

**Carol M. White Physical Education Program**  
**Rush-Henrietta Central School District**  
*Changing the F.A.C.E. of Physical Education*  
Narrative

**The Need for *Changing the F.A.C.E. of Physical Education***

The rate of obesity is on the rise in the United States. In 1990, no state had an obesity incidence of 20% or higher, but by 2001 at least one in every five adults in 23 different states were considered obese. In 1970, approximately 4-5% of children ages 6-19 were considered overweight. By 2000, the percentage of overweight children jumped to 15% (National Center for Health Statistics).

The American Dietetic Association summed up what physicians and nutritionists have told patients and the community for years in its 2001 "Nutrition Fact Sheet" by stating that, "Consuming too many calories from food and beverages and using too few calories from inadequate physical activity leads to weight gain." According to Dr. Judith Young, Executive Director of the National Association for Sport and Physical Education (NASPE), "Physical inactivity is a National crisis." The Centers for Disease Control and Prevention's Youth Behavior Surveillance System reported that 36% of high school students do not participate in any form of vigorous exercise on a regular basis. Across the country, fewer than 30% of high school students attend daily physical education class.

The Monroe County Youth Risk Behavior Survey conducted in 2001 reported that only 24.9% of County students engaged in moderate physical activity for at least 30 minutes on five or more of the preceding seven days, less than the 26.7% reported for the United States student population. Only 53.9% engaged in strengthening exercises on three or more of the preceding seven days.

*Changing the F.A.C.E. of Physical Education* will target Rush-Henrietta students from two Middle Schools, the Ninth Grade Academy and the Senior High School, a total of 3,000 students living in the towns of Rush, Henrietta, Pittsford (not to be confused with Pittsford Central School District) and West Brighton.

Physical Education (PE) classes currently average 25 students per class. Students at the Rush-Henrietta High School are required to attend PE class 2 out of every 6 school days for 80 minutes periods at a time. Middle School students are required to attend PE for one hour every other day, exceeding New York State requirements. Yet, RHCS D students are not scoring better than the average on fitness assessments. The District links this discrepancy to a lack of fitness, strength and cardiovascular training equipment.

In the RHCS D fitness data compiled from the Fitnessgram Assessment, completed in the Middle Schools highlight specific areas for concern.

**Cardiovascular Endurance (1.5 mile run/walk test)**

<b>Grade</b>	<b>Female Average Scores</b>	<b>Female Healthy Fitness Zone</b>		<b>Male Average Scores</b>	<b>Male Healthy Fitness Zone</b>
<b>6</b>	12:58	Below 12:29		10:43	Below 9:40
<b>7</b>	13:20			10:26	
<b>8</b>	13:33			9:24	

The average male in grade eight did achieve the Healthy Fitness Zone, the only group among District 6<sup>th</sup> through 8<sup>th</sup> graders who achieved this healthy level of fitness for cardiovascular endurance. The average female times completing the 1.5-mile run increased through the Middle School, moving away from the Healthy Fitness Zone. These poor scores raised District concern regarding the cardiovascular health of students.

A similar fitness-level measuring test is administered in the high school. Both tests require a 1.5 mile run to assess the cardiovascular and aerobic fitness of each

student. The results of the test in the High School reported similar results to that at the Middle School level.

**Cardiovascular Endurance (1.5 mile run/walk test)**

<b>Grade</b>	<b>Female Average Scores</b>	<b>Assessment Category</b>		<b>Male Average Scores</b>	<b>Assessment Category</b>
<b>10</b>	16:05	Fair		14:54	Poor
<b>11</b>	15:29	Fair		13:58	Poor
<b>12</b>	14:36	Fair		14:27	Poor

One interesting result of the data at the High School level is that the female students performed better than the male students, achieving a higher level of fitness at all three grade levels. All student averages scored below what is considered the Healthy Fitness Zone of this assessment.

