



Kagan Structures Add Power to Corporate Classes.

Ed Major and Jeff Robinette

Jeff and I work for Allison Transmission, the world leader of heavy-duty automatic transmissions. We are part of General Motors Powertrain Division and we work on the local staff of the United Auto Workers, Local 933 in Indianapolis, Indiana. Most school busses have an Allison automatic transmission. We also make transmissions for the M1 Abrams tank. There's



a lot riding on Allison Transmissions: Our nation's schoolchildren ride on our transmissions; so too do our soldiers. So as corporate trainers, we take our responsibilities very seriously. We have sought out the most effective ways to train our corporate content. We've come across **Kagan Structures**. Since implementing Kagan in our classes, we have seen nearly a **20% increase** in test scores coupled with **increased engagement** in the class and **enthusiasm for the content**.



Corporate Training

Jeff and I are UAW Joint Representatives and have been training for many years. Jeff has been an up front instructor for 20 years, and I for 13 years. We both hold many other job responsibilities including course development, coordination of training from outside vendors, and other titles too numerous to mention. Like all other businesses, we do not have just a single job responsibility anymore. We were both involved in manufacturing at Allison before becoming up front instructors. The classes we teach include (but are not limited to):

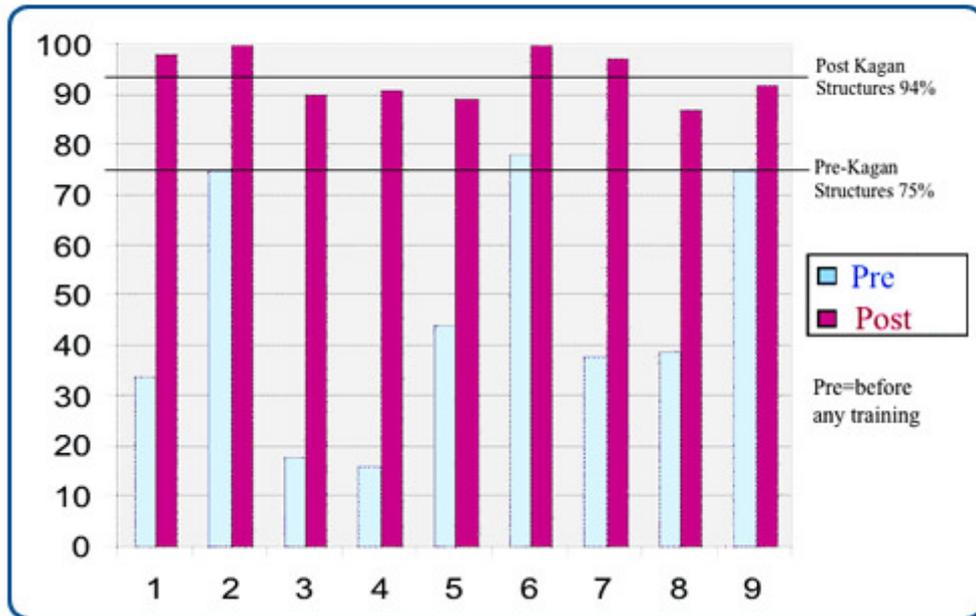
- **Basic Maths Skills**
- **Computer Numeric Control (CNC) Mathematics**
- **Metrics**
- **Engineering Drawings**
- **Coaching Skills**
- **Leadership-The Role of the Individual**
- **Plus a variety of technical and HR skills**

We have attended many of the **Kagan Academy** institutes including **Cooperative Learning**, **Multiple Intelligences**, and **Brain-Based Learning**. We have both found that the **Kagan Structures**, the eight intelligences, and how the brain acquires and stores new information to be very beneficial for anyone who teaches, even in the business environment.

Test Scores Soar with Kagan

The graph below illustrates the difference in the pre- and post-test scores for the CNC Maths class for 2003-04. The numbers 1-9 at the bottom represent 9 different classes. The blue bars are the pre-test scores; the maroon bars the post-test scores. The line at the 75% mark indicates average class scores prior to implementing **Kagan Structures**. We struggled to get our students to this 75% level. We require a 90% on our post-test scores in our classes. As you can see by the maroon post-test scores, we have consistently made our 90% with an actual average of 94%

CNC Math Class Pre/Post Percentages for 2003-04



Our test scores have gone up considerably with the use of Kagan Structures in our classes. Let me tell you Engineering Drawings is boring. CNC Math is boring if you do not incorporate the structures.



Other Indicators of Success

The structures allow students to work in pairs or small teams and require everyone to be responsible for their own learning, while still having the support of their team. All team members are required to participate but yet not suffer the embarrassment of the whole class if you give a wrong answer. Your team member will correct you by reinforcing the correct answer, and you can help others when they are incorrect. This keeps everyone on the team plugged into the lesson that they are currently working on. There's minimal tuning out because students are continually interacting with their teammates, keeping them on-task and focused.

We now have students working in pairs mostly because we have very small classes. Six students would be a large class for us. The **Kagan Structures** work best in larger classes, but we have found they work well in our smaller classes too. Our students enjoy having a class partner to work with because with adults there is still that stigma of not knowing an answer in front of the whole class and teacher. The structures allow them to partner up with each other in a similar fashion to how they need to team up on the manufacturing floor to work through problems and come up with acceptable solutions. **It is great to see students want to work with one another in the classroom.** There has been no opposition to using the **Kagan Structures**. In fact, it is just the opposite. They prefer to use them.

By using the structures, students are much more involved in the learning process. When we have ownership in something it has a lot more meaning to the individual — sweat equity, if you will.



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