

# *School Alliance for Continuous Improvement*

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## **Tully Central School District K-12 Science Training Visit *TRAINING SESSION ONLY NOT A COMPLETE REVIEW***

**April 2008**



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# Introduction and Overview

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This feedback report is a product of the School Alliance for Continuous Improvement (SACI). Produced by the District Review Team, it includes:

- ◆ General information about SACI;
- ◆ Scoring information based on evidence pertaining to the district's educational program;
- ◆ Strengths, recommendations for growth, and innovative practices identified by the team;

The districts in this alliance represent rural and suburban schools from across the State. These districts include diverse populations in terms of ethnic and socioeconomic factors, and demonstrate a range of results in student performance as indicated by State measurements. These districts share certain common interests:

- ◆ A commitment to rigorous standards for all students;
- ◆ A commitment to assessing student performance against international, national and local measure of excellence, both quantitatively and qualitatively;
- ◆ A commitment to using data to guide school improvement and planning to continuously evaluate the impact and effectiveness of school improvement efforts.

In order to make these commitments operational, district representatives have employed systems thinking and a data driven approach to determine how to affect teaching and learning in their districts. Representatives have worked closely together to:

- ◆ Develop a model to monitor, measure and report the effectiveness of district systems by analyzing data related to identified performance indicators;
- ◆ Train teams of teachers and administrators as "critical friends" -- professionals who can externally review and validate evidence of a district's progress in planning, implementing and attaining results and provide useful feedback which encourages self-reflection and continuous improvement;
- ◆ Create tools for identifying, and forums for sharing successful and innovative practices that help all students meet higher standards.

During a week in April, 2008, external evaluators conducted a review of the Tully Central School District's K-12 Science Program. The purpose of the review was to train a team of Tully teachers and administrators in the SACI model using information collected and reviewed from their AIS program. The team gathered data from interviews, documents and observations and used them to reach a consensus on data related to each of six indicators.

This report presents a summary of team decisions related to the evidence found and agreed upon. It is a rich repository of information to support strategic planning designed to improve educational processes in the district.

# Acknowledgements

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## District Review Team

This report was created as a result a collaborative effort between the District Review Team and the hosting district.

### District Coordinator:

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Principal  
Tully Central School

### Team Members:

Oliver Blaise, Jr.

Team Leader  
Madison Oneida BOCES

### Mentors

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Vestal CSD

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Teacher/Department Chair  
Union Endicott Central School  
District

Sarah Santora

Social Studies Teacher  
Marlboro Central School District

### Tully Trainees

Tammie Fallon

Grade 2 Teacher

Cindy Giffin

High School Special Education  
Teacher

Sandra Lynch

Grade 3 Teacher

Sara Nye

Health Teacher

Cathleen Tolia

Math 9 Teacher

Courtnie West

Elementary Teacher

# Information Sources

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## Interviews:

The following forty six (46) individuals were interviewed by the team as part of the District Review information gathering process:

Agriculture, Technology Teacher  
Board of Education Members (2)  
Chemistry Teacher  
Chemistry, Physics Teacher  
Director of Special Education / Asst. Principal  
Earth Science Teacher; Dept Chair  
Elementary Principal  
Elementary Teacher Assistants (2)  
Grade 1 Teachers (2)  
Grade 3 Teacher  
Grade 4 Teacher  
Grade 5 Teacher  
Grade 6 Team (4)  
Grade 7 science Teacher  
Grade 8 Science Teacher  
High School Special Education Teachers (4)  
Information Technology Specialist  
Kindergarten  
Living Environment; Earth Science, Forensics Teacher  
Parents (3)  
Psychologist  
School District Business Administrator  
Second Grade Teachers (2)  
Secondary Asst Principal  
Secondary Principal  
Secondary Counselors (2)  
Secondary Library Media Specialist  
Social Worker  
Special Education Teachers (2)  
Superintendent of Schools

## Documents:

The following documents were reviewed by the team as part of the District Review information gathering process:

