

Teaching Philosophy of Shaheen Ahmed

Assistant Professor

Automotive and Manufacturing Engineering Technology
Minnesota State University, Mankato

Shaheen Ahmed

- PhD in Industrial and Systems Engineering
 - Mississippi State University, 2013
- MS in Industrial and Systems Engineering
 - Mississippi State University, 2010
- MS in Automotive Industrial Design Engineering
 - Chalmers University of Technology, Sweden, 2008
- BS in Mechanical Engineering
 - Bangladesh University of Engineering and Technology, 2004

Courses Taught

- Advanced Business Statistics, 2013-2014
- Fluid Power, 2014
- Total Productive Maintenance and Mechanical Systems, 2013-2014
- Fundamental of Automotive Technology, 2013
- Manufacturing Process Management, 2013, redesigned
- Engineering Economy, 2012 at Mississippi State University
- High School Physics and Mathematics, 1998-2005, Bangladesh
- Future Courses
 - Human Factors and Ergonomics (currently working on the design)
 - Quality Management Systems
 - Fundamental of Engineering Technology (already proposed, designed by me)
 - Assistive Technology for learning disabilities
 - Human Factors and Ergonomics in Instructional/Educational Technology
 - Educational Ergonomics

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Introduction

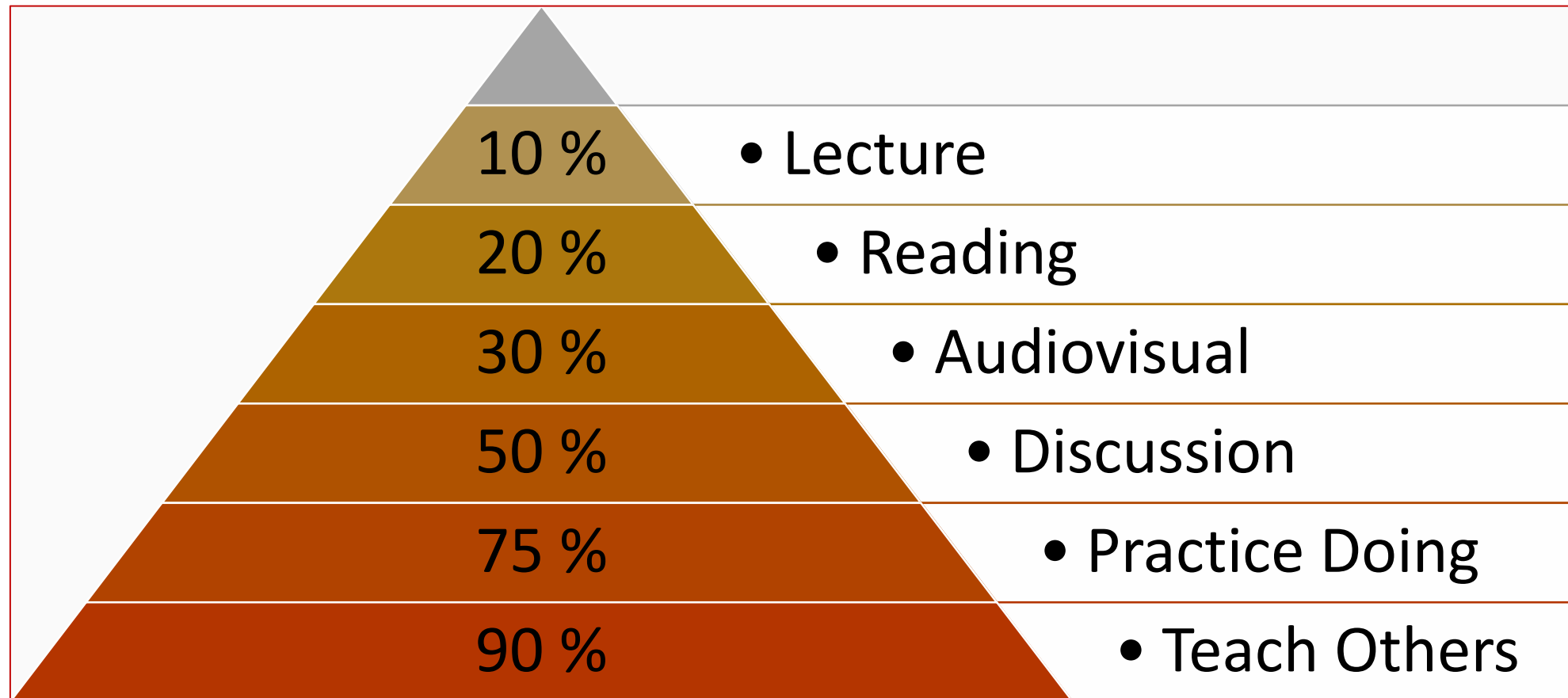
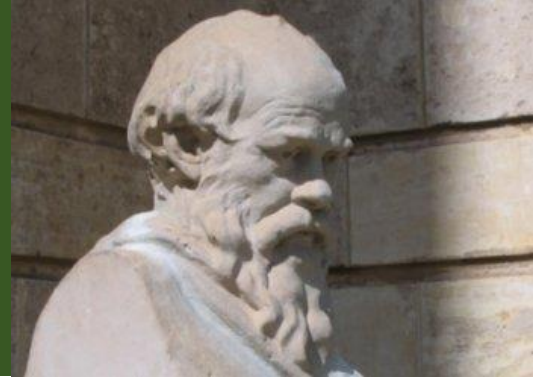
What are the Topics of Today's Discussion?

