

U.S. Department of Education
2020 National Blue Ribbon Schools Program

[X] Public or [] Non-public

For Public Schools only: (Check all that apply) [] Title I [] Charter [] Magnet [X] Choice

Name of Principal Dr. Susan Stevens
(Specify: Ms., Miss, Mrs., Dr., Mr., etc.) (As it should appear in the official records)

Official School Name A.J. Whittenberg Elementary School of Engineering
(As it should appear in the official records)

School Mailing Address 420 Westfield Street
(If address is P.O. Box, also include street address.)

City Greenville State SC Zip Code+4 (9 digits total) 29601-2402

County Greenville

Telephone (864) 452-0512 Fax (864) 452-0515

Web site/URL https://www.greenville.k12.sc.us/ajw/ E-mail slsteven@greenville.k12.sc.us

I have reviewed the information in this application, including the eligibility requirements on page 2 (Part I-Eligibility Certification), and certify, to the best of my knowledge, that it is accurate.

Date _____

(Principal's Signature)

Name of Superintendent* Dr. Burke Royster E-mail broyster@greenville.k12.sc.us
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

District Name Greenville County Schools Tel. (864) 355-3100

I have reviewed the information in this application, including the eligibility requirements on page 2 (Part I-Eligibility Certification), and certify, to the best of my knowledge, that it is accurate.

Date _____

(Superintendent's Signature)

Name of School Board
President/Chairperson Mrs. Lynda Leventis-Wells
(Specify: Ms., Miss, Mrs., Dr., Mr., Other)

I have reviewed the information in this application, including the eligibility requirements on page 2 (Part I-Eligibility Certification), and certify, to the best of my knowledge, that it is accurate.

Date _____

(School Board President's/Chairperson's Signature)

The original signed cover sheet only should be converted to a PDF file and uploaded via the online portal.

**Non-public Schools: If the information requested is not applicable, write N/A in the space.*

PART I – ELIGIBILITY CERTIFICATION

The signatures on the first page of this application (cover page) certify that each of the statements below, concerning the school’s eligibility and compliance with U.S. Department of Education and National Blue Ribbon Schools requirements, are true and correct.

1. All nominated public schools must meet the state’s performance targets in reading (or English language arts) and mathematics and other academic indicators (i.e., attendance rate and graduation rate), for the all students group, including having participation rates of at least 95 percent using the most recent accountability results available for nomination.
2. To meet final eligibility, all nominated public schools must be certified by states prior to September 2020 in order to meet all eligibility requirements. Any status appeals must be resolved at least two weeks before the awards ceremony for the school to receive the award.
3. The school configuration includes one or more of grades K-12. Schools on the same campus with one principal, even a K-12 school, must apply as an entire school.
4. The school has been in existence for five full years, that is, from at least September 2014 and each tested grade must have been part of the school for the past three years.
5. The nominated school has not received the National Blue Ribbon Schools award in the past five years: 2015, 2016, 2017, 2018, or 2019.
6. The nominated school has no history of testing irregularities, nor have charges of irregularities been brought against the school at the time of nomination. If irregularities are later discovered and proven by the state, the U.S. Department of Education reserves the right to disqualify a school’s application and/or rescind a school’s award.
7. The nominated school has not been identified by the state as “persistently dangerous” within the last two years.
8. The nominated school or district is not refusing Office of Civil Rights (OCR) access to information necessary to investigate a civil rights complaint or to conduct a district-wide compliance review.
9. The OCR has not issued a violation letter of findings to the school district concluding that the nominated school or the district as a whole has violated one or more of the civil rights statutes. A violation letter of findings will not be considered outstanding if OCR has accepted a corrective action plan from the district to remedy the violation.
10. The U.S. Department of Justice does not have a pending suit alleging that the nominated school or the school district, as a whole, has violated one or more of the civil rights statutes or the Constitution’s equal protection clause.
11. There are no findings of violations of the Individuals with Disabilities Education Act in a U.S. Department of Education monitoring report that apply to the school or school district in question; or if there are such findings, the state or district has corrected, or agreed to correct, the findings.

PART II - DEMOGRAPHIC DATA

Data should be provided for the most recent school year (2019-2020) unless otherwise stated.

DISTRICT (Question 1 is not applicable to non-public schools)

1. Number of schools in the district (per district designation):
- 57 Elementary schools (includes K-8)
 - 19 Middle/Junior high schools
 - 14 High schools
 - 1 K-12 schools
- 91 TOTAL

SCHOOL (To be completed by all schools)

2. Category that best describes the area where the school is located. If unsure, refer to NCES database for correct category: <https://nces.ed.gov/ccd/schoolsearch/> (Find your school and check “Locale”)

- Urban (city or town)
 Suburban
 Rural

3. Number of students as of October 1, 2019 enrolled at each grade level or its equivalent at the school:

Grade	# of Males	# of Females	Grade Total
PreK	24	18	42
K	52	28	80
1	42	37	79
2	39	35	74
3	37	38	75
4	55	33	88
5	44	31	75
6	0	0	0
7	0	0	0
8	0	0	0
9	0	0	0
10	0	0	0
11	0	0	0
12 or higher	0	0	0
Total Students	293	220	513

*Schools that house PreK programs should count preschool students **only** if the school administration is responsible for the program.