Other areas of fitness examined by the same fitness assessments at the High School level reported better results. The average High School student in grades 10-12 reached the "excellent" category for BMI assessment. However, other areas showed more areas for improvement:

**Sit-ups**

<b>Grade</b>	<b>Female Average Scores</b>	<b>Assessment Category</b>		<b>Male Average Scores</b>	<b>Assessment Category</b>
<b>10</b>	32.7	Poor		37.4	Fair
<b>11</b>	33.9	Poor		38.2	Fair
<b>12</b>	35.4	Poor		36.5	Fair

**Push-ups**

<b>Grade</b>	<b>Female Average Scores</b>	<b>Assessment Category</b>		<b>Male Average Scores</b>	<b>Assessment Category</b>
<b>10</b>	28.7	Poor		31.6	Fair
<b>11</b>	29.5	Poor		34.5	Poor
<b>12</b>	28.6	Poor		33.1	Fair

These assessment results emphasize the need for cardiovascular fitness improvement as well as strength training improvement to achieve a healthy level of fitness for all students.

At RHCSD relatively few students currently participate in after school programs. Students at the Middle and High School levels do have the opportunity to participate in interscholastic sports and very limited intramural sports, but these activities serve the needs of only a fraction of the student population throughout an entire school year. The Developmental Assets Profile compiled by the Search Institute for RHCSD in March 2000 reported that an average of 46% of males and 42% of females at the Middle and High School levels are alone at home for two or more hours per day. 35% of males and 26% of females from this same student sample reported that they watch television or videos for three or more hours per school day. This inactivity during hours while a child is home alone raises concern for the child's health and well-being. RHCSD will work to attract students to after school activities during these hours which encourage a greater amount of healthy activities and a lesser amount of time spent inactive and alone.

The Federal government published a document in 1998 titled, *The Potential of After-School Programs*. The publication summarized recent research showing how school-age children and teens who are unsupervised during after school hours are far more likely to use alcohol, drugs and tobacco, engage in criminal and other high-risk behaviors, achieve poor grades, and drop out of school than those who have had the opportunity to benefit from constructive activities supervised by responsible adults. In a 1994 Harris poll, over one-half of teachers singled out children who are left on their own after school "as a primary explanation for students' difficulties in class."

Other startling statistics published by the Federal government demonstrate the need for after school activities, including:

- About 29% of all juvenile offenses occur on school days between the hours of 2:00 p.m. and 8:00 p.m.
- From 3:00 p.m. to 4:00 p.m. the rate of violent crime among school age youth is the highest.
- Children are at a much greater risk of being a victim of a violent crime (murder, violent sex offense, robbery and assault) during the hours after school.

Presently, RHCS D's physical education and after school fitness activity options fall short of addressing these urgent needs of children and teens. Specific gaps in the current physical education program include:

- Inadequate fitness equipment at the Senior High School, minimal and outdated equipment at Roth Middle School and no fitness equipment at Burger Middle School or the Ninth Grade Academy.
- Insufficient funding for physical education equipment and supplies. For example, Burger Middle School receives a total allocation of \$400 to purchase or upgrade supplies and/or equipment. This is equivalent to less than \$1.00 per student for an entire school year. The District budget for PE, including all athletics, is approximately \$20,000 per year, which must cover all physical education equipment, and District athletic equipment needs. It is impossible to meet the equipment needs of all ten instructional buildings. (There are 88 interscholastic athletic teams in the District.)

- There is a shortage of appropriate and consistent assessment tools. District physical education staff has asked for a district-wide purchase of Fitnessgram software, as well as any hardware necessary to utilize this assessment program.
- Insufficient funding for physical education staff development. Each building receives annual budgets for staff development, which must be divided by a large staff. A minimal amount of funding has been available, making it impossible for teachers to become Cooper Institute Certified (approximately \$500 per teacher).
- A lack of appropriate, healthy after school activities for non-athletes. No after school intramural program exists at any of the four secondary schools.
- Low fitness scores
- Low New York State Academic scores.

### **The Significance of *Changing the F.A.C.E. of Physical Education***

The California State Superintendent of Public Instruction, Delaine Eastin, stated in response to a statewide study, which linked academic achievement to fitness,

"This statewide study provides compelling evidence that the physical well-being of students has a direct impact on their ability to achieve academically. We now have the proof that we have been looking for: students achieve best when they are physically fit. Thousands of years ago, the Greeks understood the importance of improving spirit, mind and body. The research presented here validates their philosophic approach with scientific validation."

