



CALIFORNIA SCIENCE & ENGINEERING FAIR 2019 PROJECT SUMMARY

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Project Title Erudition Identification: Using Computer Science to Find Literacy Levels	
<p style="text-align: center;">Abstract</p> <p>Objectives Our nation's report card for reading is at an all-time low. This is due to the failed ways to improve students reading levels. These methods do not push the students enough and they keep the students in their comfort zone which thwarts academic growth. Kids should be given a challenge zone and the questions from STAR Reading should be different, not the same every single time. Since the questions are the same for every test to determine the student's reading level, the student is susceptible to just memorizing the questions and answers rather than working through it themselves and learning from the experience. What is needed within our society in order to improve our education system is a method that will actually allow for students to grow - a method that pushes students but doesn't push them too much to the point that they give up and progress becomes nonexistent. We need a method that will allow for students to improve their comprehension, understanding, and expansion of their vocabulary by keeping them just out of their comfort zone, which does not allow them to improve since they are not expanding their current knowledge. This method is creating our own reading level. Our reading level would take into account more variables than the current reading level, such as the number of syllables per word, number of words per sentence, number of letters per word, word frequency, and sentence length. By creating this method, we would be improving the overall welfare of the constituents due to becoming more competitive in the global economy.</p> <p>Methods First in this experiment, a program was created that can measure the number of sentences contained in the text, the number of words per sentence, the number of letters per word, the average number of words per sentence, and the average word length and the excerpts from 48 books are put into the program to calculate these properties from the books. After that, the data was plugged into the Fry Readability Graph, the FOG/SMOG Readability Graph, the Dale-Chall readability test, and the Spache readability test in order to come to a conclusion on what the reading level, which has been named the Enlightened Literacy level, ought to be. Once the conclusions were made, a recommendation list was created inside an original app so that the lists can be easily accessed by literate individuals. Furthermore, we created a formula which converts all levels of Lexile or ATOS to the Enlightened Literacy reading level, which allows us to convert all reading levels of Ridgeview High School into the Enlightened Literacy reading level. After doing so, we created a plan that allows for students to advance because Enlightened Literacy represents a more accurate and precise version of Lexile and ATOS. Basically, the Enlightened Literacy reading level will help students advance in their reading level due to the accuracy and precision the reading level consists of due to taking</p>	
Summary Statement In order to enhance the reading scores of students, we created a new reading level and program to achieve better results than the current reading level and program.	
Help Received We designed and built our own program, but in order to better understand JavaScript programming overall, we received help from Arashjot Sidhu, an engineer, and Mike Brasier, our science teacher.	