

Educational Theory and Application of Experiential Learning in ANR Course Handbook (CSUS423, Section 740)

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Educational Theory and Application of Experiential Learning in ANR Course Handbook (CSUS423, Section 740)

Overview of the Course

Welcome to CSUS423, Educational Theory and Application of Experiential Learning in ANR! This hybrid course is self-paced, however there are structured due dates and the end date (June 29, 2017) is the last day in which assignments will be accepted. This course is designed to give students a better understanding of youth leadership from a practitioner perspective. This course is also designed for you to utilize your classroom or other educational location as an environment for learning from your students about experiential learning. Therefore, as part of this course you are being asked to develop a set of experiential learning activities unique to your classroom (Assignment 1) and hopefully try them out with your students.

This course is a hybrid format. What does that mean? It means that you will spend a large amount of time working on your own via the web-based, online learning platform called D2L. Additionally, you will attend culminating experiences near the end of the course (see course calendar) where you will meet with professionals who are currently working with individuals using experiential methods of teaching and learning. The D2L link for the course can be found at: https://d2l.msu.edu/. D2L is reasonably intuitive, however if you do have problems or questions, the D2L 24-hour phone line is: 517-432-6200 or Toll Free at 844-678-6200.

As previously mentioned, all of the course materials can be found on the D2L Website in the course US17-CSUS-423-740. When you log on to D2L if you do not see this course, then you can type in the aforementioned naming convention (US17-CSUS-423-740) into the "search for courses" menu. When you go into the course on D2L you will find a series of folders. These folders are separated into Modules and administrative folders.

Each of the Module folders represent one week. Within each of the modules you will find a Movie and Powerpoint file. The Powerpoint should be used as a guide for weekly objectives, readings, and assignments. Additionally, you may find different resources including readings, survey instruments, and questions to ponder. Finally, in many of the Modules you will find Blogs. These Blogs are designed to stimulate learning about your context and ask questions to assist in the reflective process.

Each of the Assignment folders includes Dropboxes for you to upload your final product. Again, this should be reasonably intuitive, however if you have questions contact D2L and they can guide you through the process. Note that all assignments must be turned in by the last day of class (June 29th and via uploading to D2L).

Course Syllabus

CSUS 423

Educational Theory and Application of Experiential Learning to ANR

Hybrid, 3 Credits (5/15/17 to 6/29/17)

INSTRUCTOR: Dr. Michael W. Everett

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140 Natural Resources Building

Telephone: 517-432-0292, Cell Phone: 517-581-5888

Email: everettm@msu.edu

OFFICE HOURS: By Appointment

LOCATION: Online with Field trips (TBD)

MEETING TIMES: Online with additional field trip meeting dates

COURSE DESCRIPTION:

Foundations of experiential learning. Experiential learning within the context of families, schools, organizations and communities as a function of an educational system. Application of experiential learning within formal and non-formal classroom

settings.

COURSE GOALS: The outcomes of this course are to develop students' knowledge and skills of

experiential learning. As such, the course builds upon current knowledge of

experiential learning by participants. Students will:

- Apply appropriate theories of experiential learning from a systems perspective;
- Evaluate experiential learning opportunities;
- Evaluate instructional materials for experiential learning; and
- Plan, coordinate, and deliver instruction based on experiential learning principles in the context of learning systems.

Educational Theory and Application of Experiential Learning in ANR Student Learning Objectives

Students will be able to *Apply* key theories of experiential learning by:

- Defining experiential learning;
- Identifying important theories related to experiential learning;
- Exploring the historical foundations of experiential learning theory;
- Incorporating appropriate theories in education; and
- Applying theories in the context of teaching and learning.

Students will be able to Evaluate experiential learning by:

- Describing entrepreneurial opportunities in experiential learning;
- Describing scientific inquiry opportunities in experiential learning; and
- Applying key factors of experiential learning to appropriate educational situations.

Students will be able to *Plan*, *Coordinate*, and *Deliver* instruction based on experiential learning principles by:

- Developing teaching lesson plans that provide entrepreneurial experiential learning opportunities for students;
- Developing teaching lesson plans that provide scientific inquiry experiential learning opportunities for students;
- Analyzing experiential strategies within teaching and learning from a programmatic perspective; and
- Applying experiential learning that focuses on the needs of the students, community, and systems of instruction

MICHIGAN STATE UNIVERSITY LEARNING GOALS CSUS423 – Educational Theory and Application of Experiential Learning in ANR

Analytical Thinking: You will learn to critically analyze complex information and problems through courses and experiences at MSU and by applying what you learn both in and out of class.