The Rush-Henrietta School District, through *Changing the F.A.C.E. of Physical Education*, will replicate the study conducted by the California Department of Education, improving student fitness and giving students the tools they need to become better

students. Instilling the importance of fitness and teaching the benefits of achieving total well-being at a young age will help students achieve and maintain fitness for a lifetime.

This project will improve student fitness and wellness levels while answering the following questions:

- Is there a relationship between academic achievement and fitness?
- Is higher academic achievement associated with higher levels of fitness at each of the grade levels measured?
- Do students who meet minimum fitness levels in three or more physical fitness areas show the greatest gains in academic achievement?
- Does gender influence higher achievement, particularly at higher fitness levels?

Over the past year, the RHCS D has rewritten the K-12 Physical Education curriculum, aligning with New York State Physical Education Learning Standards and National Content Standards in Physical Education and changing the approach to physical education. The new PE program is a comprehensive K-12 program that works to relate the connection between classes and after school programs including intramurals and other programs offered by community-based organizations. In doing so, many non-traditional activities have been integrated including hiking, walking, orienteering, outdoor living skills, outdoor education and bowling. Although these activities encourage lifetime fitness, since they are easily continued beyond high school years, they are not easily continued within the traditional school day throughout the school year. The weather in Western New York can limit access to the outdoors for much of the school year, and confined students to indoor facilities from November 2002 through most of March 2003, this past winter. Alternative fitness facilities in-house, which will also encourage

lifelong fitness, are required. The District will expand on the existing fitness center by replacing old and outdated equipment with updated, state-of-the-art equipment through this grant.

Specifically, this program will work to address the following New York State Physical Education Standards:

Standard 1: Students will have the necessary knowledge and skills to establish and maintain physical fitness, participate in physical activity and maintain personal health. This will be a focus of this project and will be accomplished by aligning PE curriculum with Health curriculum and by addressing health and wellness issues in specific PE units. RHCS D has been in a process of curriculum rewrite and has utilized the collaboration of health and PE teachers, with reference to proven fitness strategies, to develop four PE Fitness Manuals. These Manuals were designed as a tool for students in grades 10-12 to make a connection between assessment results and fitness plans as well as teach students different fitness and wellness topics. Students are asked to look at their individual strengths and weaknesses, as identified by fitness assessments, and prescribe their own fitness plan utilizing the fitness and wellness topics available in the Manuals. The Manuals will provide teachers and students with a resource to gain the necessary knowledge and skills to establish and maintain physical fitness, participate in physical activity and maintain personal health.

Standard 2: Students will acquire the knowledge and ability necessary to create and maintain a safe and healthy environment. This will be accomplished by teaching the importance of utilizing equipment properly and in a safe manner as well as the importance of the links between physical activity and other areas of life, including academic achievement. One example of how safety will be incorporated into this program will be through teaching First Aid and Safety appropriate for lesson topics. When participating in a Cross Country Skiing unit, students will be taught about different cold weather conditions, the effects of those conditions on their body (i.e. hypothermia) and their body's performance as well as safety in cold conditions.

Standard 3: Students will understand and be able to better manage their own personal and community resources. This will be accomplished by making students aware of options for lifetime fitness and wellness and the resources they can access in their everyday lives and in the community, as well as in the school environment, to achieve and maintain a healthy level of fitness. RHCS D High School PE classes currently have access to community resources through off-campus activities offered throughout the school year. The District sponsors the transportation of PE classes in grades 10 through 12 to participate in bowling, fishing and canoeing as well as many other lifelong activities. Busing these students to and from activities within the 80 minute PE period amounted to a total District expense of over \$10,000. Students have visited the Tinker Nature Center

where they have rented snowshoes and experienced the positive effects of fitness in the outdoors while accessing a close, community resource. Off-campus activities were offered to each grade level 45 days of the school year last year. This practice will be continued and expanded through *Changing the F.A.C.E. of Physical Education*.