- What do I believe in Teaching and Learning?
- Why do I believe in such philosophy of teaching?
- How do I implement my philosophy of teaching in the classroom?
- What kinds of results do I get?
- Final thoughts?

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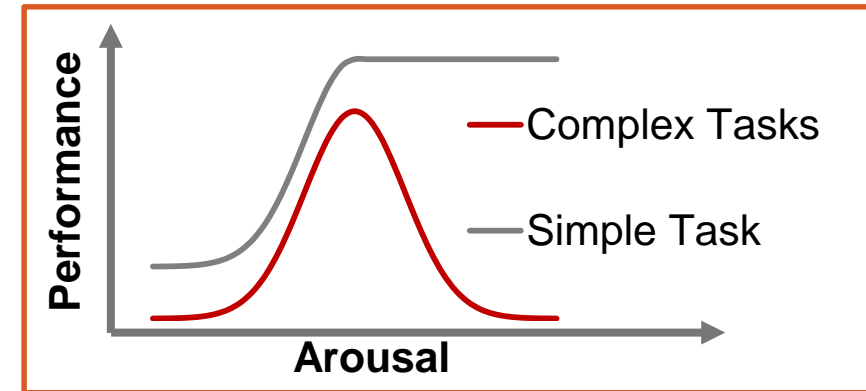
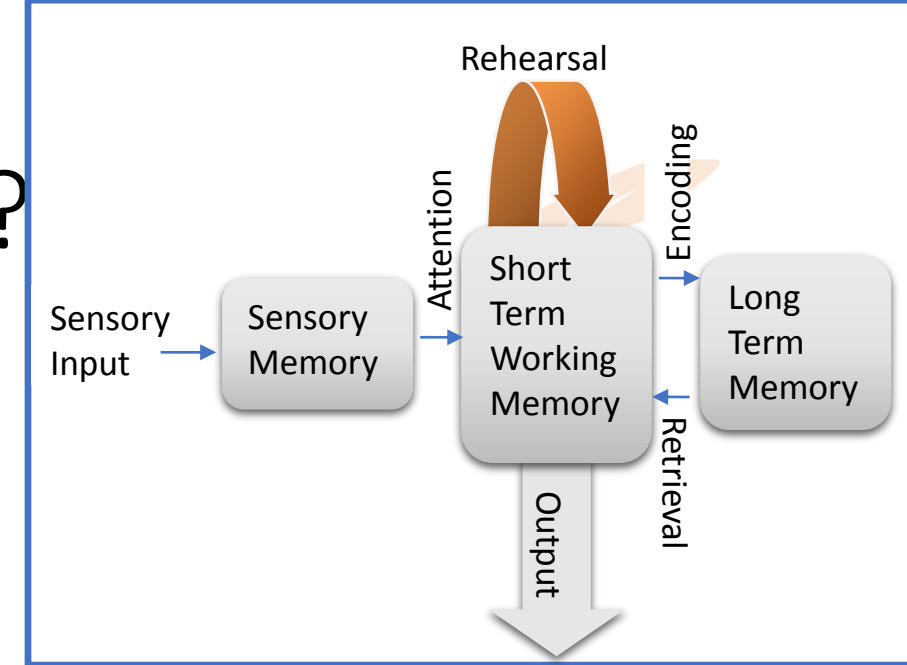
*“I can't teach anybody anything,
I can only make them think.”*

Socrates (470BC-399BC)



Why don't students like school?

- Students are naturally curious
 - but not naturally good thinkers.
- Factual knowledge must precede skill.
- Memory is the residue of thought.
- Students understand new things
 - within the context of what they already know.
- Students are more alike
 - than different in terms of learning.
- Intelligence can be changed through hard work.
- Teaching, like any complex cognitive skill
 - must be practiced to be improved.



Why have I forgotten everything learned from school?

- Not exactly!
- I may have forgotten the Newton's second law of motion
 - Lower-order learning
 - Facts, figures, numbers, parameters.
 - Significantly low retention time.
 - I have forgot mostly everything right after I took the final exam of the course!
- What did I learn then?
 - Higher-order learning
 - Connecting dots!
 - Critical thinking and reasoning skills,
 - Higher-order learning is forever!
- Now I know that some kind of force is needed to move things!

Did I know “what is learning” when in school?

