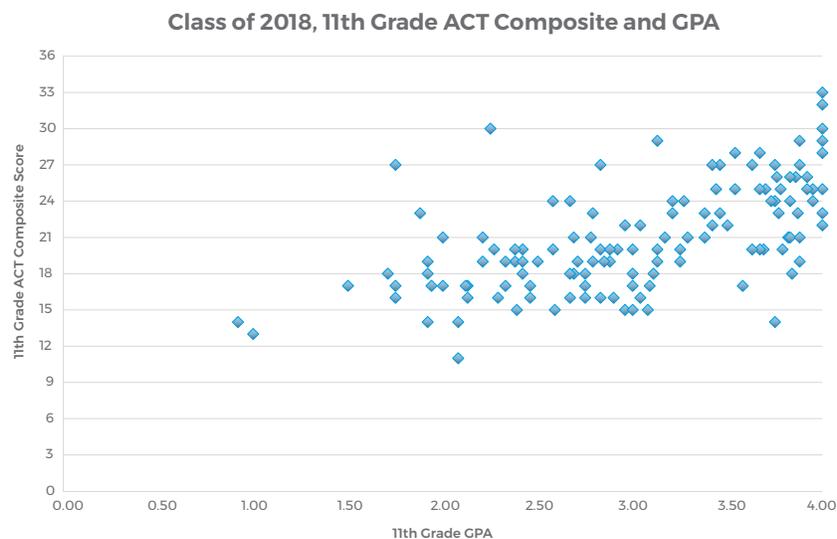


# HOW TO AFFECT SCHOOL CULTURE with **DATA** VISUALIZATION **TECHNIQUES**

Alan Shotts, Career Center Coordinator at Cody High School in Wyoming, knows the powerful impact data visualization can have in transforming student ACT scores and GPA information into action. His work drove important professional development and conversations with educators and administrators about instruction, curriculum, grading practices, student course patterns, benchmarks, and social and emotional learning factors. Data visualization has redefined the culture of the Cody school system.

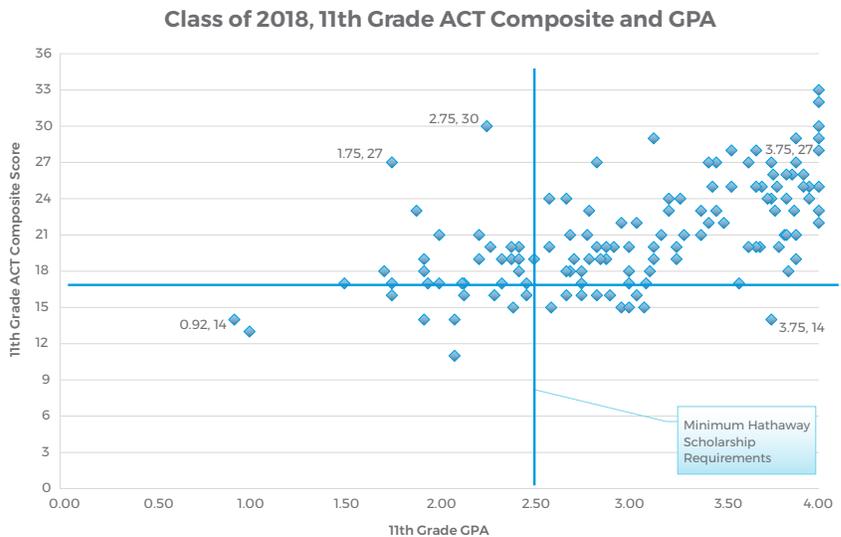


“If you want to use data, you have to invest the time to make it something that everybody can use. The thing I love about ACT is we get lots of data from them.”

Alan Shotts, Career Center Coordinator, Cody High School, Wyoming



In 2015, Shotts created a simple scatter plot of students' GPA and ACT Composite scores. Shotts and the Cody High School staff could see a general correlation between GPA and ACT score, but were unable to identify any specific actions they could take to improve student results. By adding the minimum GPA and ACT score requirements for the Hathaway Scholarship to the graph, it became apparent that students in the upper right quadrant all qualified for this important financial benefit while students in the other three quadrants did not.



This was the change Cody High needed to stop looking at overall trends. The objective data brought grading, instruction and curriculum under review. With the full data set ACT provided, Cody High dove into each subject and evaluated students' knowledge. Teachers were able to see how they could change and fix their instruction to ensure their students were on target for the state benchmarks and graduation.

**“You can make changes if you focus on the right things. If you want an average school, use average data and that’s pretty much what you’ll get. If you want to start improving things, you have to start looking at individuals.”**

**Alan Shotts**

In 2017, the focus has shifted to looking at individual students who were outliers on the chart. The school identified students whose GPA and ACT scores did *not* correlate and students who earned similar ACT Composite scores but had vastly different GPAs. As a result, conversations about the data began to focus on the causes behind these outliers:

- What classes did they take?
- What benchmarks are they achieving and what standards are they understanding?

- What is being graded in the classroom, knowledge or action?
- What are their social and emotional behaviors?
- Is this something we have control over?

By asking and answering these tough questions, Cody High School is able to use data to identify areas—system wide and in the classroom—where changes make an observable difference in student performance. School wide this means focusing on grading what students know rather than what they do. In the classroom, educators can easily see where students struggle with specific standards and subjects, like algebra, and adjust curriculum to improve outcomes.

**“That’s the whole object of data—giving you something you can fix. And, until a teacher sees it as something he or she can change, it’s not going to change.”**

**Alan Shotts**

This example report used at Cody High School demonstrates the significant impact data visualization can have on the conversations and cultural shifts that take place within a school system. Cody High School serves more than 600 students in Cody, Wyoming and uses ACT Aspire® and the ACT test to help students achieve education and career success.

To find out more about the data you receive from students taking the ACT test, visit: [www.act.org/theact](http://www.act.org/theact).