Experiential Learning in the Classroom: Learn to discuss and discuss to Learn

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Where Do You Hear Me From?

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Presentation Outline

1. Can experiential learning occur in a classroom?
2. What do we mean by *in-class discussion*?
3. Classroom design and types of in-class discussions

Case-study from two courses:

4.1: Food Production Systems & Sustainability

4.2: Animal Agriculture & Sustainable Development

5. Summary

What is Experiential Learning?

Is a farm visit *experiential learning*?

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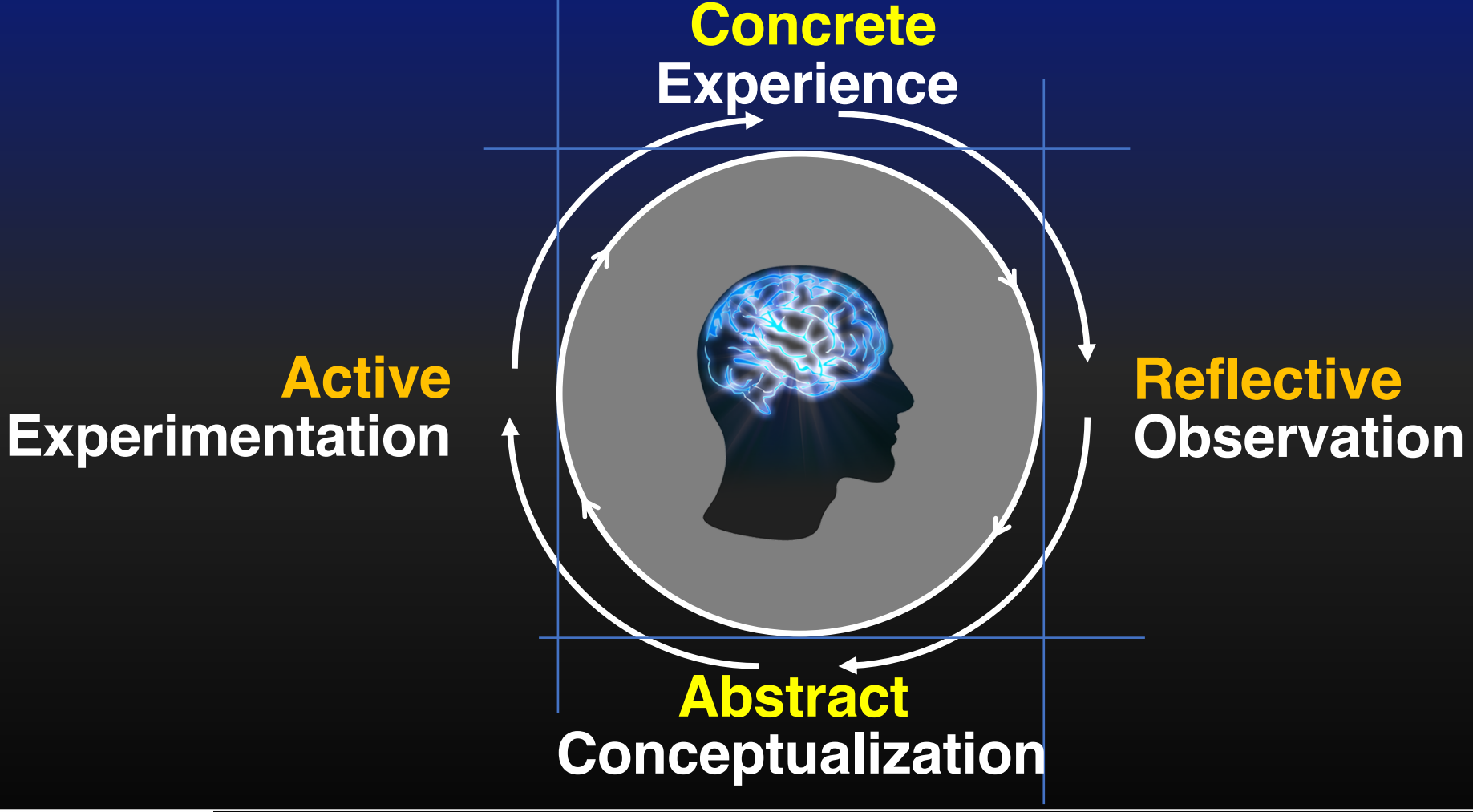
Kolb's Experiential Learning Cycle
What does it take for "learning" to occur?



