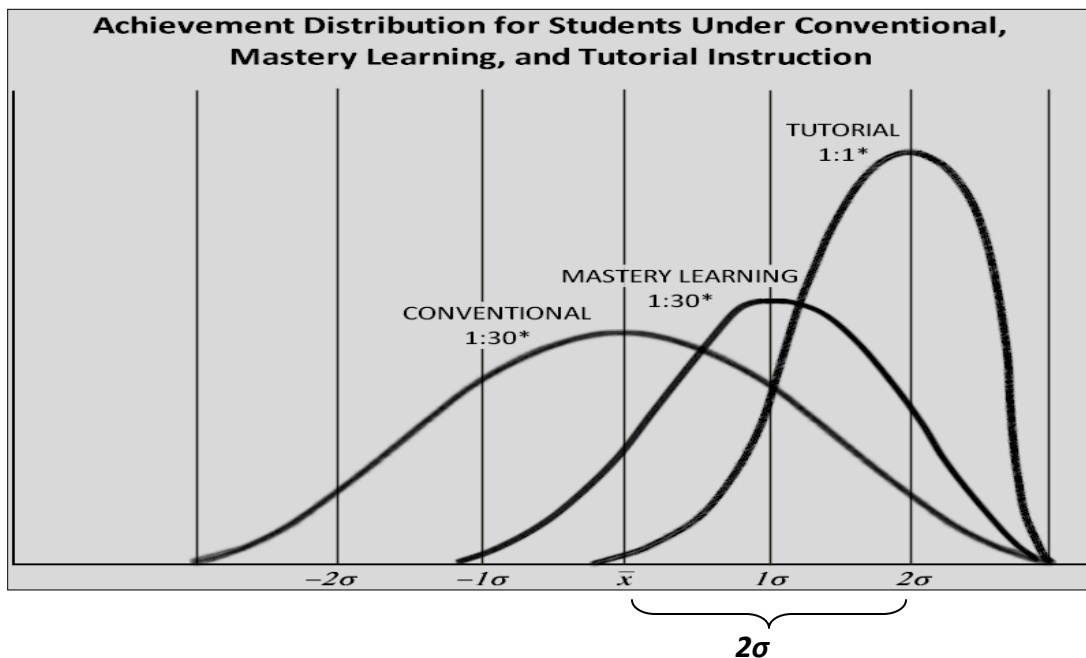
- What learning model would support this new perspective?
- How does this new information integrate into the learning model?
- How do we move from instructor-driven teaching to student-driven learning?

<p>Knowing</p> <ul style="list-style-type: none"> • Recalling & Explaining • First Exposure • Independent Learning with Teacher Feedback • Instructor-driven → Learner-driven • Saturation, Repetition • Average Scoring, Low-stakes Assessment 	<p>Doing</p> <ul style="list-style-type: none"> • Analyzing & Applying • Learning Activities → New Experiences • High interaction with Teacher • Independent → Collaborative Learning • Mutually-driven • Average-stakes Assessment
<p>Collaborating</p> <ul style="list-style-type: none"> • Synthesizing & Creating – collaborating & debating • High interaction with Group • Collaborative Learning • Group-driven • Higher-stakes Assessment 	<p>Presenting</p> <ul style="list-style-type: none"> • Evaluating & Contributing – critiquing & instructing • Collaborative → Independent Learning • Group-driven → Learner-driven • Highest-stakes Assessment

Challenges

How will the hybrid model help us to...

- address the needs of the low achiever?
 - keep the attention of the high achiever?
- ...and not lose either in the process?



Effect of Selected Alterable Variables on Student Achievement

Object of Change Process	Alterable Variable	Effect Size
Instructor	Tutorial instruction	2.0
Instructor	Reinforcement	1.2
Learner	Feedback-corrective (Mastery learning)	1.0
Instructor	Cues & explanations	1.0
Instructor (Learner)	Classroom participation	1.0
Learner	Learner time-on-task	1.0
Learner	Improved reading/study skills	1.0
Home Environment/Peers (Instructor)	Cooperative learning	.8
Instructor	Homework (graded)	.8
Instructor	Classroom morale	.6
Learner	Initial cognitive prerequisites	.6
Home Environment/Peers	Home environment intervention	.5
Instructor	Peer & cross-age remedial tutoring	.4
Instructor	Homework (assigned)	.3
Instructor	Higher order questions	.3
Instructional Material (Instructor)	New science & math curricula	.3
Instructor	Instructor expectancy	.3
Home Environment/Peers	Peer group influence	.2
Instructional Material	Advance organizers	.2