4. Racial/ethnic composition of the school (if unknown, estimate):
- 0 % American Indian or Alaska Native
 - 0.6 % Asian
 - 52.2 % Black or African American
 - 8.8 % Hispanic or Latino
 - 0 % Native Hawaiian or Other Pacific Islander
 - 27.3 % White
 - 11.1 % Two or more races
 - 100 % Total**

(Only these seven standard categories should be used to report the racial/ethnic composition of your school. The Final Guidance on Maintaining, Collecting, and Reporting Racial and Ethnic Data to the U.S. Department of Education published in the October 19, 2007 *Federal Register* provides definitions for each of the seven categories.)

5. Student turnover, or mobility rate, during the 2018 - 2019 school year: 6%

If the mobility rate is above 15%, please explain:

This rate should be calculated using the grid below. The answer to (6) is the mobility rate.

Steps For Determining Mobility Rate	Answer
(1) Number of students who transferred <i>to</i> the school after October 1, 2018 until the end of the 2018-2019 school year	22
(2) Number of students who transferred <i>from</i> the school after October 1, 2018 until the end of the 2018-2019 school year	9
(3) Total of all transferred students [sum of rows (1) and (2)]	31
(4) Total number of students in the school as of October 1, 2018	536
(5) Total transferred students in row (3) divided by total students in row (4)	0.06
(6) Amount in row (5) multiplied by 100	6

6. Specify each non-English language represented in the school (separate languages by commas):

Spanish, Chinese

English Language Learners (ELL) in the school: 8 %
42 Total number ELL

7. Students eligible for free/reduced-priced meals: 52 %

Total number students who qualify: 267

8. Students receiving special education services: 14 %

73 Total number of students served

Indicate below the number of students with disabilities according to conditions designated in the Individuals with Disabilities Education Act. Do not add additional conditions. It is possible that students may be classified in more than one condition.

- | | |
|----------------------------------|--|
| <u>6</u> Autism | <u>0</u> Multiple Disabilities |
| <u>0</u> Deafness | <u>0</u> Orthopedic Impairment |
| <u>0</u> Deaf-Blindness | <u>10</u> Other Health Impaired |
| <u>0</u> Developmental Delay | <u>15</u> Specific Learning Disability |
| <u>0</u> Emotional Disturbance | <u>42</u> Speech or Language Impairment |
| <u>0</u> Hearing Impairment | <u>0</u> Traumatic Brain Injury |
| <u>0</u> Intellectual Disability | <u>0</u> Visual Impairment Including Blindness |

9. Number of years the principal has been in her/his position at this school: 3

10. Use Full-Time Equivalents (FTEs), rounded to the nearest whole numeral, to indicate the number of school staff in each of the categories below:

	Number of Staff
Administrators	3
Classroom teachers, including those teaching high school specialty subjects, e.g., third grade teacher, history teacher, algebra teacher.	26
Resource teachers/specialists/coaches e.g., reading specialist, science coach, special education teacher, technology specialist, art teacher etc.	8
Paraprofessionals under the supervision of a professional supporting single, group, or classroom students.	8
Student support personnel e.g., school counselors, behavior interventionists, mental/physical health service providers, psychologists, family engagement liaisons, career/college attainment coaches, etc.	3

11. Average student-classroom teacher ratio, that is, the number of students in the school divided by the FTE of classroom teachers, e.g., 22:1 20:1

12. Show daily student attendance rates. Only high schools need to supply yearly graduation rates.

Required Information	2018-2019	2017-2018	2016-2017	2015-2016	2014-2015
Daily student attendance	96%	97%	97%	97%	97%
High school graduation rate	0%	0%	0%	0%	0%

13. **For high schools only, that is, schools ending in grade 12 or higher.**

Show percentages to indicate the post-secondary status of students who graduated in Spring 2019.

Post-Secondary Status	
Graduating class size	0
Enrolled in a 4-year college or university	0%
Enrolled in a community college	0%
Enrolled in career/technical training program	0%
Found employment	0%
Joined the military or other public service	0%
Other	0%

14. Indicate whether your school has previously received a National Blue Ribbon Schools award.

Yes No

If yes, select the year in which your school received the award.

15. In a couple of sentences, provide the school’s mission or vision statement.

We create a culture of respect and academic achievement by aligning SC College and Career standards with engineering principles to prepare diverse learners for success.

16. **For public schools only**, if the school is a magnet, charter, or choice school, explain how students are chosen to attend.

A. J. Whittenberg Elementary School of Engineering is a school of choice. All students that reside within the school’s attendance area (roughly a one-mile radius around the school) may attend. Currently 43% of our student body is from the zoned attendance area. Approximately 1.5% of our students are classified as homeless. The remaining students attend A.J. Whittenberg Elementary through the annual school choice lottery system administered by the school district. The school district opens a two-week lottery window in the fall for the following school year. Parents or guardians visit their first choice school to complete the one page lottery registration. Lottery results are communicated by the district in the spring. Students may be admitted to the choice school(s) applied for or placed on a waiting list, if space is prohibitive. The school consistently maintains a waiting list of more than 100 students following the closure of student assignments. Since the opening of the school in 2010, A. J. Whittenberg has maintained the highest number of students on the waiting list among all Greenville County schools.

