

September 10, 2021

Dear Parent/Guardian:

During this school year, Phillips Middle School is partnering with the College of Engineering at North Carolina State University (NCSU) to develop a series of engineering design elective classes for students in grades 6-8. The goal of these classes is to expose students to STEM (science, technology, engineering, and mathematics) subjects and careers. We will be conducting a research study where the goal is to determine if participating in these engineering design experiences will increase students' knowledge of STEM (science, technology, engineering, and mathematics) subjects and interest in STEM careers, particularly engineering. This will help us to design more effective programs in the future to increase interest levels of students that have been traditionally underrepresented in STEM fields.

In an effort to learn how these types of programs impact students and teachers, we are requesting your permission to 1) invite your student to take a survey, 2) invite your student to participate in up to two focus groups, 3) receive copies of your student's work from his/her teacher and 4) access their 5<sup>th</sup> grade NC End-of-Grade (EOG) Science Test scores.

**Student surveys:** The surveys will be brief, available online or on paper. The survey data will be stored on secure servers and password protected machines. The researchers will be the only people who will be able to see the survey responses and they will not share their individual responses with anyone. The information will be combined with other students' responses to look for themes. Your child's participation is voluntary, and if they participate, they do not have to answer every question.

**Student focus groups:** Researchers will be inviting a sample of students to participate in focus groups, which will last no more than one hour. The audio from the focus group conversation will be recorded and the recording will be saved on a secure computer owned by NC State University. The researchers and the other focus group participants will be the only people that will know what your child said. The researchers will not share the information linked to your student with anyone publicly, and the other focus group participants will be asked to not share the information linked to your student with anyone. The information will be combined with other students' opinions to look for themes. Your child's participation is voluntary, and if they participate, they do not have to answer every question.

**Student work:** Researchers will be asking your child's teacher to share copies of student work (e.g., completed assignments). The information will be combined with other students' work to look for themes. The researchers will not share your student's work with anyone outside of the research team.

**End-of-Grade Science Test:** 5<sup>th</sup> Grade Science EOG Test scores will be obtained from school administrators. These EOG scores will be used only to assess students' knowledge of science content prior to taking the engineering design classes. The score will be a baseline measure of student science knowledge to compare to future students who take the exploration classes and to themselves when they take the next Science EOG in 8<sup>th</sup> grade. Student scores are for research purposes only and will not be used as an official school grade. If there is no Science EOG in the 8<sup>th</sup> grade, due to cancellation or other extenuating circumstances, the researchers will administer an older (released) version of the 8<sup>th</sup> Grade Science EOG Test as proxy. The electronic file containing your student's EOG score will be stored on a secure, password-protected computer owned by NC State University. Your child's identity will be removed from this file prior to storing on the secure machine.

Please note you will receive two separate forms:

1. The Student Consent Form concerns research activities that your child is being invited to participate in. If you and your child decide that your child will participate, your child should sign the Student Assent Form.
2. The Parent/Guardian Permission Form also concerns research activities that your child is being invited to participate in. If you and your child decide that your child will participate, you should sign the Parent/Guardian Permission Form as well.

Paper copies of both forms will be provided to you. You have the option of making a photocopy of the forms for your records.

If you have any questions, please contact our project manager, Dr. Callie Edwards, at [callie\\_edwards@ncsu.edu](mailto:callie_edwards@ncsu.edu).

Thank you for your time and consideration.

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