

Restructuring Education in Conyers, Georgia

In Focus

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In the fall of 1991, Salem High School in Conyers, Georgia opened its doors for the first time. It opened with ninth grade and will add the remaining grades in upcoming years. Salem is a pilot school with its focus on restructuring education. It is a member of the Coalition of Essential Schools [Coalition], a project based at Brown University and cosponsored by the National Association of Secondary School Principals and by the National Association of Independent Schools. The educational philosophy promoted by the Coalition serves as a general philosophy for Salem. Basic to the philosophy of the Coalition is that students need to learn to think for themselves rather than simply memorizing material and reproducing it on tests (Sizer, 1986). The Coalition urges teachers to act as mentors or coaches to students and guide them in self-discovery. Coalition schools operate under the premise that some of the traditional things taught in our schools are out of date and a greater focus should be placed on what is essential in today's society. Those essentials include things that best enable all students to observe sensitively, become informed, think clearly and with imagination, and express themselves precisely and persuasively (Sizer, 1986). Companies across America are asking schools to graduate young adults who can think for themselves and work with others in order to perform the daily tasks of solving problems. This is what we aim to do at Salem High School.

The structure of the school environment

At Salem, the concept of middle school "teams" was moved into the high school level. Every ninth grader was placed on a team of four teachers, one for each academic area: mathematics, science, social studies, and English. During each school day, the team had four and a half hours of academic time to spend as they saw fit. The team that I was a part of usually followed a college type schedule where students attended two of their classes for two hours each on Mondays and Wednesdays, the other two classes on Tuesdays and Thursdays, and all four classes on Fridays. Following the four and a half hour academic block, the students proceeded to lunch, a study hall, and then to their elective courses for the remainder of the day.

While the students were in their elective courses, the team teachers had two hours for planning. Three times a week we met with our team to plan integrated units, discuss particular problems with students, and decide on the material to be taught. The other two days of the week we met with our departments to see what other teachers in our subject areas were doing in their classrooms. Very seldom did we get any individual planning time; however, it was worth giving up individual planning time in order to plan with other teachers and gain ideas from them.

The team structure and the two-hour class periods had several advantages. Since the team teachers planned together, we were able to rearrange our academic time as was necessary. For example, if the students were conducting a science experiment that would take longer than two hours, the teachers had the flexibility to change the schedule. Planning together also helped the teachers see more ways of integrating the subject areas. For example, from working with the science teacher, I was able to bring more science applications into my classroom. As a mathematics teacher, I thought that the two-hour class periods were invaluable. There was enough time to go more in-depth during one class period than is typically possible. Typically, some class time was spent discussing the homework, discussing new material, reading, sharing students' presentations of material, and conducting hands-on activities involving manipulatives such as computers, graphic calculators, and algebra tiles. All of this could not have been done in a one-hour period.

At Salem, the team concept will be used in the ninth and tenth grades during which the students will study Algebra I and Geometry. At the beginning of the eleventh grade, however, the students will move out of their teams and be given the opportunity to select the mathematics courses that are of interest to them. For example, some students may wish to take Applied Mathematics because they know they are going to go into some type of vocational work when they graduate, while other students may wish to take Algebra II, Trigonometry, and Calculus because they will need these mathematics courses in college. At this point, the classes will be more homogeneous as in traditional high schools; however, it will be a result of the students' choices, rather than choices made by teachers and administrators. Given this structure, all students have an opportunity to reach their mathematical potential without being tracked or labeled as basic, average, or advanced learners.

Meeting Challenges

The greatest challenge at Salem last year was the use of heterogeneous groupings in the academic courses. This was challenging for all involved, especially the teachers; but it was very beneficial. All ninth grade students with the exception of 13 students who had taken Algebra Ia in the eighth

grade were placed into heterogeneous groups of Algebra Ia regardless of their mathematical background. This forced me to turn my classroom into a student-centered room. For example, while studying probability, my students worked in mathematics labs exploring situations involving probability rather than simply memorizing algorithms. The students were also urged to learn from each other as much as possible. I had to find activities that challenged all students while at the same time not completely losing the slower learners. This was, and still is, quite a challenge.

Besides the use of appropriate classroom activities that accommodated the diversity of heterogeneous classrooms, various programs were established to meet the needs of all of the students. Mainstreaming all of the special education students into the regular classrooms was a challenge that was undertaken at Salem. In order to meet the needs of these students, the special education teacher floated in and out of the classrooms acting as a mentor along with the regular classroom teachers. The wonderful thing about this was that she not only helped those special education students who were mainstreamed, but she also helped other students who were having difficulty. This type of support would have been very difficult in a traditional setting where the teacher is in front of the room lecturing for most of the class period. Meeting the needs of the brightest students was also a challenge. By providing all of the students with an opportunity to pursue a special project under faculty guidance, the bright students were able to excel and enrich their knowledge in areas of interest to them.

The challenge of assessing students' learning was magnified at Salem due to the heterogeneous classrooms. At Salem, the faculty and administration recognize that students learn in different ways; therefore, they need the opportunity to demonstrate their knowledge in different ways. Last year in the mathematics classrooms, students gave presentations, made videotapes for the whole class to enjoy, performed experiments, gave a computer-simulated example of a problem, and of course, took traditional tests. They were continually asked to give oral and written explanations of mathematical ideas. Technology was used quite often, and students were asked to solve mathematical problems by writing computer programs or using software programs to further investigate the mathematics.

At Salem, we realize that not everyone will master material at the same pace, especially in heterogeneous classrooms. We are avid believers in mastery learning and allow students to retake exams, redo experiments, reorganize and perform oral presentations, and perfect their computer programs as many times as needed in order to gain minimum competencies. At the end of the semester, the faculty used what we called the "J-curve" to provide students who tried but may not have acquired the minimum competencies with a little more time and assistance to help them meet the

required competencies. Rather than being given a failing grade, students were given an opportunity to negotiate contracts with teachers to complete special projects that would earn them a passing grade of "D."

At the end of the academic year, the mathematics teachers assigned the students credit for either ninth grade mathematics or Algebra I, depending on the competencies demonstrated. Given that the students were not in heterogeneous classrooms prior to the ninth grade, it would be unrealistic to think that every child would finish the ninth grade with a full understanding of Algebra I. As the students progressed throughout the year, their work was assessed in terms of the Algebra I and General Mathematics competencies met. For example, on each test as well as on the final exam the students were expected to complete basic mathematics sections. This provided some of the documentation needed to show that although these students did not complete all of the competencies in Algebra I, they deserved ninth grade credit in mathematics. Although some of the students did not receive Algebra I credit, they were all given an opportunity to participate in a classroom where high level mathematics discussions and investigations were taking place.

Concluding remarks

For so long our education system has tended to be beneficial only to the small percentage of academically able students. At Salem, we are not only making a difference for that population of students, but for all students. The students feel confident about themselves, they are learning how to work with all types of people, and they are learning how to work cooperatively to solve problems. We believe that if we cannot apply something to the real world, then it probably is not too important, and we do not teach it. Instead, we spend our time investigating real-life mathematics and seeing how mathematics relates to all areas of our lives. We give the students the responsibility to learn things on their own. Basically, we are a group of educators who are willing to try new ideas in order to better the education we are giving our students.

Reference

Sizer, T. R. (1986). *Rebuilding: First steps by the Coalition of Essential Schools. Phi Delta Kappan*, 68, 38-42.