PART III - SUMMARY

A. J. Whittenberg Elementary School of Engineering opened its doors as a school of choice for the first time with the 2010-2011 school year. Initially, the school opened as a primary school (4K-2nd grade) but each year an additional grade level was added. A. J. Whittenberg Elementary finally reached capacity in 2013-2014 as a K-5th grade elementary school of more than 500 students, or "A.J. Engineers." The creation of this inner city school was a dream held by the neighboring community for over 40 years. Through the vision of former Superintendent Phinnize J. Fisher, Ph.D., the school opened its doors with a focus on engineering, healthy lifestyle choices, and long-term public-private partnerships with engineering corporations in the region. Through Dr. Fisher's leadership, A. J. Whittenberg Elementary became the first school to be built in the city of Greenville since 1970.

A. J. Whittenberg Elementary is located in the West Greenville community, a historically under-served community marked by high poverty, high single parent or non-traditional parent households, record unemployment and the highest levels of gang activity in the county, as reported by law enforcement. The school is named for civil rights activist Abraham Jonas Whittenberg. Mr. Whittenberg wanted all children to have equal and desegregated access to a quality education. It is through his courage and tireless efforts that public schools were eventually integrated in Greenville County, South Carolina. Mr. Whittenberg's dream was realized in 1970 when his daughter, Elaine (now Elaine Whittenberg-Boyce), entered the formerly all-white Greenville Junior High School. Today, a diverse population of children enters the halls of A. J. Whittenberg Elementary to receive an exemplary education that celebrates students' infinite potential, while remaining grounded in the traditions of the West Greenville community. Through these halls walk future engineers - their leadership and creativity will help preserve and champion our standard of living in the near future!

The Greater Greenville Community rallied around the school through a variety of supportive steps. Specifically, community partners built two student-designed playgrounds, participated in fundraising events for much of the school's cutting edge technology, and developed the framework of engineering instruction for children. From the inception of the school, engineering partnerships were developed with the local engineering community. These partners participate in monthly school-wide engagement activities that include hands-on learning and demonstrations that support the engineering process. These engineering interactions also serve as mentoring relationships between students and engineers, as students build rapport with visiting engineers over the years they attend A. J. Whittenberg Elementary. The state-of-the-art, three-story facility is specifically designed to facilitate collaborative learning and the engineering curriculum. The facility includes three STEM labs, visible from both the interior and exterior of the building via glass walls, Wi-Fi throughout the school, SMART tables, a green roof, solar panels, student-designed playgrounds, a desktop computer lab, and an outdoor classroom with an extensive fruit, flower, and vegetable garden. The school has one-to-one technology for 2nd through 5th grades. The school is located in downtown Greenville, adjacent to the Swamp Rabbit Trail, the Reedy River, and the Salvation Army Ray & Joan Kroc Corps Community Center. During the school's first decade, A. J. Whittenberg has become a tent pole of revitalization in the area. The school is now surrounded by new mixed use construction and community development, including a new Unity Park just across the street. The crime rate has dropped from 52% to less than 17% over the past 7 years. More importantly, the school has served as a social bridge between our neighborhood and choice populations with strong attendance by a large cross-section of AJW families at multiple school and community events throughout the year.

There is an active and supportive PTA and SIC (School Improvement Council) that have created numerous opportunities for parent and community participation. One such PTA opportunity is the "Watch D.O.G.S." (Dads of Great Students) program. It provides a presence of "dads" on campus, allowing ample opportunity for mentoring and teacher support, as well as providing additional safety measures at school with their high visibility at school arrival and dismissal. The SIC has established a Welcome Wagon program to assist new families as they assimilate into the school community. The SIC also facilitates school uniform support for students, as well as the "Backpack Buddies" weekend feeding program, Mocha Mondays (coffee with school leadership), and other community outreach opportunities. These examples represent only a few initiatives that have positively impacted the success of the school. Since the school opening, A. J. Whittenberg Elementary's administration, faculty, and students have continued to strive for excellence in all aspects of academic and community achievement.

PART IV – CURRICULUM AND INSTRUCTION

1. Core Curriculum, Instruction, and Assessment.

1a. Overall approach, which may include overarching philosophy or approaches common across subject areas

A. J. Whittenberg Engineers are lifelong learners who positively contribute to the academic achievement of the learning community. All stakeholders are invested in continuous growth which has a direct impact on the overall success of the school.

A.J. Whittenberg Elementary School of Engineering implements a student-centered and cohesive curriculum that is differentiated to remediate and enrich students as needed, while meeting the needs of the whole child. Physical, intellectual, and social-emotional needs are met through intentional planning and outside-the-box instructional strategies. These practices engage students in engineering opportunities and real-world experiences while simultaneously teaching the South Carolina College and Career Ready Standards (SCCCR). This student-centered focus has enabled the consistent academic growth of subgroups and has contributed to closing achievement gaps. When compared with other elementary students in Greenville County School District, 2018-19 SC Ready ELA data shows that minority males at A.J. Whittenberg outperformed their peers by 21%, students with disabilities outperformed their peers by 6% and students in poverty outperformed their peers by 8%. 2018-19 SC Ready math data shows that minority males at A.J. Whittenberg outperformed their peers by 25%, students with disabilities outperformed their peers by 19% and students in poverty outperformed their peers by 16%.

