

WHAT EVER HAPPENED TO...

NOVA HIGH SCHOOL?

by Richard R. Doremus

There is some disagreement over who first had the idea of Nova — the chairman of the county board of public instruction or a prominent local family — but Nova High School in Ft. Lauderdale, Florida, quickly became known as a “space age high school” and was one of the most widely hailed educational innovations of the 1960s. From 1964 to 1972 some 20 articles in 14 different journals covered nearly every aspect of the Nova experiment.

Nova High was to be one of six schools on a 545-acre government-surplus airfield that would “in a few years . . . [enable] a student to enter kindergarten there and not emerge until he has his Ph.D. in a branch of space science.”¹ The first building to open was the high school, and it received the most publicity. One writer dubbed it “a monumental, breathtaking milestone in education,”² and “one of the boldest experiments in education manifested by a public school system.”³ The school received the April 1964 School of the Month Award given by *Nation's Schools*, even though it had just opened the previous September.

What made this innovation “unparalleled in education history”?⁴ Nova was an attempt to incorporate in one high school many of the innovations then in vogue. These included a 220-day trimester schedule, five 70-minute periods a day, an ungraded program (a pupil could complete grades 10 through 12 in two and one-third years), frequent regrouping of students, closed-circuit television, an overhead projector and projection screen at each teaching station, replacement of the traditional library by two decentralized and sound-conditioned resource centers, two trapezoid-shaped teaching auditoriums instead of the traditional assembly auditorium, triangle-shaped middle rooms with tiered seating, a specially equipped electronics center, no free transportation for pupils, no social activities sponsored by the school, a weather station, access to the district's data processing center, year-round air conditioning, carpeted floors, elimination of the traditional cafeteria, and offices,

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aides, and clerical help for teachers.

The school also had team teaching, large-group/small-group instruction, a dial-access retrieval system, and campus-style buildings. The resource center was located in the center of each building and was open on all sides; conference rooms, classrooms (called middle rooms), and large-group instruction areas were grouped around the resource center. Graduation requirements included four years of English, mathematics, science, foreign language, social science, physical education, an elective subject, and a technical science. Elective subjects were apparently to be taken during an optional period offered early each morning. Unlike other high schools whose student bodies were determined by the geographic areas in which the pupils lived, Nova was open to pupils from the entire county on a first-come, first-served basis, provided they furnished their own transportation.

The science program was to be developed sequentially, grades 1 through 12, with “major emphasis . . . placed on the development of principles in the lower years, processes in the middle years, and practices at the upper end of the sequence.”⁵ In addition, as the science coordinator wrote, “We have no chemistry teachers, no physics teachers, and no biology teachers. All of our teachers are science teachers.”⁶

The music curriculum was to be planned “on a sequential basis according to individual abilities by means of programs for learning, and the teaming of teachers coupled with a flexible school plant will make possible an unusual freedom in music education.”⁷ Evaluation would occur on a “daily basis as musical problem solving takes place.”⁸

The laboratory approach to education was not to be limited to science and music, however: “Science laboratories, yes; but, in addition, Nova has laboratory areas in social studies, mathematics, English, foreign languages, physical education, and the fine and practical arts.”⁹ Teachers worked 11 months and received 20% extra pay for their time. They were often relieved of classroom assignments to work on curriculum materials. And, like other innovative high schools of the period, Nova was proud of the freedom its pupils were given. “One of the most notable achievements of the school is seen in the large numbers of

unsupervised student groups and individual students at work in all the buildings and common areas."¹⁰

By 1966 Nova's teachers had begun to develop Learning Activity Packages (LAPs). Most articles about the school after that time emphasized the LAP as a solution to the problem of how to individualize instruction in a high school. LAPs were developed for all subject areas and were to become the modus operandi for instruction at Nova. One writer estimated that "students will go through about 600 before graduation."¹¹ The student, "working independently, or at times in a small group . . . will do any combination of the following activities: read, view films, solve problems, attend a lecture, go on a field trip, write a research report, study transparencies, listen to audio tapes, perform experiments, etc."¹²

Apparently, not every innovation was an unqualified success. Two years after the 220-day school year was implemented (25 days longer than any other school in the U.S.), the principal felt compelled to explain why the school year had been reduced to 210 days.¹³ The five 70-minute periods were replaced by twelve 30-minute modules. Some of the visitors who beat a path to Nova's doors were unimpressed, prompting the science chairman to write, rather petulantly, "Some visitors . . . comment about Nova being confused and surrounded with gadgetry. Such visitors are unable to see the forest for the trees. They resemble the man who, upon seeing the Atlantic Ocean for the first time, said, 'I thought it would be bigger.' It is apparently impossible to predict the perception and preconcepts of an observer."¹⁴