*Changing the F.A.C.E. of Physical Education* aligns with the Rush-Henrietta Central School District Strategic Plan in that it will:

- Nurture high student achievement and performance
- Involve mental, physical and social aspects of learning
- Utilize data analysis to improve student achievement

The District currently participates in several other projects that focus on the total wellness of students. The Primary Mental Health Project, coordinated by the Children's Institute, is implemented in the elementary schools. This Project links mental and emotional health to academic health. *Changing the F.A.C.E. of Physical Education* will take this notion a step further linking physical health to academic achievement. The District also works to develop wellness through the Asset Initiative and through Promoting Alternative Thinking Strategies (PATH), character and behavior programs which encourage students to be responsible for their own character development.

Today 75% of the District's student population is not involved in any interscholastic athletics. *Changing the F.A.C.E. of Physical Education* will expand the very small intramural program, including only volleyball and basketball, offered to grades 7-12 in an effort to reach some of these students. Offering an after school program will help curb many of the problems of violence facing RHCS students.

The expanded after school and intramural program will offer a Fitness Activities Program in Year one, utilizing the new fitness equipment, teaching students the proper and safe use of the equipment and teaching wellness concepts. Year 2 of *Changing the F.A.C.E. of Physical Education* and will add an Outdoor Activities Program which will include cross-country skiing. Through this after school intramural program a greater number of students will benefit from increased regular physical activity, thereby achieving and maintaining physical fitness.

*Changing the F.A.C.E. of Physical Education* will integrate the Fitnessgram assessment in all grades, K-12. This tool is only currently utilized in grades 6-8. Although other fitness assessment tools are utilized in kindergarten through grade 5 and at the High School level, integrating the same assessment tool through all grade levels will provide a consistent unit of measure between fitness levels at all grade and academic levels.

### **The Quality of *Changing the F.A.C.E. of Physical Education's* Design**

The measurable goals and objectives of *Changing the F.A.C.E. of Physical Education* include:

Objective 1. Integrating state-of-the-art equipment into PE to increase the level of fitness achieved by RHCS D students.

#### **Project Year 1:**

- Goal 1: Administering the Fitnessgram at all grade levels, kindergarten through grade 12 and achieving improvements in fitness levels.
- Goal 2: 75% of students reach the Healthy Fitness Zone on three or more

test items.

**Project Year 2:**

- Goal 1: 50% of students reach the Healthy Fitness Zone in the mile run and pacer tests, achieving healthy levels of cardiovascular fitness.
- Goal 2: 80% of students reach Healthy Fitness Zone levels in three or more test items.

**Project Year 3:**

- Goal 1: 60% of students reach the Healthy Fitness Zone in the mile run and pacer tests, achieving healthy levels of cardiovascular fitness.
- Goal 2: 85% of students reach Healthy Fitness Zone levels in three or more test items..

Objective 2: Increase the professional development program for District-wide PE teachers.

- Goal 1: Participation in training workshops for all new equipment pieces.
- Goal 2: 100% certification by the Cooper Institute

Objective 3: Increase the academic achievement levels of students as measured in the Grade 8 ELA, Grade 8 Math, Math A (grades 9 or 10) and Grade 11 ELA New York State Assessments through increased levels of fitness.

- Goal 1: 95% of RHCS D students achieve a 65% or greater on New York State Assessments.
- Goal 2: 30% of RHCS D students score 85% or better on New York State Assessments.

The activities of *Changing the F.A.C.E. of Physical Education* will focus on improving fitness achievement. The outcomes of achieving higher levels of fitness will include increased academic achievement among more physically fit students.

Numerous studies have shown that adding activities to academic curricula does not lower grades or lessen achievement; in fact, in most cases this improves grades and levels of academic learning. (Shepard, R. Pediatric Exercise Science. 1999. AND, Sallis, J. and McKenzie, T., et al. Research Quarterly. 1994.) Children ages 6-12 who received 40 minutes to five hours of activity per week actually showed significant positive difference in academic performance. (Shepard and Lavelle, "Academic Skills and Required Physical Education". 1994.)