Data is used to formulate intentional plans to further the success of students and staff in all areas, as well as ensure the effectiveness of school programs and practices. Formative assessments are used throughout all instructional areas to determine academic growth and acceleration opportunities. The engineering design process is a tool engineers use to systematically solve problems and is utilized to the greatest extent possible across all curriculum areas. At A. J. Whittenberg Elementary, students are encouraged to continuously improve upon processes and solutions, while also increasing their use of the soft skills necessary for future success.

1b. Reading/English language arts

A. J. Whittenberg Elementary School of Engineering uses a Balanced Literacy Approach to implement the South Carolina College and Career Ready Standards (SCCCR) for English/language arts. This approach includes reading workshop, writing workshop, and language and word study. The reading workshop consists of a mini-lesson, independent practice, and a teaching share to close out the lesson. The structure for the writing workshop mirrors that of reading. In both of these workshops, the mini-lesson includes a reading or writing strategy that enables students to achieve mastery of any given SCCCR standard through a teaching point that is generalizable and transferable. Students can then apply teaching points to any text that they may read or write. During the independent portion of the workshop, students are engaged in independent reading and writing of their own choice, while the teacher engages with small groups or individuals to differentiate instruction. Finally, the teacher closes out the workshop with a teaching share, which may highlight an effective strategy, reiterate the day's teaching point, or showcase successful student work. The language and word study component of Balanced Literacy consists of the fundamental skills students need in order to be successful readers or writers. In this block of instruction, students learn about grammar, conventions, spelling, and participate in an interactive read aloud. The read aloud allows the teacher to model their thinking as they read a text aloud, providing a strong model for student reading comprehension.

Formative assessment is a key component of meeting students' needs in English/language arts. The Fountas & Pinnell Reading Benchmark Assessment System is administered to students in the fall and spring to determine their independent reading level, as well as their use of strategies in reading. Students complete three district-provided writing prompts throughout the year to determine their proficiency in written expression. Additionally, teachers administer running records throughout the year and anecdotally to assess students as they meet with them in small groups and conferences during both reading and writing

workshops. All of these formative assessment tools allow teachers to pinpoint targeted goals that will accelerate student growth no matter where students fall on the learning continuum. In 2019, the percentage of students at A. J. Whittenberg Elementary meeting or exceeding expectations on SC READY for ELA increased by 13% (district average = 7% growth).

1c. Mathematics

The engineering design process is embedded into math instruction. Through this process, students set a goal (solve a specific problem), ask questions (what do I know? what do I need to know?), imagine a solution (what different methods can I use to solve this problem?), plan (create a schema for solving the problem), create the solution (solve the problem), reflect on the process (whose process worked well? what process did not work well?), develop ways to improve (is there a more efficient way to solve this problem?) and finally present the project (talk to peers about their mathematical thinking and process related to solving problems). Furthermore, the use of manipulatives to develop students' conceptual understanding of different mathematical ideas is a common practice in classrooms and labs at A. J. Whittenberg Elementary.

Additionally, math instruction at A. J. Whittenberg Elementary incorporates many of the best practices for mathematical instruction as delineated by the National Council for Teachers of Mathematics. Specifically, mathematical discourse, posing purposeful questions, and supporting students in productive struggle are all essential and natural components of the engineering design process embedded into daily math instruction.

Formative assessment is a key component of mathematics instruction. The most commonly used formative assessment tool is that of MasteryConnect, a database of standards-based questions that shows students' progression towards mastery of specific standards. MasteryConnect is used weekly to gauge student understanding of mathematical concepts through practice questions and quizzes, as well as more formalized formative benchmarks that occur in the fall, winter, and spring. In addition, teacher observation of student mastery occurs daily while students articulate math theory and when utilizing manipulatives to demonstrate understanding of concepts. In 2019, the percentage of students meeting or exceeding expectations on the SC READY in mathematics increased by 7% (district average = 3% growth).

1d. Science

Science instruction at A. J. Whittenberg Elementary embeds the engineering design process into inquiry-based instruction. Through this inquiry-based process, students set a goal (solve a specific problem), ask questions (what information is available?), imagine a solution (what methods can be used?), plan (create a schema for solving problem), create the solution (solve the problem), reflect on the process (whose process worked?), improve (can this problem be solved more efficiently?) and present (talk to peers about their thinking).

Critically important to student achievement is learning to “fail forward” as failure is an integral part of continuous improvement. This dedication to seeking excellence through refinement has propelled pursuit of advanced opportunities. A. J. Whittenberg Elementary was selected as a NASA-certified viewing location for the 2018 solar eclipse, a teacher earned teacher-liaison status with The Space Foundation and the school received an interactive Mars map for space study from the Buzz Aldrin Foundation.