Effective Citizenship: You will learn to be an effective citizen by engaging in opportunities for involvement both inside and outside the classroom.

Effective Communication: Spartans communicate to diverse audiences using speech, writing, debate, art, music, and other media. You will learn how to communicate effectively through your interactions with peers, faculty, staff, and community members at MSU, your coursework, and your reflection on how you've changed as you progress toward graduation.

Integrated Reasoning: You will learn to make decisions through integrated reasoning by observing the example set by your fellow Spartans—faculty, professional staff, your peers and student leaders, and our 500,000 Spartan alumni— who are advancing knowledge and transforming lives in innumerable ways. MSU provides you with the space and support to make decisions learn from them and use them to inform your values.

DEPARTMENT OF COMMUNITY SUSTAINABILITY COMPETENCIES CSUS423 – Educational Theory and Application of Experiential Learning in ANR

Critical thinking: Students will interpret, analyze and evaluate information generated by observation, experience, reflection, reasoning, and communication as a guide to formulate and defend responses to complex sustainability problems.

Civic engagement: Students will develop the knowledge, skills, values, and motivation to participate in civic life.

Leadership: Students will develop, demonstrate and evaluate leadership practices that contribute to sustainability.

Initiative and practical skills: Students will demonstrate initiative, including the ability to self-direct and solve problems individually and as participants in larger group efforts.

TEXTBOOK:

- Beard, C., & Wilson, J. P. (2013). Experiential Learning: A handbook for education, training and coaching (3rd Edition). Kogan Page Publishing, Philadelphia, PA. www.koganpage.com.
- Timpson, W. M., Foley, J. M., Kees, N., & Waite, A. M. (2013). 147 practical tips for using experiential learning. Atwood Publishing, Madison, WI. www.atwoodpublishing.com.

STYLE MANUAL:

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th edition). Washington, DC: Author.

ADDITIONAL READINGS AND RESOURCES:

- Phipps, L.J., Osborne, E. W., Dyer, J. E., & Ball, A. L. (2008). *Handbook on Agricultural Education in Public Schools*. Interstate-Delmar Publishing. ISBN 13: 9781418039936, ISBN 10: 1418039934.
- Mager, R. F. (1997). *Preparing Instructional Objectives (3rd Edition)*. The Center for Effective Performance, Inc., Atlanta, GA.
- The National Council for Agricultural Education. (2016). National Quality Program Standards For Secondary (Grades 9-12) Agricultural Education. On Website, https://www.ffa.org/SiteCollectionDocuments/te national quality program standards revised.pdf.

COURSE CALENDAR AND METHODOLOGY:

The course is structured utilizing a variety of teaching methods including online modules associated to learning. This course is based in the technique of problem solving; therefore students will need to become self-sufficient in how they solve assigned tasks and completed course outcomes. The tentative schedule is as follows:

Week #1 – Module 1 – Experiential Learning – Why is it important? (ONLINE – May 15 to May 19)

- Beard and Wilson, 2013 Chapters 1 and 2
- Introductions, Information, and Syllabus Overview
- Experiential Learning Why is it important?
- Personal definition of experiential learning (Blog 1)
- Farewell to Arms (Blog 2)
- Application of Experiential Learning (Blog 3)

Week #2 – Module 2 – The Teacher and Teaching Environment (ONLINE – May 22 to May 26)

- Beard and Wilson, 2013 Chapters 3 and 4
- Feedback for learning (Blog 4)
- A Sustainable Learning Environment (Beard and Wilson, 2013) (Blog 5)
- Experiential Learning Tips 1-36 (Timpson et al., 2013)

Week #3 – Module 3 – Learning Activities (ONLINE – May 29 to June 2)

- Beard and Wilson, 2013 Chapter 5
- Learning activities with an experiential twist
- Problem-solving applied (Blog 6)
- The Walking and Talking Stick (Blog 7)
- Experiential Learning Tips 37-73 (Timpson et al., 2013)

Week #4 – Module 4 – The Experience (ONLINE – June 5 to June 9)

