Dr. Barbara Licklider, Jan Wiersema, and Justin Benna lead Project LEA/RN at Iowa State University and have been working with the Kansas State University College of Engineering on Cooperative Learning. Project LEA/RN’s strategies are based on what the research indicates about how adults learn.

Dr. Licklider has a background as a high school and middle school science teacher and secondary school principal which enables her to connect theory with practice. Her research focus is faculty development, especially in the realm of helping practicing educators learn how to enhance student learning. She has developed an effective, interactive model for faculty development that uses faculty collaboration to make change. She and her project LEA/RN team are facilitating faculty learning here on campus through the K-State Engineering LEA/RN program.

In the Workshop, Dr. Licklider led a “Go ‘round” activity in which audience members got into small groups and shared their names, what they teach, and something they had learned recently. This activity had the following implications for our classrooms:

1) The sooner students speak in a group, the sooner they will speak when you want them to.
2) The best learning happens when students feel safe.

The audience identified the following ways people learn:

1) By practicing, through repetition
2) By listening and watching carefully
3) Through failure; through trial and error
4) By observing, trying, failing, figuring out, fine-tuning, going back, and perfecting
3) By thinking, doing and then, reflecting

Dr. Licklider encouraged the audience to keep these ideas in mind when working with students.
Dr. Licklider gave audience members an opportunity to experience test-taking through the eyes of students.

**Quiz Type 1:** After a brief introduction to the “quiz” material (in this case tricky word games), she administered a 2-minute quiz to the audience and gave instructions such as: “this will be graded on the basis of who gets the most right,” “you can only do well on this if other people don’t do well,” and “no talking.” She asked the audience, “Any questions?” immediately followed by the instruction: “Go!” While the audience took the quiz, Dr. Licklider walked nosily around the room and called out the time every 30 seconds.

**Quiz Type 2:** Dr. Licklider then administered a second 2-minute quiz and gave the following directives: “no talking;” “individual work only please;” “eyes on your own paper.” She again asked the audience, “Any questions?” immediately followed by the instruction: “Go!” Audience members were told that it didn’t matter how other audience members performed.

**Quiz Type 3:** Before administering the third quiz, Dr. Licklider gave more complete instructions at a less hurried pace. She told them to work on it by themselves first and then take their work to a group. She used a slower rate of speech and more welcoming questions like, “what questions can I answer for you that you feel will help you do better on the quiz?” After asking the audience for questions, she allowed a great deal of time for their questions to be discussed. She also followed up with “What additional questions do you have?”

**Reflection on the quizzes:** The audience and facilitators discussed mistakes we may all make which were exemplified in the above activities. We may ask “any questions?” giving students no time to actually ask questions. Students have been trained to think “any questions?” means “pack up your books,” or “here’s the test.” Conversely, providing too much time or room for questions can lead to frivolous questions and stalling. We should set up the classroom in such a way that our time is well-managed, so that students do have time to ask questions. We should recognize that competition among students for grades has little to do with mastery of subject matter and more to do with ranking students.

Be aware of your tone of voice, speaking rate, body language, and proximity to students because your students are aware of these things. A brisk interaction style introduced by the instructor can provoke anxiety on the part of students. If this exercise made us feel stressed and/or incompetent, think of how tests may make students feel, especially younger students who may not have a developed sense of self-confidence yet. It is also important to not make students feel cornered into only thinking your way. We must always be aware of cultural biases in our testing. We can easily lose students if something happens in our classrooms to make them feel stupid. We have trouble relating to students who expect to get the lowest grade in the class because we were accustomed to always getting the best grades. When students as a group perform poorly on a test, we should not only lower our standards (e.g., use a curve), but we should also return to the subject matter and make sure students learn what they failed on the test.

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**Dr. Licklider suggested some tips and issues to think about when facilitating group work:**

- **Tell students that everyone in the group must be able to explain the group’s answer because you will be randomly calling on students.**
- **Make it clear whether or not you will accept different answers, provided students give a rationale for their answers.**
- **A-students may resist cooperative learning because they are used to working alone and doing well.**
- **Give students time to think on their own before working with groups.**
- **Group work can be unappealing to some because they do not want others to see their weaknesses.**
- **Group work can provide students with safety, fun, and opportunities to see how others think.**
- **Interactions may be problematic because high-achievers may go into a group situation wanting to tell others the answer, while low-achievers may go into the group to get the answer.**
- **We need to help students look at their peers as sources of help and information.**
Nuggets:

- One of the best things we can do for our students is to let them in on what we are doing. To avoid misunderstandings, tell students what you are doing and why.
- It takes 7-9 seconds for students to formulate and verbalize an answer.
- When asking for "Any more questions?" wait through 12-13 seconds of silence to be sure there are no more questions.
- Students get frustrated by other students calling out answers, and they will eventually stop trying. So tell students that they should not call out their answers.
- When changing things in your classroom, "first do no harm." Help students know and understand that, if they try to learn deeper, they will still have the opportunity to get A's.
- A-students may resist cooperative learning because they are used to working alone and doing well.
- Students will work harder if they think we know and like them. It is so important to learn students’ names.
- Strive to clearly define your purpose and to set up activities to address this purpose.
- Adult learners need approximately 17 repetitions of new material in order to learn it.

To prepare students for cooperative learning, they must learn to use

**ACTIVE LISTENING**

and its 3 processes:

1) I **hear** what the speaker says.
2) I **think** about what is said.
3) I **indicate** whether or not I **understand**.

Dr. Licklider, Jan Wiersema, and Justin Benna introduced the steps of a cooperative learning activity called **Turn to Your Partner (TTYP)**:

**Formulate** an answer individually.

**Share** your answer with your partner.

**Listen** carefully to your partner's answer.

**Create** a new answer through discussion.

**Account** for your discussion by being prepared to be called upon.

- We should use TTYP for 2-3 minutes at the beginning or end of class.
- Put the steps listed above on an overhead so that students can follow the steps.
- Using TTYP enables us to work in a lot of repetition to ensure student learning.
- If we misuse TTYP by asking concrete, yes/no questions, it will not be effective.
Planning a TTYP:

- What is the kind of thinking you want your students to do?
- What is it in this class period that is so important that your students can't leave class without understanding it?

Ask yourself:

- What is your purpose in asking the question?
- Why is it important? How does it fit in with students learning outcomes?
- "The Question"
- Your thoughts about possible answers to the question: (As a general rule, these should be open-ended questions)
- When will you ask the question? Why did you choose this time?
- Estimated time (Effective TTYP's can be done in 2-5 minutes or less!)

The audience participated in an Academic Controversy activity in which students must develop and use arguments for both sides of a topic.

The facilitators shared the following Guidelines for Interaction during Academic Controversy:

1) Remember, we are all in this together, sink or swim. Focus on coming to the best decision possible, not on winning.
2) Be critical of ideas, not people. Challenge and refute the ideas of the opposing pair, but do not reject them personally.
3) Encourage everyone to participate and to master all the relevant information.
4) Listen to everyone's ideas, even if you don't agree.
5) Restate what someone has said if it is not clear.
6) First bring out all ideas and facts supporting both sides. Then, try to put them together in a way that makes sense.
7) Try to understand both sides of the issue.
8) Change your mind only when the evidence clearly indicates that you should.

ANNOUNCEMENTS: An opportunity to write on your calendar

- Swap Session: “Maximizing Learning for All Students,” by Jim Eison on Tuesday, March 14th, 8:00 – 9:30 AM.
Consider this another option on your menu of educational opportunities.