A. J. Whittenberg Elementary's commitment to environmental consciousness resulted in Silver LEED for Schools certification by the United States Green Building Council in 2014 and the installation of two operational bee hives in 2019. An ongoing partnership with Renewable Water Resources (ReWa), the local wastewater utility, facilitated participation in DIG Greenville, the region's largest wastewater conveyance project. Collaboration with the city of Greenville allowed the school to partner in the development of Unity Park adjacent to the school (focused on watershed engineering). These certifications and programs open doors for learning opportunities. For example, fourth grade integrates additional engineering concepts into astronomy standards through the use of an anti-gravity model, interactive Mars maps, robotics, and their attendance at the Space and Rocket Center in Huntsville, Alabama. In 2019, the percentage of students meeting or exceeding expectations on the SC PASS in science increased by 23% (district average = 4% growth).

1e. Social studies/history/civic learning and engagement

A. J. Whittenberg Elementary's social studies curriculum is guided by the South Carolina College and Career Ready Standards, and is organized into themes (history, economics, geography, and civics and government). Literacy skills are embedded into social studies instruction as students read varied texts to deepen and solidify their knowledge of the social studies curriculum. Furthermore, students practice critical literacy skills as they analyze primary and secondary sources to construct knowledge and evaluate the legitimacy of sources. A. J. Whittenberg Elementary teachers strive to bring social studies curriculum to life. It is common to see staff members dressed up in costume to capture the attention of students. When teaching grade-level specific SCCCR standards, fourth- and fifth-grade teachers reenact the age of exploration and the process of immigration. Similarly, third-grade students practice rice harvesting and cloth dying while studying the establishment of early South Carolina. The rich historical roots of the Greenville community offer students a connection to a diverse representation of change agents and civic leaders. Mrs. Elaine Whittenberg-Boyce (daughter of school namesake Abraham Jonas Whittenberg) serves as a mentor for the school and teaches weekly. Several civil rights activists who served with Mr. Whittenberg during the civil rights movement remain in the area and serve on the School Improvement Council or as mentors. As opportunities allow, community leaders speak to students about the similarity between engineering and life: there are always opportunities to improve processes if one continues to persevere through obstacles.

1f. For secondary schools:

1g. For schools that offer preschool for three- and/or four-year old students:

A. J. Whittenberg Elementary has two full-day, pre-kindergarten or 4K classrooms to prepare children for school readiness. The 4K program follows the South Carolina Early Learning Standards which focus on developing the skills students need for future academic success, including pre-literacy and pre-math, as well as meeting the physical and social-emotional needs of students. The 4K curriculum maps and standards follow the requirements of the South Carolina Profile of the Ready Kindergartener as outlined by the South Carolina First Steps to School Readiness program. This program transitions to the South Carolina Profile of the Ready Graduate upon entrance to the primary grades. These platforms ensure alignment between early school readiness and the subsequent development of skill sets for success in the primary grades and beyond. Students are encouraged to be active explorers that become independent learners as they develop friendships and learn through play. 4K students also participate in art, music, physical education, library, and computer lab each week as well as all "eWeek" engineering opportunities.

Formative assessment is a key component of meeting these young learners' developmental needs. To that end, the Phonological Awareness Literacy Screening (PALS) is administered to 4K students three times a year. The results of this screening tool are used to determine students' strengths, needs, and instructional supports. Student participation in 4K at A.J. Whittenberg better prepares students for the rigor of early literacy in kindergarten, especially in the areas of letter sounds, letter identification and letter formation as evidenced by pre-kindergarten screening evaluation at the school level as well as the reduction of required reading intervention support for these students.

2. Other Curriculum Areas:

Engineering focus: A. J. Whittenberg Elementary was specifically designed as an elementary school of engineering. Teachers address state standards and district curriculum through the unique lens of the engineering design process. A. J. Whittenberg Elementary was the first school in the state to have a school-wide engineering focus. Grade levels implement engineering units to engage students in all subject areas. In younger grades, these units are often literacy based. For example, first grade uses the book, "Clifford the Big, Red Dog" as the basis for a unit on package engineering. For this study, students design, create, and test devices that allow Clifford to carry dog treats to his friends. For the upper grades, engineering units are often a springboard from science or social studies units. For example, fourth grade incorporates cross disciplinary standards into Mars Week and an extensive study of astronomy. The students conduct research to compare and contrast Earth and Mars. They use their findings to write informational reports (ELA standards) and to compare the weight of different objects on Earth and Mars (math standards). In addition,

the students code robots (Mars rovers) to complete missions on a giant, room-sized topographical Mars map, which require calculating distances, travel times, and fuel consumption (math standards). The coding assignment naturally implements the engineering design process as students have to frequently reevaluate and improve their code in order to complete the mission.

Through a variety of public-private partnerships, the school also engages with engineering-focused companies in the region to bring professional engineers into the STEM labs to present real-world engineering projects as an extension of classroom curriculum. Engineers from global companies such as Fluor, Michelin, GE, and Hubbell Lighting work with students on projects tied both to the current projects of the company and to the state standards in the grade level. This cohesive approach to learning brings engineering to life for learners to ignite a thirst for education and encourage future STEM-focused career paths.