- Beard and Wilson, 2013 Chapters 6 and 7
- The Experience Sensory and Feeling
- ASSIGNMENT 1 DUE (30%) Experiential Learning Lessons Handbook (Upload to D2L)
- Creating a Digital Learning Object (Blog 8)
- Experiential Learning Lesson Expanded (Blog 9)
- Experiential Learning Tips 74-110 (Timpson et al., 2013)

Week #5 – Module 5 – The Experience (ONLINE – June 12 to June 16)

- Beard and Wilson, 2013 Chapter 8 and 9
- The Experience Knowing and Being
- Multiple Intelligence Results (Blog 10)
- Experiential Learning Tips 111-147 (Timpson et al., 2013)

Week #6 – Module 6 – Experiential Learning and the Future (IN-PERSON, TBD @ Laingsburg)

- Question How can you keep experiential learning relevant for your students in the future?
- Beard and Wilson, 2013 Chapters 10
- Site visit reflection #1 and application of experiential concepts

Week #7 – Module 7 – Creating the package for your learning setting (IN-PERSON, TBD @ Corunna)

- ASSIGNMENT 2 DUE (20%) Experiential Learning Reflection and Review (Upload to D2L)
- Site visit reflection #2 and application of experiential concepts

<u>All</u> assigned papers must be typed, one-inch margins, 12-point font, and pages numbered (Times New Roman or Arial font). For questions regarding writing style, and reference citations, refer to the American Psychological Association (APA) manual and recent editions. <u>All assignments are due on the class date defined above and below. All assignments will be due by the end of the class period described in the calendar above. Further, there will be NO late assignments accepted.</u>

Course Activities and Assessments:

Attendance and Participation – 10% (2 Classes x 50 Points per class = 100 Points)

Attendance and participation are an important component of the classroom experience. All students are expected to join in the educational mission of the class as both educators and learners.

Class Based Online Blogs -30% (30 Points x 10 Blogs = 300 Points)

Developed knowledge through online readings and blogging will be an important part of the learning experience. All students are expected to participate in blogging activities based on the readings and topics provided in the D2L blog. Additionally, four of your Micro-PDI Blogs are also part of your online blogging activity (See below for an explanation of Micro PDIs. Over the course of the first several Blogs (4, 6, 8, 9) you will upload your Micro-PDIs to the appropriate location. You will also be provided with a prompt on certain blogs and asked to dialogue based on the prompt and associated literature from the course.

Site Visit Reflections – 10% (50 Points x 2 = 100 Points)

The goal of this assignment is for students to reflect upon their experiences at the two different sites and highlight opportunities for experiential learning from the specific sites. Reflections should be limited to 1 to 2 pages and should include the most important points for you in relation to your teaching and learning context. Upload your responses to the appropriate D2L site.

Assignment #1 – Experiential Learning Lessons Handbook – 30% (300 Points)

Students will develop an experiential learning plan handbook as it relates to your specific discipline and context. As a way to stimulate growth and learning in the classroom, students will develop a handbook. The Handbook should include at least 5 unique experiential learning activity lessons that apply directly to your program and context. The handbook must include: 1) Cover page, 2) Table of Contents, and relevant material for at least 5 unique experiential lessons. Lessons should include a 200-word abstract that synthesizes the lesson in terms of the experiential typologies as defined by Beard and Wilson (2013), a lesson plan using the included template or another relevant template system, any additional material lists or worksheets, and an assessment tool for each of the lessons.

Assignment #2 – Experiential Learning Reflection and Review – 20% (200 Points)

Utilizing the *147 practical tips for experiential learning* (Timpson et al., 2013) from the course, develop a 3-4 page review of how at least one of the 27 thematic areas are currently informing your classroom instruction and how the "tips" within each thematic area identified have the potential to inform future instruction. Utilize the literature highlighted within the thematic areas to assist the reader in understanding your rationale for choosing this thematic area to expand. Additionally, Include a lesson plan that you have developed that applies to the thematic area (different than Assignment #1 lessons). Additionally, provide rationale in the summary paragraph of your paper to connect the lesson to the thematic area.