Kolb's Experiential Learning Cycle: Roles of the Learner and the Instructor

COACH

Experiment and practice skills

FACILITATOR

Get motivated (desire to learn)

Make predictions and generate options

STANDARD SETTER

Build mental model of problem

CONTENT EXPERT

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What is an in-class Discussion?

Discussion is NOT:

- Talking (i.e., lecturing) without a power point presentation;
- Asking questions to students as a way to break-up a power point presentation;
- Ending the class with time for questions and answers.

What is an in-class Discussion?

Definition: *After students have been exposed to —and prepared for— a pre-defined set of educational materials, an in-class discussion is a pre-planned activity that engage students in*:

- Exercising critical-thinking skills (analyzing, synthesizing, and evaluating claims, ideas, theories, etc.);
- Generating new insights, relevant questions and hypotheses;
- Exploring their thoughts and beliefs (metacognition);
- Practicing communication skills (listening, talking, writing);
- Learning to collaborate (goal-oriented teamwork; co-generate ideas, provide constructive feedback, etc.).

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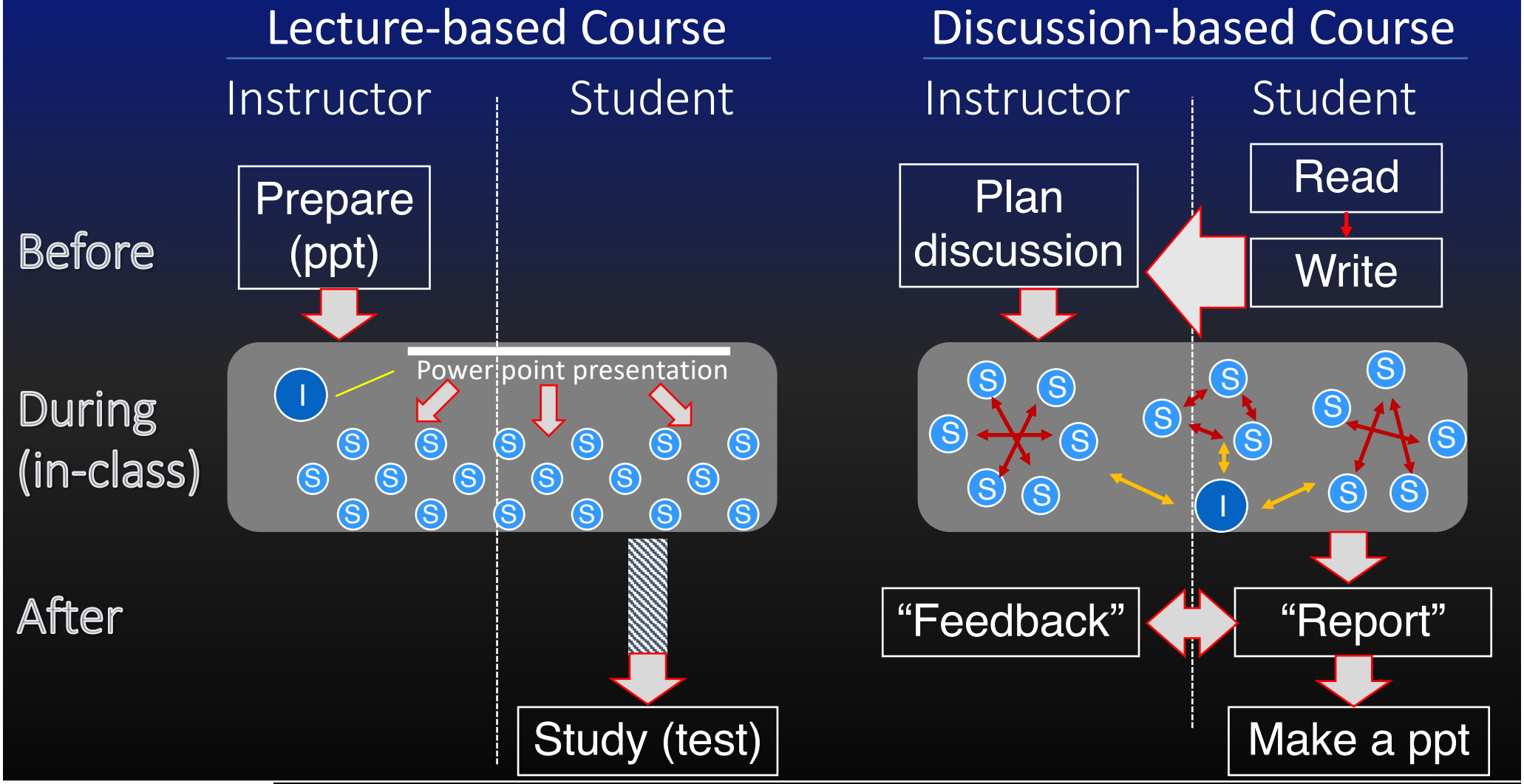
Re-Designing the Classroom