Social Emotional Learning (SEL): A. J. Whittenberg Elementary has a dynamic, standards based, comprehensive school counseling program. This program is aligned with both the American School Counselor Association Model and the South Carolina State School Counselor and Career Guidance Model. The School Counselor implements a social/emotional learning curriculum with grades K-5. The curriculum is research-based and aligns with state and national standards. Students receive weekly lessons in the classroom with peers, as well as small group and individual counseling. Social justice and culturally sensitive practices are an integral part of our comprehensive program. A. J. Whittenberg Elementary has a school culture built upon empathy and problem solving being explicitly taught and practiced. In addition, the counselor is active in the community, provides parent workshops quarterly, and serves as a member of the Palmetto State School Counselor Board. Social emotional learning provides a foundation upon which to build well rounded “engineers.”

Related Arts: At A. J. Whittenberg Elementary, all students (K4-5th) participate in art, music, physical education, library, and computer lab each week. Each year, A.J. Whittenberg students audition for and are selected to participate in the South Carolina Honors Choir. In addition, students may choose to participate in extracurricular activities such as art club, chorus and extensive physical fitness programs (Walk to Run, swimming lessons, tennis, golf, Jump Rope for Heart and monthly fitness challenges). All students participate in a weekly computer laboratory lesson that focuses on keyboarding skills, internet safety and computer literacy skills. The media center supports all students through a blended schedule of class instruction and check out hours.

3. Academic Supports:

3a. Students performing below grade level

The needs of below grade level students are met through a tiered approach. Through tier 1 intervention, teachers remediate below grade level students through small group instruction and conferences within reading and writing workshops, as well as meeting with individuals and small groups in social studies, science, and math. Tier 2 consists of RTI (Response to Intervention) groups for struggling readers in kindergarten through third grade using Fountas & Pinnell’s Leveled Literacy Instruction kits. Tier 3 remediation takes place in the Special Education program and is detailed in section 3c.

Additional supports include:

Daily Morning Tutoring and a separate After School Tutoring program are available for targeted students in second through fifth grade, using HearBuilder and other individualized tools with a certified instructor. These students are identified based on formative assessment data and invited to attend these programs each morning or afternoon for 30 minutes.

"Reading with Rover" provides one-on-one interaction with first grade students as they build reading fluency and confidence. Students read to certified therapy dogs in a guided program. Participating students have gained two to three reading levels in a semester.

Innovate! is a unique after school and summer program for students in third grade and above. Innovate! meets twice a week during the academic year and for four weeks in the summer. It offers original instruction by certified teachers in math and ELA, as well as a variety of enrichment options, including art, music, or social skills. Innovate! also provides supervised homework tutoring, recess, a healthy supper, and a bus ride home at 6:00 pm. Innovate! was a finalist for the Dick & Tunkey Riley WhatWorksSC Award of Excellence. The program continues to support Innovate! students throughout their district education with middle school tutoring and a dedicated Innovate! Graduation Counselor. The oldest Innovate! students are in 11th grade.

3b. Students performing above grade level

Students performing above grade level are given opportunities to extend and enrich their learning inside and outside the classroom through projects that are part of all content areas and engineering. Book clubs are embedded into the master schedule for select accelerated students in grades 3-5 as an opportunity to participate in ELA instruction and discussion focused on advanced texts.

During ELA instruction, students participate in reading and writing workshop models that encourage student use of self-selected texts. Enabling students to work with texts they personally selected increases student engagement and their use of the reading strategies taught during the mini-lessons which enables higher achieving students to continue growth at their own pace.

Gifted and talented instruction occurs weekly for qualifying students as a part of the school's Challenge program. Additionally, the school offers a variety of free before and after school clubs such as FIRST LEGO League Robotics, Battle of the Books, and Morning News to further challenge and engage gifted students at an accelerated level. The school has an excellent reputation of performance at state and even international tournaments in the FIRST Lego League (FLL) robotics program. In competition against students up to age 15 (9th grade), A.J. Whittenberg FLL teams have qualified for State Championship or above for the past six years. A. J. Whittenberg Elementary begins robotics programs in first grade with FIRST Lego League Junior (FLL Jr.). The school has a total of 26 FIRST teams each year. These teams are open to all students. AJW also partners with real-world engineering companies to offer challenges for accelerated learners. Projects such as the development of Unity Park and ReWa's DIG Greenville wastewater tunnel allow high achieving students to apply the engineering process and their own creativity to active projects in their own community.

3c. Special education

Academic instruction for A.J. Whittenberg Elementary students with disabilities is intentional, strategic, and tailored to the needs of individual students, while maintaining a school culture of shared responsibility for student success. All adults in the building are invested in the academic growth of each child.

A master schedule was created for the 2019-2020 school year that enabled instructional staff to ensure more inclusive learning opportunities in the general education environment by scheduling resource support groups based on skill deficits rather than by grade level. In 2019, the percentage of students with disabilities meeting or exceeding expectations on the SC standardized tests increased by 10%.

Special education students are served through a variety of modalities, based on student need. A. J. Whittenberg Elementary has a full-time speech language pathologist and two special education teachers. The speech teacher serves students in both small groups and individually. Special education services include a continuum of services for students in math, reading, and writing, as well as pull-out instruction for students that require more intensive support. Progress monitoring for student understanding occurs every two weeks, providing teachers with the data necessary to adjust supports and appropriately challenge students throughout the year. This data, along with formative assessment, teacher observation, and family input guides the IEP process to ensure the least restrictive environment is provided for students with disabilities while simultaneously scaffolding their growth.