Awarding of Points

•	Attendance and Participation (In-person Sessions)	100 (10%)
•	Class-based Online Blogging	300 (30%)
•	Site Visit Reflections (2 Site Visits)	100 (10%)
•	Assignment 1 – Experiential Learning Lesson Handbook	300 (30%)
•	Assignment 2 – Experiential Learning Reflection and Review	200 (20%)

TOTAL POINTS 1000

Grading Scale

909.1 - 1000	4.0
849.1 - 909	3.5
789.1 - 849	3.0
729.1 - 789	2.5
679.1 - 729	2.0
629.1 - 679	1.5
589.1 – 629	1.0
< 589	0.0

ACADEMIC MISCONDUCT:

Article 2.III.B.2 of the Academic Freedom Report states: "The student shares with the faculty the responsibility for maintaining the integrity of scholarship, grades, and professional standards." In addition, the Department of Sustainability adheres to the policies on academic honesty specified in General Student Regulation 1.0, *Protection of Scholarship and Grades*; the all-University Policy on *Integrity of Scholarship and Grades*; and Ordinance 17.00, Examinations. (See Spartan Life: Student Handbook and Resource Guide and/or the MSU Web site: www.msu.edu.)

Therefore, unless authorized by your instructor, you are expected to complete all course assignments, including homework, lab work, quizzes, tests and exams, without assistance from any source. You are expected to develop original work for this course; therefore, you may not submit course work you completed for another course to satisfy the requirements for this course. Also, you are not authorized to use the www.allmsu.com Web site to complete any course work in this course. Students who violate MSU regulations on Protection of Scholarship and Grades will receive a failing grade in the course or on the assignment.

Faculty are required to report all instances in which a penalty grade is given for academic dishonesty. Students reported for academic dishonesty are required to take an online course about the integrity of scholarship and grades. A hold will be placed on the student's account until such time as the student completes the course. This course is overseen by the Associate Provost for Undergraduate Education.

(See also https://www.msu.edu/~ombud/academic-integrity/index.html). There will be no warnings – the maximum sanction allowed under University policy will occur on the first offense.

ACCOMODATIONS:

Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities. Requests for accommodations by persons with disabilities may be made by contacting the Resource Center for Persons with Disabilities at 517-884-RCPD or on the web at rcpd.msu.edu. Once your eligibility for an accommodation has been determined, you will be issued a verified individual services accommodation ("RISA") form. Please present this form to me at the start of the term and/or two weeks prior to the accommodation date (test, project, etc.). Requests received after this date will be honored whenever possible.

BEREAVEMENT:

Michigan State University is committed to ensuring that the bereavement process of a student who loses a family member during a semester does not put the student at an academic disadvantage in their classes. If you require a grief absence, you should complete the "Grief Absence Request" web form no later than one week after knowledge of the circumstance. I will work with you to make appropriate accommodations so that you are not penalized due to a verified grief absence.

DROPS AND ADDS:

The last day to add this course is the end of the first week of classes. The last day to drop this course with a 100 percent refund and no grade reported is ______ The last day to drop this course with no refund and no grade reported is ______. You should immediately make a copy of your amended schedule to verify you have added or dropped this course.

COMMERCIALIZED LECTURE NOTES:

Commercialization of lecture notes and university-provided course materials is not permitted in this course.

DISRUPTIVE BEHAVIOR:

Article 2.III.B.4 of the Academic Freedom Report (AFR) for students at Michigan State University states: "The student's behavior in the classroom shall be conducive to the teaching and learning process for all concerned." Article 2.III.B.10 of the AFR states that "The student has a right to scholarly relationships with faculty based on mutual trust and civility." General Student Regulation 5.02 states: "No student shall . . . interfere with the functions and services of the University (for example, but not limited to, classes . . .) such that the function or service is obstructed or disrupted. Students whose conduct adversely affects the learning environment in this classroom may be subject to disciplinary action through the Student Faculty Judiciary process.

E-LEARNING POLICIES:

Information technologies such as D2L and email are widely used in this class. As a result there are some additional policies that need to be understood.

- Students should visit the course's D2L site on a regular basis.
- Students should check their email frequently (all class email is sent to the student's official MSU email account).
- All assignments submitted electronically, either on disk or via email, should be free of any viruses and/or worms. Any infected file or disk that is submitted will receive a zero (0) for that assignment.