From the day it opened until today, however, Nova has been popular with parents who want their children to get the best possible education. Nova High School (as well as the two elementary schools and one middle school in the same complex) has always had a waiting list of pupils desiring to enroll. Therein lay one of its problems. One of Nova's functions, never realized, was research and development. Nova High School was to implement and evaluate innovative practices that, if proven successful, would be adopted by the other high schools in Broward County. But Nova was different from the other high schools in that its students *chose* to attend. One of their main reasons for choosing the school was Nova's intensely academic curriculum. Practices that succeeded at Nova were not necessarily transferable to other schools. Resentment developed in other high schools because Nova skimmed much of the academic cream off of the student body;¹⁵ Nova's lavish facilities and extensive foundation support (which provided teacher aides and clerical help not available in other schools) provoked bad feelings as well.

Nine years have passed since the last articles on Nova appeared. A visitor to the Nova complex today will find that at least one of the founders' dreams has been realized. The site houses two elementary schools, a middle school, Nova High School, Broward County Community College, and Nova University. The first four are open-boundary schools, the only ones in the county. Pupils who wish to attend must file an application with the district office; selection is on a first-come, first-served basis. All the schools have waiting lists; one parent told me she mailed in her child's application for one of the elementary schools when the child was born so that she would be sure of admittance.

Some Broward County residents (and educators) complain that Nova is elitist, a private school in a public school setting. Nova students perform above the district average on academic tests. In its early days the school was able to send undesirable pupils back to their neighborhood schools; this is no longer done, but pupils are still permitted to withdraw if they are dissatisfied with Nova. Few do.

A visitor to Nova High School today sees a school different from that described in the articles of the Sixties and early Seventies. Many of the academic requirements have been altered or dropped. Pupils no longer need four years of foreign language and technical science to graduate. The articulated science program for grades 1-12 no longer exists, and high school science teachers are once again biology, chemistry, or physics teachers. The music program consists of one theory course together with instrumental and choral music. The school is no longer ungraded, and teachers follow the district curriculum, which causes most courses to be textbook oriented, even in science. A few teachers — but only a few — still use LAPs. Nova's school year is now 180 days long and is organized into two semesters. Nova's 1,900 regular and 150 bilingual pupils attend school for six 55-minute periods each day, which means that they spend fewer hours in school than the national average. The innovations of team teaching, large-group instruction, small-group discussions, and the test center have disappeared along with the teacher aides, clerical help, and the science curator. Large-group instruction areas have been divided into classrooms, and conference rooms have been expanded into classroom-size facilities. The two resource centers are about to be combined into a central library/media facility. Most of the audiovisual hardware that was the *pièce de résistance* of the school is gone or inoperable. The planners of the original school considered a cafeteria unnecessary, but Nova now has one. Pupils still appear to have a great deal of freedom of movement, but that is one of the few remaining elements of a school that at one time was described as "a national mecca for educators hoping to see the newest ideas in practice."¹⁶

A variety of factors conspired to change Nova from bellwether to standard American high school. From the beginning, Nova's leadership did a better job of selling the school outside the school district than of convincing the professional staff within the district of the merits of Nova. This failure included more than mere resentment over Nova's advantages. Because Nova did not fall under the jurisdiction of the district's division of instruction, leadership and direction devolved upon the school itself when Broward County changed superintendents, as it did several times. Rapid turnover of principals at Nova (six in 12 years) created a leadership void.¹⁷ Individual teachers and departments were left to their own resources. As the foundation money dried up and teachers lost their aides, clerical help, and funds for planning, they became resentful, refusing to spend the additional time needed for meetings and planning. In addition, one staff member told me, "We became self-satisfied. 'Why change?' became our attitude." Overcrowding in the school made it extremely difficult to schedule pupils into the type of team teaching favored by the faculty during the early years.

Today there is talk of phasing out Nova High, making it an area school rather than an open-boundary school. "What are you doing that's different?," the board of education has asked frequently as it pondered the cost of the 82 buses needed to transport Nova's student body. The

current principal, Ed Boyack, was a teacher at Nova during the school's first five years of operation. "It was an exciting place then," he said wistfully. "I'd like to see it that way again."