Modified from Wattiaux, M. A. 2015. Decoding and Encoding the "DNA" of Teaching and Learning in Institutions of Higher Education, pp 1-8, Ch 1 in: Molecular and Quantitative Animal Genetic, Wiley Blackwell

Steps and Principles in Designing Successful Classroom Discussions

A. Before (Pre-) Class:

1. Students complete a reading assignment that will frame the discussion.
2. Students are graded for online quiz or posting as reward for preparation.

B. During Class:

1. Start with an activity that put EVERYONE on the same page.
2. Engage students individually, in small groups, or the entire class with a discussion activities that have stated objectives, clear instructions and strict timing (see next slides for Types of Discussion)
3. End with a "So what?" (implications, take-home messages, etc.)

C. After (Post-) Class:

1. (Optional) Write a reflection (post-class blog or journal).
2. Prepare for next class.

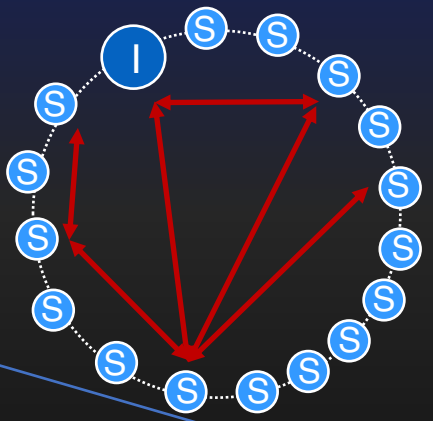
Types of In-class Discussion

1. Think — (Write) — Pair — Share:

Reflect on what is “right” / ”wrong”;
Why is this “true”?; Why is this “false”?

2. Socratic Seminar

Open-ended discovery;
Yes, but “why”?
So what?



3. Jigsaw Discussion

(Cooperative learning of lots of materials)

Phase 1: Discussion of each reading within a team

Phase 2: Discussion of the four readings in mixed teams

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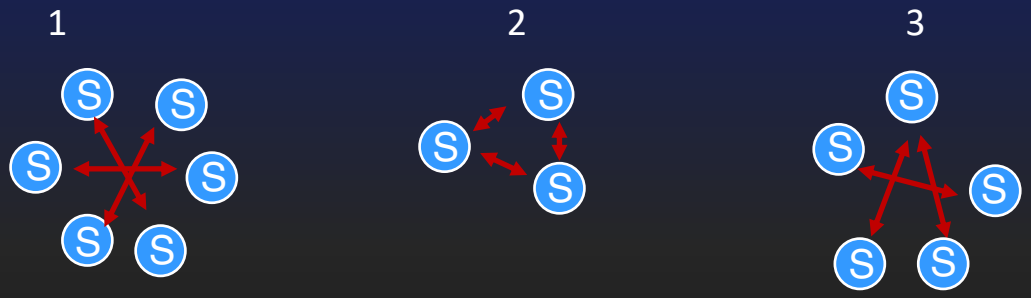
Types of In-class Discussion