- This course recognizes the students' right to privacy and adheres to the Family Educational Rights and Privacy Act (FERPA).
- Students need to review the university policy "Acceptable Use of Computing Systems, Software, and the University Digital Network" at http://lct.msu.edu/guidelines-policies/aup/.
- Excessive emails make an unreasonable time demands on both sender and recipient. Please ensure you have a legitimate need before you write.
- Dr. Everett will answer email about:
 - Questions arising from difficulty in understanding course content.
 - o Requests for feedback about graded assignments.
 - o Private issues appropriate for discussion within the teacher-student relationship.
- Dr. Everett will NOT answer email which:
 - o Poses questions answered in the course information sections of the course D2L site
 - o Poses questions answered in the course syllabus.
 - o Lacks a subject line clearly stating the purpose of the email and the course number (CSUS423).
 - o Raises an inappropriate subject.
- Dr. Everett will answer email received on a given day no later than close of work on the next workday.
- The Web site tech.msu.edu provides a number of information technology resources for students.
- You are responsible for the operation of any personally owned computers you use on or off campus. A malfunctioning computer system is NOT a valid excuse for submitting late work.
- Students are expected to have a high degree of self-motivation and self-direction in this class and develop the needed technology skills to excel in this class and in life.
- CSUS423 Turnitin Policy
 - Consistent with MSU's efforts to enhance student learning, foster honesty, and maintain integrity in our academic processes, instructors may use a tool called Turnitin to compare a student's work with multiple sources. The tool compares each student's work with an extensive database of prior publications and papers, providing links to possible matches and a 'similarity score'. The tool does not determine whether plagiarism has occurred or not. Instead, the instructor must make a complete assessment and judge the originality of the student's work. All submissions to this course may be checked using this tool.
 - Students should submit papers to Turnitin Dropboxes without identifying information included in the paper (e.g. name or student number). The system will automatically show this info to faculty in your course when viewing the submission, but the information will not be retained by Turnitin.

APPENDIX A – Assignment 1 Rubric (Experiential Learning Lesson Handbook)

	Excellent	Needs Work	Not Completed
			P
Cover Page:	Cover page is indicative	Cover page exists, but	No cover page (0
	of the expe <mark>riential</mark>	does not adequately	Points)
	learning handbook (5	convey the message (2.5	
	Points)	Points)	
Table of Contents:	The Table of Contents	Table of Contents	No Table of Contents.
	provides a coherent list of	exists, but does not	(0 Points)
THE RESERVE OF THE PERSON NAMED IN COLUMN TO SERVE OF THE	experiential lessons as	adequately provide the	
HH	well as appendices as	necessary information	
Al District	appropriate. (10 Points)	for the experiential	
THE RESIDENCE OF THE PARTY OF T	,	handbook (5 Points)	
Abstract:	All 5 experiential	Less than 5 abstracts are	No abstracts are
	learning lessons have an	present or are missing	provided (0 or less
	abstract including an	overviews or typologies.	Points)
	overview of the lesson	(18 Points)	
	and experiential		
	typologies used as it		
	related to Beard and		
	Wilson (2013) (35		
	Points)		
Lesson Plan:	All 5 lesson plans	Only 3 Lesson plan are	No lesson plans (0
	provides the appropriate	provided the appropriate	Points)
	components including:	components including:	
	Title, objective(s),	Title, objective(s),	
	appropriate	appropriate	
	CTE/Academic	CTE/Academic	
	Standards, lists of	Standards, lists of	
	materials/references,	materials/references,	
	interest approach,	interest approach,	
	student/teacher planning,	student/teacher	
	and assessment (150	planning, and	
	Points)	assessment (75 Points)	
		assessment (75 Tomes)	
Relevant Material	All 5 lesson plans have	Only 3 lesson plans	No material or were
and References:	appropriate materials	have the appropriate	included in the
	attached including	materials attached	Handbook (0 Points)
	references for any	including references for	()
	sources that were used to	any sources that were	
	assist the reader in	used to assist the reader	
	understanding the	in understanding the	
	material needed to	material needed to	
	material needed to	material needed to	

	present the lesson. (30	present the lesson. (15	
	Points)	Points)	
Assessment:	All 5 lesson plans have	Only lesson plans have	No assessments were
	an appropr <mark>iate assessment</mark>	an appropriate	provided in the
Note that assessments	that assists the teacher in	assessment that assists	Handbook (0 or less
may be formative or	assessing student	the teacher in assessing	Points)
summative, authentic	knowledge (20 Points)	student knowledge (10	
or traditional.		Points)	



APPENDIX B – Assignment 2 Rubric (Experiential Learning Reflection and Review)