- Not exactly!
- Whenever, Dr. Ahmed have asked students the \$1M question
 - What is learning? Or How do you learn?
 - Learning by repetition is the most common answer!
 - What types of learning they are referring to?
 - Higher order learning?
Or
 - Lower order learning?
 - Nobody answers learning by thinking!
 - Of course few students like thinking!
 - Because brain hurts!

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Methodology

Methodology – Basics

- The comprehensive syllabus
 - The longest document students read
- Professionally dressed everyday
 - Dress shirts, dress pants and dress shoes
- Professional attitude
 - For example, show up in the class around 10-15 minutes early
- Positive attitude
 - This is the only work I do at the University of West Alabama!
 - This is the only one course I love to teach!
 - This is my life!
 - Students don't really care about other things I do!

Techniques and Methods: Socrates Method

- I make sure they must think to pass any of my courses
 - I grade the process of thinking
 - Not necessarily the final results!
 - Most questions are open ended
 - No multiple choices!
 - Usually the end results are tested in multiple choices!
 - Less or no Power Points slides lectures
 - They will have to
 - Think
 - Write
 - Discuss
 - Deliver by answering questions in the class
 - Extra credit **ONLY** goes to those who response/active in the class!

In-Class Quizzes

- 12 quizzes in total
- Mostly every week
- Only best 10 is counted towards the final grade
- No make-up quizzes!
- Chef-special (catch of the day) in a seafood restaurant!
 - Data for the quizzes come from whatever is going around in today's world.
 - Connect the theory with practice during the quizzes.
 - Impossible to answer correctly without thinking.
 - The confidence of students grows over the period of the semester
 - Because they can apply in practice what they know

THE DESIGN OF THE COURSE	
Homework	09 X 01 % = 09 %
In-Class Quizzes	10 X 03 % = 30 %
Case Studies	06 X 05 % = 30 %
Midterm Exam	01 X 15 % = 15 %
Final Exam	01 X 16 % = 16 %
	= 100%

Quizzes in Advanced Business Statistics

- The Syllabus
- Pregnancy Test Does not Work
- George Zimmerman is Not Guilty
- President Obama Says Law School Should Be Two, Not Three, Years
- The Quality of Life
- “What the world thinks” Will China's Communist Party still be ruling the country in 2030?
- Global Warming!
- Oh My Goodness!
- Income-Variability Anxiety
- The Famous Experiments in Statistics: Tossing of a Coin by Buffon, Karl Pearson and John Kerrich
- The Popularity of President Obama

Example Quiz Details

Context

Example Quiz Details

The Popularity of President Obama

Context: CNN/ORC International Poll in November 18 to 20, 2013 used the following question to determine the popularity of President Obama.

Do you approve or disapprove of the way Barack Obama is handling his job as President?

Because he is a Democrat President, Obama's popularity is significantly higher among Democrats than Republicans. Nobody needs any statistics to test that because we already know it (an example of a deterministic system which does not require statistics). However, is there any dependency between men and women in response to the popularity of President Obama?

Example Quiz Details

Question

Example Quiz Details

Question: Dr. Ahmed has given you the poll results of 1950 randomly selected men and women in the following table. If you need to do so, you can use the right part of the table to find the expected values.

Perform a suitable statistical test to determine the popularity of President Obama and the gender are dependent

	Men	Women
Approve	390	430
Disapprove	600	530

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Results

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- Never had any issue of the attendance
- Never had someone sleeping
 - Never had to give them gum to avoid sleeping!
- Never had to deal with destructions created by
 - cell phones
 - other electronic devices
- Student Evaluation
 - 3.8 on a scale of 4.0
- Feeling important of being able to accomplish something!

Results

- Continuous feedback from the students
 - Understand their abilities and inabilities
 - Understand my ability to explain the subject matters
 - Adjust the speed of the course
 - Before it's too late
 - Setting up the demand that matches with their capacity
 - For optimum performance
 - Human performs better when the capacity meets the demand
- Learn the subject matters while developing
 - Analytical, Critical thinking and reasoning skills.
 - Effective communication skills.
 - Leadership and team management skills.

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Conclusion

Conclusion

- My Quote

“Knowing the abilities and inabilities of students to challenge them with the right problems is a way of teaching and learning.”

- The disagreement among researchers

- in teaching and learning theories
- provides opportunities for the enthusiasts to explore more.

- As long as there are disagreements and challenges, we learn.

Reference & Acknowledgement

- Svinicki, M. D., McKeachie, W. J., & McKeachie, W. J. (2011). *McKeachie's teaching tips: Strategies, research, and theory for college and university teachers*. Belmont, CA: Wadsworth, Cengage Learning.
- Willingham, D. T. (2009). *Why don't students like school?: A cognitive scientist answers questions about how the mind works and what it means for the classroom*. San Francisco, CA: Jossey-Bass.
- Dr. Kari Babski-Reeves, Associate Professor, Department of Industrial & Systems Engineering, Mississippi State University.
- Dr. John Usher, Professor and Head, Department of Industrial & Systems Engineering, Mississippi State University.
- Dr. Winston Donnie Cobb, Associate Professor of College of Business, UWA.