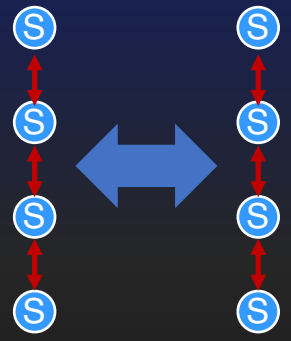
5. Structured Academic Controversy (SAC)

Evaluation of controversial / paradoxical claims or perspective of various stakeholders



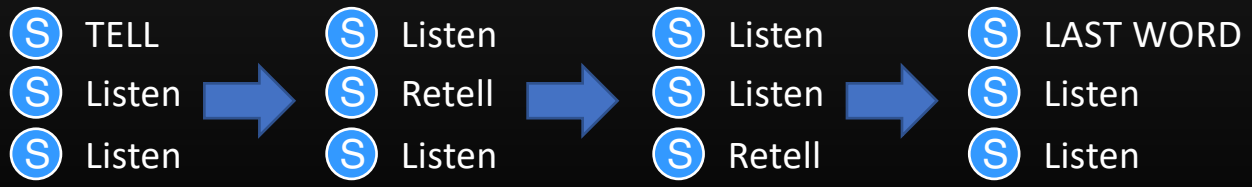
4. Debate

Wining the argument!



6. Last Word

Good for practicing listening skills as it involves re-telling the ideas of others in your own words.



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See also Brookfield and Preskill. *2005. Discussion as a way of Teaching: Tools and Techniques for democratic classrooms. Jossey Bass.*

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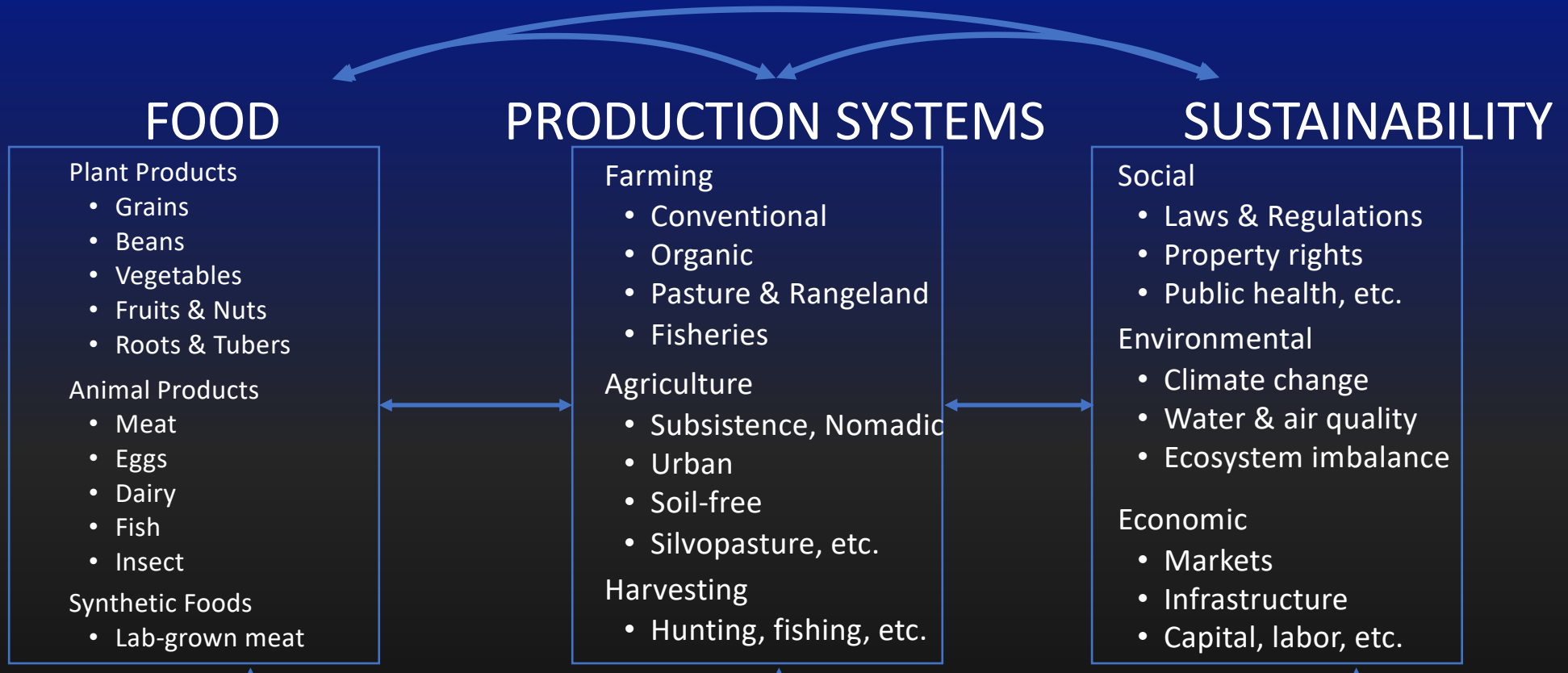
Scope of the Course