1. "Nova High School Sets a New Pace," *American School and University*, June 1966, p. 41.
2. "Trimester Plan Makes Nova Novel," *Nation's Schools*, April 1964, p. 84.
3. Ibid.
4. Bert Kaufman and Paul Bethune, "Nova High, Space Age School," *Phi Delta Kappan*, September 1964, p. 9.
5. Paul Bethune, "The Nova Plan for Individualized Learning," *Science Teacher*, November 1966, p. 56.
6. Paul Bethune, "Science in a Showcase," *Catholic School Journal*, December 1966, p. 9.
7. Jeannie D. Simko, "New Frontiers in Music Education," *Education*, November 1965, p. 183.
8. Ibid. The casual reader, unaware of Nova's schedule, might think that music education was a required subject, given a prominent place in the curriculum. However, the only time a pupil could elect music was during the op-

tional, early-morning period, not during the regular school day.

9. Arthur B. Wolfe, "Our Trimester Keeps Kids Going 210 Days," *Nation's Schools*, April 1967, p. 85.
10. Ibid.
11. Arthur B. Wolfe and James E. Smith, "At Nova, Education Comes in Small Packages," *Nation's Schools*, June 1968, p. 48.
12. John E. Arena, "An Instrument for Individualizing Instruction," *Educational Leadership*, May 1970, pp. 785, 786.
13. Dave Fitzpatrick, "Why Nova School Switched to Three 70-Day Trimesters," *Nation's Schools*, April 1966, p. 30.
14. Bethune, "Science in a Showcase," p. 28.
15. They were even skimming off some of the cream of the athletic crop. One of the citizens who had been responsible for the founding of Nova began recruiting top athletes for the school because he didn't want Nova to become a school for "sissies."
16. Kaufman and Bethune, p. 11.
17. Despite Nova's reputation and high-quality pupil population, the district has not been overwhelmed with applications when a vacancy has occurred in the principalship. (Like other large districts, Broward County makes most of its appointments to the high school principalship from within the district.) The reason for this, I was told, is that Nova's parents are much more active and aggressive than those found in other high schools in the county. □

What Teachers Can Do About Childhood Stress

by Louis A. Chandler

Teachers and parents should not try to shield children from stress, says Mr. Chandler; they should assist youngsters in developing coping mechanisms that will enable them to adjust to the realities of life.

Hans Selye, a leading researcher in the study of stress, has reminded us that stress is an inevitable part of life. This is as true for children as for adults. Teachers and parents should not try to shield children from stress; rather, their goal should be to help youngsters develop effective coping responses that signify healthy adjustment to the realities of life.

Children encounter a number of stressful situations in the normal course of growing up. The first day of school, for example, brings separation from the security of home and family and new demands from a world that expands, quite literally, overnight. There are new adults to please, new children to come to terms with, and a new environment to explore. Teachers and parents suddenly expect children to acquire knowledge, to master skills, to better control their emotions and

behavior, and to develop self-discipline. All children commonly face these and other stresses. Through their efforts to deal with such pressures, children can develop adequate coping responses and a sense of competence — or they can meet with recurring frustration that generates permanent feelings of inadequacy and insecurity.

Teachers and parents who seek to help children learn to cope with stress must first understand that adult perceptions of reality often differ from those of children. Moreover, adults are often guilty of attributing their own perceptions to the young. The communication problems that result can cause children to feel isolated, anxious, inadequate, or insecure.

Take, for example, the idea of authority. It is part of the American character to regard authority with healthy skepticism. Remember that revolution against established authority gave birth to the U.S.; in-

deed, it could be argued that skepticism of authority is essential in maintaining a democratic form of government.

Adults who see authority figures as politically motivated, venal, self-serving, or frequently misguided may applaud the development in children of similar skepticism toward authority. But children invest adult authority figures with a range of meanings that far exceeds the realities of their roles. To children, the adult is the person in charge who brings order out of chaos, corrects wrongs, balances injustices, and controls the forces that, left unchecked, might prove overwhelming. Children generally see adults in authority as protective and helping.

Teachers and parents should allow children to believe that adults are more or less in control of events. The children's own transitions to adulthood will quickly disabuse them of this notion. Meanwhile, they will avoid the stressful insecurity that springs from the alternative possibilities — that they themselves are in charge (as in

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