In addition to performance surveys and assessments conducted to determine the link between physical activity and academic performance, clinical studies have shown that enhanced reading, language and motor performance resulted in increased blood flow to the brain, increased arousal and attentiveness. (Shepard, "Curricular Physical Activity and Academic Performance". Pediatric Exercise Science. 1997)

*Changing the F.A.C.E. of Physical Education* will work, through the integration of new activities in PE, to prove the findings of the study conducted in 2002 by the California Department of Education which demonstrated a distinct relationship between academic achievement and physical fitness. In this study, reading and math scores were matched with fitness scores (gathered by the Fitnessgram) of 353,000 fifth graders, 322,000 seventh graders and 279,000 ninth graders. Key findings of the study showed:

- Higher achievement was associated with higher levels of fitness at each of the three grade levels measured.

- The relationship between academic achievement and fitness was greater in math than in reading, particularly at higher fitness levels.
- Students who met the minimum fitness levels in three or more physical fitness areas showed the greatest gains in academic achievement at all three grade levels.
- Females demonstrated higher achievement than males, particularly at higher fitness levels.

The Fitnessgram, the physical fitness assessment tool that will be utilized by RHCS D through *Changing the F.A.C.E. of Physical Education*, was developed by The Cooper Institute in 1982. It is a computerized, health-related fitness assessment for children and youth. The program assesses six major health-related areas of physical fitness including:

1. Aerobic capacity (cardiovascular endurance)
2. Body composition (percentage of body fat)
3. Abdominal strength and endurance
4. Trunk strength and flexibility
5. Upper body strength and endurance
6. Overall flexibility

The Cooper Institute also provides one of the most well known and widely respected certification programs for fitness professionals, health professionals and Health and PE teachers. The program utilizes a one-of-a-kind teaching and training method, which is learner-oriented, based on student understanding and comprehension of health and fitness concepts at appropriate age and grade levels. To achieve certification teachers

must attend lectures, achieve passing scores on written, verbal and practical exams and pass the current CPR certification. All certifications must be renewed every three years to maintain the most current health, wellness and fitness practices and information. Through this grant, all PE staff will become Cooper Certified in this project's effort to improve student health and fitness.

### **The Quality of *Changing the F.A.C.E. of Physical Education's* Evaluation Plan**

The physical education staff at the RHCSD's two Middle Schools, Ninth Grade Academy and Senior High School will evaluate *Changing the F.A.C.E. of Physical Education* by:

- Conducting bi-yearly fitness assessments through the Fitnessgram.
- Conducting yearly skill assessments included in the PE curriculum.
- Collaborating with the RHCSD's athletic program and community-based programs to conduct an ongoing longitudinal study (action research) focused on the progress of all students, grades K-12 in the following areas:
  1. Participation in physical activities including PE and after school activities.
  2. The relationship between increased physical activity and academic achievement, self-esteem and total health and wellness.

Additionally, the District will continue to assess utilizing the Fitnessgram, which assesses the following six major health-related areas of physical fitness. This assessment will be conducted in kindergarten through grade 12 two times per year.

Unique to *Changing the F.A.C.E. of Physical Education* will be the assessment of the results of the Fitnessgram and State assessments in a comparative and complementary

setting. The Project Coordinator will oversee the evaluation of data gathered from both the physical fitness assessment and the New York State Academic Assessments. PE teachers and other staff members will work together to compile this assessment. Data will be charted to reveal the improvements in academic achievement and the links with fitness level improvements. This data will be compared with the findings of the study conducted by the California Department of Education to determine the consistent findings.

The Project Coordinator will also conduct formal observations of teacher use of fitness equipment as well as monitor progress of teacher integration of technology.

Reports will be generated by the Fitnessgram and sent home to parents on individual student fitness status, progress and comparison to peers. The current PE program sends quarterly reports home to parents and the response is positive. The reports generated by the Fitnessgram will provide more information and will encourage parents to assess the correlation between involvement in fitness activities and the health and wellness of their individual child. These reports will aid in educating parents about the importance of a healthy lifestyle by correlating fitness and wellness to other aspects of life.

A survey, designed by the Project Coordinator in collaboration with the Director of Health and Physical Education, will be administered to parents of students in grades 6-12 measuring the impact of this project on student fitness levels, at the end of project year one. Specific questions will be asked regarding parent perception of student response to participation in this project in the areas of fitness, behavior/attitude and academic achievement.