Scale

- Local population
- National population
- Targeted population
- Field
- Animal
- Farm
- Small business
- Cooperative
- Multi-national

System Boundary

- River, lake
- Forest, ocean
- Agro-ecological zone

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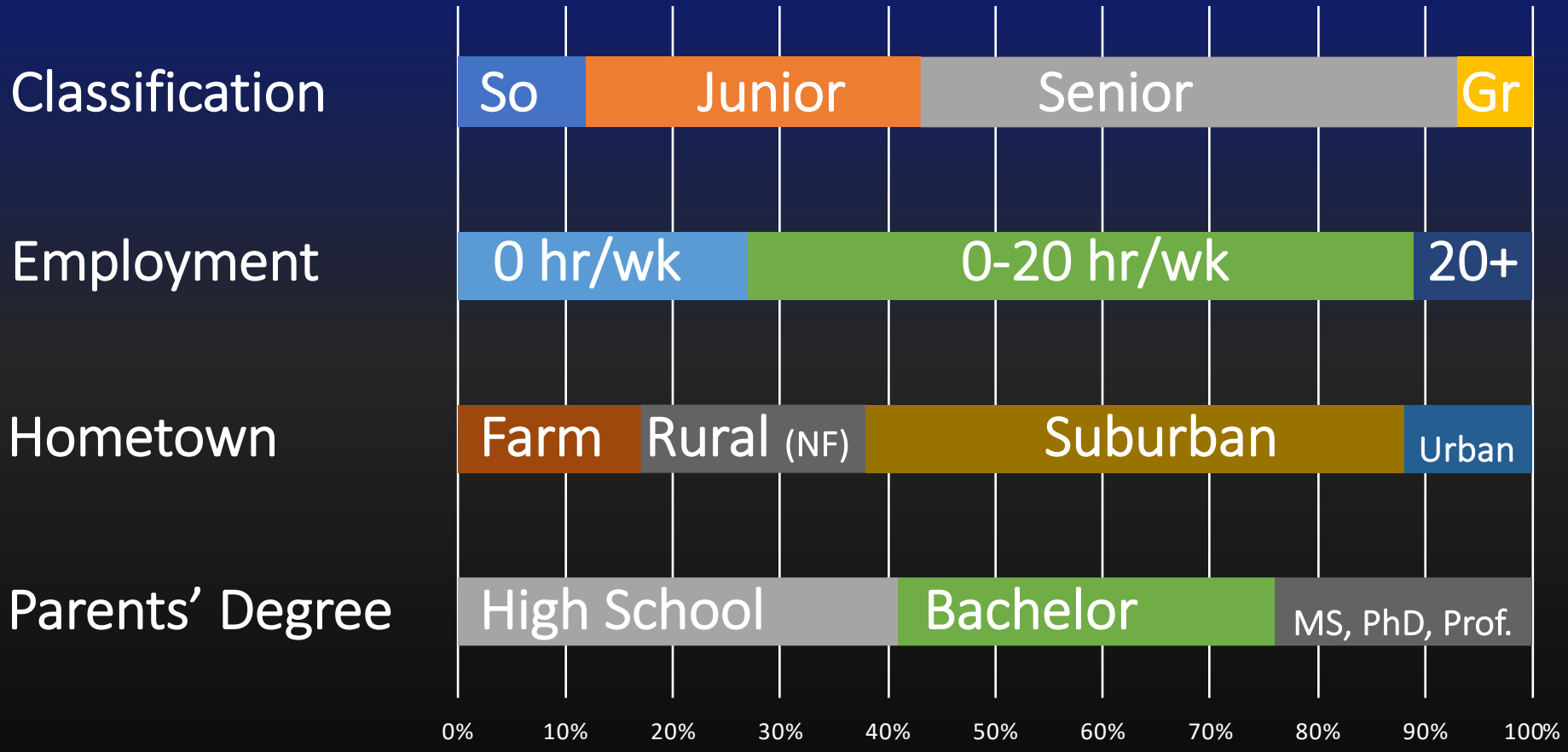
Students' Academic and Socio-Economic Background & Diversity (n = 26)