	Excellent	Needs Work	Not Completed
	Datement	Ticcus Work	1 vot Completeu
Introduction:	Introduction of the thematic area(s) as it relates to the context of	Introduction is not specific and lacks the focus on the thematic	No introduction (0 Points)
	the classroom (40 Points)	area(s) (30 Points)	
Overview of Thematic	Overview of the current	Overview of thematic	No overview of
Area(s):	thematic area(s) as it	area(s) exists, but lacks	thematic area(s) (0
	relates to the literature	supporting literature	Points)
m HJ	from class of other	from class or other	
	appropriate sources. (40	appropriate sources (30	
11 1 11	Points)	Points)	
Application to current	The thematic area	The thematic area does	No abstracts are
context:	selected applies directly	not apply directly to the	provided (0 or less
Context	to the classroom and	lesson or the thematic	Points)
	supporting lesson plan	area select lacks depth	1 omes)
	(40 Points)	as it relates to classroom	
	(13 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	learning (30 Points)	
Lesson Plan:	Lesson plans provides the	Lesson plan lacks the	No lesson plan (0
	appropriate components	direct relationship to the	Points)
	including: Title,	thematic area and/or	
	objective(s), appropriate	lacks appropriate	
	CTE/Academic	components of the	
	Standards, lists of	lesson plan (30 Points)	
	materials/references,		
	interest approach,		
	student/teacher planning,		
	and assessment and relates to the thematic		
	area (40 Points)		
	area (40 f office)		
Conclusion and	Reflection of lesson and	Reflection lacks	No material or were
Reflection:	thematic area as it applies	appropriate components	included in the
	to the assignment. The	and may include	Handbook (0 Points)
	reflection should include	positives, challenges,	
	positives, challenges, and	and discussion about	
	discussion about future	future application or	
	application or changes in	changes in the context	
	the learning context (40	of learning (30 Points)	
	Points)		

APPENDIX C - Sample Lesson Plan

Course Number
Course Title
Semester/Trimester Year
Lecture # or Date

Title of Lesson:

This should be the title – for example, "Determining Rations for Beef Cattle." Note the action - "ing" – this is key

Situation:

It is what it is! What is the situation that you are teaching? How many students, who they are, etc.

On Board:

Notes for the students. For example: FFA meeting this week, test in this class on 1/10, etc.

Objective(s):

These are the CTE and Academic Content Standards that you will address in the lesson plan (See Mager, 1997). Writing a good lesson objective with the appropriate information is very important.

CTE Standards:

These are the CTE and Academic Content Standards that you will address in the lesson. Take a look at this Website and scroll through the appropriate CTE standards. Note that they are very broad: http://ctenavigator.org/programs/list/442. Also note that we will go over this as part of class.

Core Standards:

Attached is a link to the MDE Biology Document.

http://www.michigan.gov/documents/BIOMMC_168213_7.pdf. Note that this link may change based on updated standards. Additionally, Biology Standards may not be the appropriate Core Standards. Perhaps Chemistry? Social Studies? English? OR NGSS Standards as appropriate. You are the professional, you decide what is appropriate.

Materials:

Self-Explanatory – This is a list of everything needed for the success of the lesson plan.

References:

If you use books, handouts, websites, papers, etc. Put the references here.

Interest Approach:

What will you do to spark their interest? An interest approach can be many things. For example, having gourds on hand for students to work with if you are talking about specialty crops. Having a leg-hold trap in the front of the room and showing a YouTube video on trapping if that is the lesson topic of the day. Questioning students about statistics related to grain markets and why they are relevant. Think about, how will I spark a students' interest?

Student/Teacher Planning:

This includes everything you say or want to say specifically to students during the lesson. For example, if you want to teach them a specific formula, have the formula and the relevant facts included in the student/teacher planning. On occasion, I have seen this done as a two-column table. The left column will be "What students do" and the right column will be "What you say."

Problem Solution:

The best way for students to understand a topic or material is to put it in the form of a problem or a problem to be solved. So what is the problem to be solved? We want students to learn about how grain markets fluctuate and the reason for changes in grain markets. How do we solve this problem? What do we teach students to do to help them learn more about the problem?

Applying Solutions:

How do we apply the problem-solving approach and what solutions should students come up with?

Evaluation:

How do we evaluate student understanding in the class? Often times we think of this as a traditional paper-pencil test. This is one form of assessment. Another form would be having student build a motor. The final assessment would be actually building the motor. Think broadly about ways to assess students in both formative and summative ways.