3d. ELLs, if a special program or intervention is offered

Based on the number of eligible students at A. J. Whittenberg Elementary, the school qualifies for an ESOL teacher one day per week. A. J. Whittenberg Elementary ESOL instruction is individualized to meet English Language Learners' (ELLs) English language development needs. In small group classes, the ESOL teacher works directly with students to advance English language development by building students' academic language and understanding of content standards. ELLs develop English language proficiency primarily through reading and writing tasks and academic conversations. Lessons and learning engagements always consist of instruction and practice in the four domains of language acquisition – listening, speaking, reading, and writing. Students are provided visual representations, differentiated texts, and scaffolds to support their access to grade level curriculum. These techniques include supported and/or interactive journaling, simplified/leveled texts based upon English Proficiency level, frequent collaborative discussions, “wait time” to give students enough time to successfully engage in and complete academic tasks, frequent checks for understanding, and re-teaching any unmastered content.

The ESOL teacher also collaborates with and supports classroom/subject area teachers by providing leveled language support to make the instructional match for ELLs and build academic language and cross-content literacy. The ESOL teacher collaborates with school staff so that explicit opportunities for English language development and language learning are supported throughout the day in multiple contexts.

3e. Other populations (e.g., migrant), if a special program or intervention is offered

PART V – SCHOOL CLIMATE AND CULTURE

1. Engaging Students:

Engaging Students: The state-of-the-art, three-story facility is specifically designed to facilitate collaborative learning and the engineering curriculum. The facility includes three STEM labs, visible from both the interior and exterior of the building via glass walls, Wi-Fi throughout the school, SMART tables, green roof, solar panels, student-designed playgrounds, a computer lab, and an outdoor classroom with an extensive fruit, flower, and vegetable garden. Housed within this state-of-the-art facility is a one-to-one technology initiative in grades 2-5. Flat screen projectors are mounted in hallways in lieu of bulletin boards for grades 2-5 to showcase the digital work that students are producing. Teachers upload student work to the hallway screens to demonstrate student process or mastery.

A. J. Whittenberg Elementary School of Engineering utilizes a house system, which is an exciting way to create a positive climate and inclusive culture for students and staff. This system helps the school implement processes that build character, relationships, and school spirit. Each student is individually sorted into one of five houses (Academia, Altruism, Excellence, Integrity, and Perseverance) upon their entrance to A. J. Whittenberg Elementary as a kindergarten student or as a new enrollee. Students will remain in their same house throughout their life as an A. J. Engineer. Each house is led by a member of the leadership team who develops deep, long-term relationships with students in their house. In addition, since staff are also sorted into houses, students are able to develop mentoring relationships with teachers and students outside of the assigned homeroom. “House points” are awarded when students exceed expectations and “house rallies” are held to build community and offer informal mentoring opportunities. All students wear a lanyard and ID badge in their house color so that fellow housemates are easily recognizable when moving through the building. An overwhelming 98% of surveyed parents, students, and staff report a safe and engaging school community.

2. Engaging Families and Community:

The School Improvement Council (SIC) consists of parents, administrators, teachers, and business partners who work together to ensure the highest quality learning environment is provided. The SIC works to find solutions for varying challenges, such as: uniforms for children in poverty, traffic/safety concerns, mentors, and identifying supplemental instruction opportunities for low-achieving students for weekends or after school.

The PTA Board is a group of individuals elected from the PTA general membership. This group works closely with SIC and the leadership team to support the mission of the faculty in providing a quality learning environment for the students. There is an active and supportive PTA and SIC that has created numerous opportunities for parent and community participation. One such opportunity that the PTA has established is the “Watch D.O.G.S. (Dads of Great Students)” program. It has provided a presence of “dads” on campus each morning which gives many opportunities for mentoring, teacher support, and an additional safety measure at school due to their high-visibility at school arrival and dismissal.

The school’s unique engineering focus offers a natural springboard for deep relationships with engineering-focused companies in the region as well as institutions of higher learning. Many of the special programs at A. J. Whittenberg Elementary are funded by business partners who also serve as adjunct instructors and mentors. Additionally, an excellent relationship with the PEER & WISE program at Clemson University offers multiple on-campus experiences for female and diverse students to encourage STEM-focused careers. A partnership with Furman University has allowed us to leapfrog our performance in math by unifying on-site university instruction for student teachers with bi-weekly interaction with classes at A.J. Whittenberg Elementary.

As often as A. J. Whittenberg Elementary embeds real-world professionals into the school culture, we also strive to take the school into the community. A. J. Whittenberg works with a different business partner each year to engineer a float in the city’s Christmas parade, with award-winning results. The school also hosts the

“learn stage” at the iMagine Upstate STEM festival each spring. Finally, the school hosts two regional robotics events each year, welcoming more than 500 people from across the Upstate.