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End of Spring 2020 Student Feedback: Quantitative Data

I Learn in this class because….	Mean[1]	Standard Deviation
Pre-class quizzes	6.7	2.2
Pre-class individual readings	7.2	2.0
In-class discussion	8.9	1.0
Collaborative team project	8.4	1.8

[1] Scoring scale: 1-2 = Not at all; 3-4 = A little, 5-6 = somewhat; 7-8 = A lot; 9-10 = A great deal.

End of Spring 2020 Student Feedback: Qualitative Data[1]

Student 1: *…Analyzing scenarios with multiple perspectives in mind.*

Student 2: *… how to critically look at the findings of scientific studies.*

Student 3: *…Working with a team …., communicating, and listening in group discussion.*

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[1]exemplary themes selected from written comments

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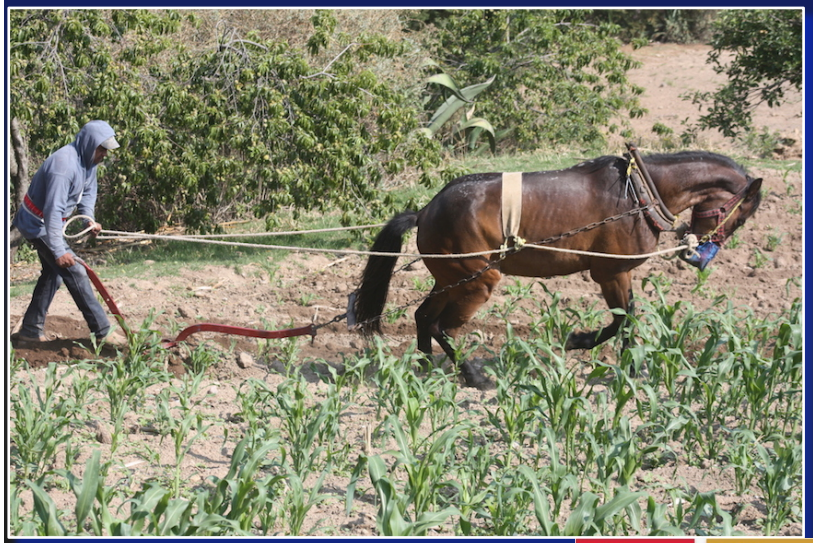
Animal Agriculture & Sustainable Development



Role of Livestock

Sustainable Development Goals

Economic Devlp.

Environment

Poverty Alleviation

Human Health

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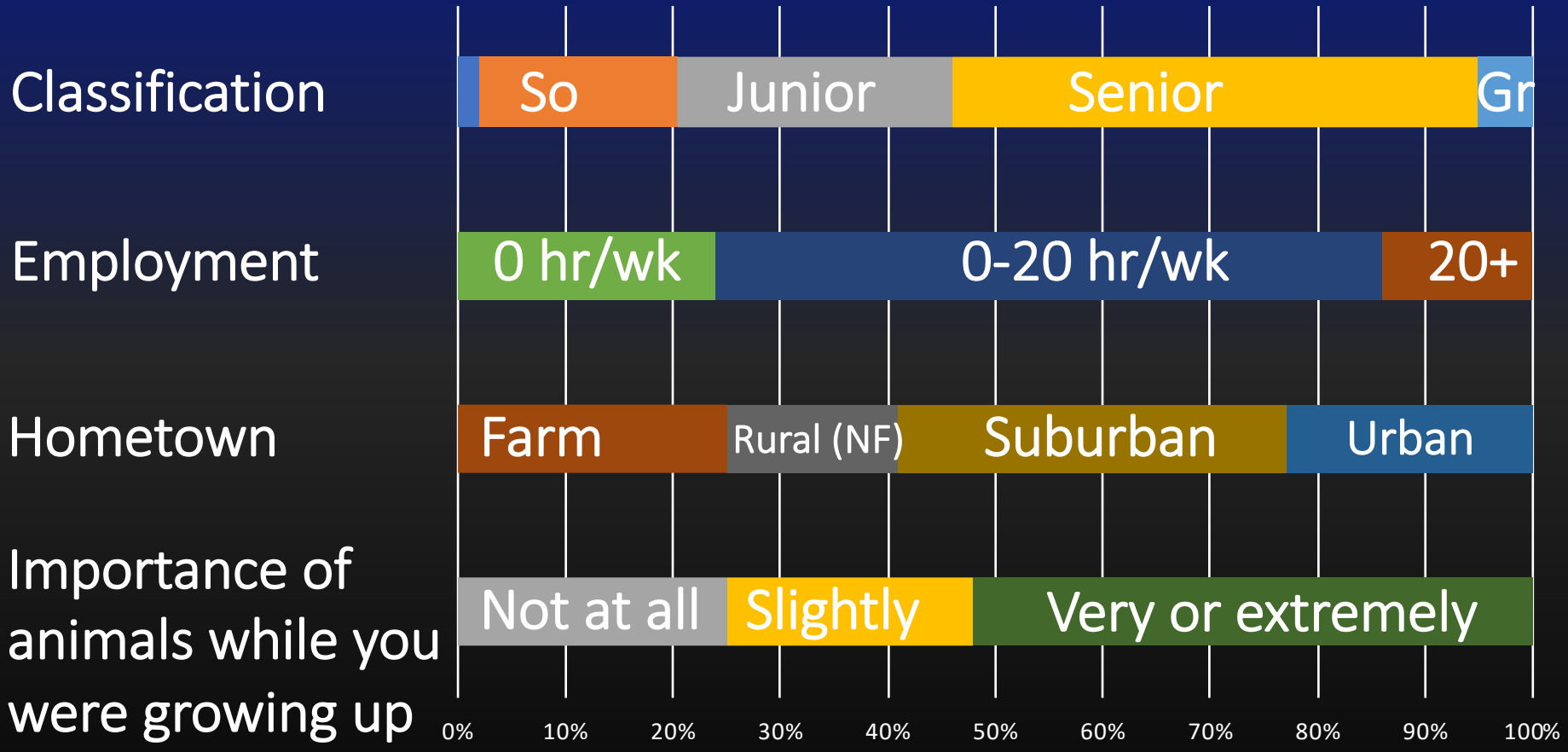
Students' Academic and Socio-Economic Background & Diversity[1]