3. Creating Professional Culture:

A. J. Whittenberg Elementary School of Engineering has a culture of continuous learning with the expectation that all students and staff work towards excellence and improvement. In order to improve their craft, teachers sign up for coaching cycles with the Literacy Specialist and Instructional Coach to support them in implementing workshop structures, goals, and conferencing. Coaching cycles are individualized to meet teacher needs and may include a combination of observation, model lesson, team-teaching, lesson planning, and student work analysis. Coaching cycles are not evaluative, and are not meant for “struggling” teachers. They are for all teachers who want to try something new, get help with content that students are struggling with, or want to collaborate with the coach.

Data Teams meet within each grade level. These teams, made up of teachers within each grade level, serve to constantly monitor and support student achievement through analysis of assessments and utilization of outstanding instructional practices.

Faculty Council is a team made up of grade level chairs, department chairs, support staff chairs and the leadership team, who work collaboratively to remedy issues that arise school-wide. This team’s efforts include: preserving a safe school environment, delivering the highest level of instructional rigor, implementing best practices, and maintaining a culture of engaged learning.

Staff are sorted into houses and create vertical teams by assignment (each house holds staff members of each grade level, related arts and support staff).

2019 survey results indicate that 96% of certified teachers are satisfied with the working environment and feel supported by the administrative team.

4. School Leadership:

A.J. Whittenberg Elementary’s success comes from a shared leadership philosophy that embraces the strengths and specific skill sets of each staff member. This is especially true of the school leadership team, which consists of the principal, administrative assistant, program director, instructional coach, and school counselor. This team works together to make school-wide decisions for the benefit of all students and the school community pertaining to academics, social-emotional health, student safety, building operations, programming, partnerships and school culture.

To ensure that all decisions are student-centered and aligned with annually identified school goals and the established mission of the school, the leadership team meets prior to each school year to analyze/develop the long and short range plans for the upcoming year. Utilizing academic achievement and student data, needs assessments are completed to determine the professional development plan and timeline, academic achievement performance and growth areas, partnership interactions to support student learning, resource allocations to support student learning and all available survey data to better support the school community. Throughout each week the school leadership team revisits the progress towards the needs assessments to ensure strategic alignment to the identified goals.

The principal oversees all operations of the school with support and collaboration with the assistant principal. Together, they ensure that all state laws, district policies and school protocols are adhered to, ensuring an exceptional learning and teaching environment for all.

The instructional coach, principal and assistant principal work together to offer professional development through the year that is aligned with student needs, based on available data. The instructional coach’s primary role is to analyze school data, participate in coaching cycles and visit classrooms to offer guidance, support and model the highest quality instruction. To support this work, the principal and assistant principal conduct strategic and frequent classroom observations to ensure state standards are taught effectively and

that best practices are implemented. Often the three collaborate to ensure that the classroom visit feedback is consistent and aligned with instructional protocols.

The program director manages relationships between the school and its business partners and directs many of the school's special programs. The program director works collaboratively with the instructional coach and grade level teachers to enhance the classroom curriculum with professional engineers, other experts and real-world project opportunities. For example, 2nd and 4th grades use the ReWa DIG Greenville project to enhance their studies of communities and civil engineering.

The school counselor supports all components of mental health awareness, anti-bullying programming, problems solving education and restorative justice practices in collaboration with the administrative team to support students to ensure academic success and emotional health.

PART VI - STRATEGY FOR ACADEMIC SUCCESS

A. J. Whittenberg Elementary School of Engineering's administration, faculty, and students have continued to strive for excellence in all areas since the inception of the school. Continued academic success is dependent on the student-centered culture A.J. Whittenberg Elementary has strategically and intentionally cultivated. The student-centered focus positively impacts all facets of A.J Whittenberg Elementary's educational environment and processes. Simply put: the needs of the child dictate everything.

Within the student-centered culture at A.J. Whittenberg Elementary, the transformation of teacher-driven instruction to student led learning is ongoing and continuously evolving. This pedagogical approach enables students to develop independent problem-solving methods that benefit them as lifelong learners. Simultaneously, as teachers analyze individual student needs, assessment data and student goals, personalized learning plans are formulated with student collaboration and input. These plans facilitate student mastery of content and improve the academic trajectory and emotional health of each child.

The student-centered culture of A.J. Whittenberg Elementary fosters a culture of data-driven planning, reflective instructional delivery and intentionality of instruction. Teachers willingly participate in professional learning community opportunities and have developed a commitment to implementing best practices to maximize the potential of each individual student. The abilities, interests and varied learning styles of students are accentuated to meet the needs of all learners.

At A. J. Whittenberg Elementary, students are provided with clear behavioral expectations through the use of the Essential 18 code of conduct. These explicit expectations have engendered students to develop norms that embrace the school's student centered focus: children are open to and receptive of the needs of others. They have learned to effectively communicate their personal learning styles. They have also learned to respond to the needs of their peers without judgment as everyone has differing needs at different times.

The student-centered culture of A.J Whittenberg Elementary positively impacts the school community in many non-academic capacities. Specifically, restorative justice discipline practices, deep mentoring interactions, strong peer relationships and social/emotional awareness have strengthened as a result of this philosophical mindset. Consequently, A.J. Whittenberg Elementary has progressed into a school that fosters the importance of each unique individual while concurrently blending students and staff into a cohesive school community unified by common norms and the pursuit of excellence.