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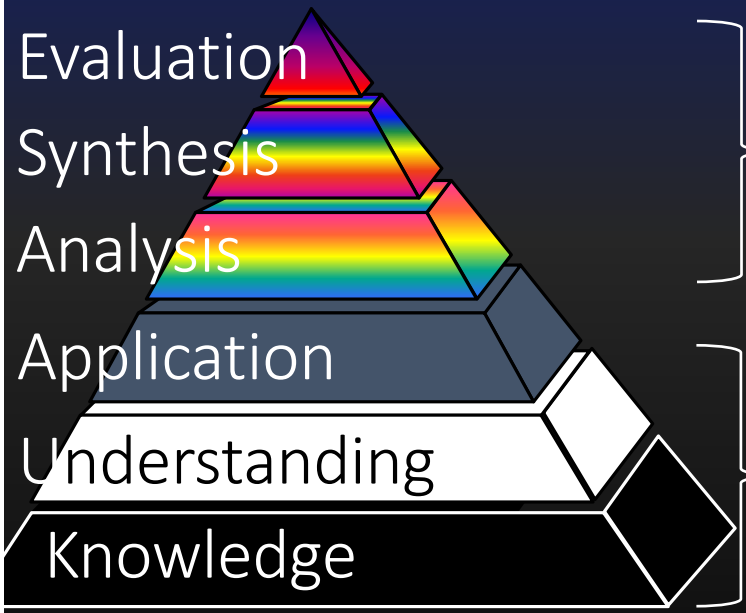
[1]n = 26

End of Spring 2020 Student Feedback: Quantitative Data

I Learn in this class because….	Mean[1]	Standard Deviation
Pre-class quizzes	6.2	2.5
Pre-class individual readings	7.3	2.0
In-class discussion	8.2	1.9
Post-class journal entries	6.5	2.1

[1] Scoring scale: 1-2 = Not at all; 3-4 = A little, 5-6 = somewhat; 7-8 = A lot; 9-10 = A great deal.

End of Spring 2020 Student Feedback: Quantitative Data

Bloom's Taxonomy	Item	Mean[1]	SD[2]
	I have learned how to evaluate, analyze, synthesize (scientific) information	8.2	1.6
	I have learned (scientific) facts, gained knowledge and understanding	8.2	1.2

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[1] Scoring scale: 1-2 = Not at all; 3-4 = A little, 5-6 = somewhat; 7-8 = A lot; 9-10 = A great deal; [2] SD = Standard Deviation.

End of Spring 2020 Student Feedback: Qualitative Data[1]

Student 1: *The … course … helps to gain knowledge … through the discussion sessions.*

Student 2: *We definitely learned the facts, but there was a lot of emphasis on the critical thinking too.*

Student 3: *We … read scientific papers, … by the end of the semester, I felt very confident doing so …. and [we] even learned how to interpret graphs.*

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[1]exemplary themes selected from written comments

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Summary

1. *In-class discussion* can bring experiential learning in the classroom.
2. *In-class discussion* emphasizes your role as a facilitator, content expert, standard setter, and (learning) coach.
3. Students perceive *in-class discussion* as contributing substantially to their learning (including higher-levels) and other "useful skills."
4. Planning, implementing, and facilitating *in-class discussion* is not trivial.

Brief Citation List and More Information

Brookfield S. D. and S. Preskill. 2005. Discussion As a Way of Teaching: Tools and Techniques for Democratic Classrooms; 2nd edition. Jossey-Bass.

Davis, H. S. (2013). Discussion as a bridge: Strategies that engage adolescent and adult learning styles in the postsecondary classroom. *Journal of the Scholarship of Teaching and Learning*, *13*(1), 68–76.

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Nilson, L. B. 2010. Teaching At Its Best; 3rd edition. Jossey-Bass San Francisco CA.

Wattiaux, M. A. and P. Crump. 2006. Students' Perception of a Discussion-Driven Classroom environment in an Upper Level Ruminant Nutrition Course with Small Enrollment. J. Dairy Sci.89:343-352. *https://doi.org/10.3168/jds.S0022-0302(06)72100-2*.

Wattiaux, M. A. 2015. Decoding and Encoding the "DNA" of Teaching and Learning in Institutions of Higher Education, pp 1-8, Ch 1 in: Molecular and Quantitative Animal Genetic, Wiley Blackwell (ISBN: 978-1-118-67740-7)

For more publications from Dr. Michel Wattiaux , please go to: https://kb.wisc.edu/dairynutrient/page.php?id=51831