- ◆ 2004-2007 NYS Intermediate Science Assessment achievement levels grades 4 and 8
- ◆ 2007-2008 Science Budget
- ◆ 2008-2009 Program of Studies Tully Junior-Senior High School
- ◆ Academic Intervention Services Plan
- ◆ Agricultural Science Curriculum
- ◆ Agricultural Science Scope and Sequence for each unit
- ◆ Annual Assessment Summary Report 2006-07
- ◆ Annual Professional Performance Review 2004-2007
- ◆ Career and Technical Education and New Vision Programs 2006-2007 Parent/Student Information Booklet
- ◆ Copies of Participation in Professional Development: Strategies for Working Successfully with Difficult and Noncompliant Students, Instructional Theory Into Practice, and To Teach Them All
- ◆ Elementary class schedules grades K-6
- ◆ Grade 3 BOCES Science kit teaching materials
- ◆ High School Course Guide
- ◆ K-8 Science Curriculum Guides
- ◆ Letter to parents explaining 8th grade performance test
- ◆ Living Environment, Earth Science, Forensics, and Chemistry Curriculums
- ◆ Memo from Assistant Principal: Science Scores
- ◆ Memorandum of Understanding: Between Tully and SUNY College of Environmental Science and Forestry for Global Environment Class for 2008-2009
- ◆ Mentoring Plan
- ◆ NYS District Report Card
- ◆ Professional Development Plan, June 2003
- ◆ Professional Development Plan: Staff Development and Mentoring
- ◆ Samples of Grade K, 1,2, 3, 4 and 5 Science lessons
- ◆ Samples of High School Science lessons
- ◆ Samples of Technology used at Elementary Grades
- ◆ School Report Card
- ◆ Science 7 Technology Used List
- ◆ Science Budget 2007-08
- ◆ Student sample notebook of Living Environment Technology Assignments
- ◆ Technology Plan
- ◆ Tully Elementary 2007-2008 NY Health Central Building Schedule
- ◆ Tully Schools 07-08 Calendar
- ◆ Unit Grades Grade 8 September 2007-08
- ◆ Utica National 2008 School Safety Excellence Award Program

# #1: The leadership system is linked to goals for student performance.

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## Definition:

The degree to which the district operates from the perspective of a shared vision/ agreed upon goals that are driven by student performance.

## Plan:

- ◆ A district mission statement exists.
- ◆ A Comprehensive District Education Plan (CDEP) exists.
- ◆ The Administration has a plan to develop a local school report card based on New York State assessments.
- ◆ There is a plan to realign the 9<sup>th</sup> and 10<sup>th</sup> grade science courses. All 9<sup>th</sup> grade students will take Living Environment (Biology), and all 10<sup>th</sup> grade students will take Earth Science.
- ◆ There is a plan to revise the 7<sup>th</sup> and 8<sup>th</sup> grade science curricula to create an accelerated 8<sup>th</sup> grade science program.
- ◆ A Fire Safety Plan exists.
- ◆ The elementary principal plans the distribution and schedule for Board of Cooperative Education Services (BOCES) elementary science kits.
- ◆ Board of Education approved a plan for a State University of New York College of Environmental Science and Forestry (SUNY ESF) course, Global Environment, to be offered at Tully High School during the 2008-2009 school year.
- ◆ The district's budget contains a spending plan for science instruction.

## Implementation:

- ◆ Board of Education meeting minutes show ongoing discussions of long-range goals.
- ◆ The administrative cabinet (superintendent, principals, assistant principals and business administrator) meets weekly.
- ◆ Some staff report that teacher input is sought in decision making.
- ◆ Staff indicates that in the school district information and decisions are communicated from the top down.
- ◆ The Safety Committee minutes indicate safe working conditions exist in science labs.
- ◆ "Tully at a Glance," a compact disc (CD) provided weekly by the superintendent, informs board of education members of current events and concerns in the district. There is evidence that information about the K-12 science program is included

- ◆ Science programming and activities are supported by the budget allocated to the department.
- ◆ At the high school level, department chairpersons run monthly department meetings and send minutes to the building principal.
- ◆ The elementary principal is a member of the Regional Science Advisory Council.

**Student Outcomes:**

- ◆ None determined at this point in time.

## ***#2: Instructional practices are evaluated and modified based on assessment of student performance and/or the performance of technology systems.***

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### **Definition:**

The degree to which educators use student data to drive instructional change and how non-instructional personnel implement their job.

### **Plan:**

- ◆ One teacher will create a plan which to map high school science coursework for each 8<sup>th</sup> grade student.
- ◆ A plan exists to use Board of Cooperative Educational Services (BOCES) science kits as the elementary science curriculum.
- ◆ A plan exists to provide pull-out, push-in and inclusive classes for resource students.

### **Implementation:**

- ◆ The library media specialist assists K-6 teachers in obtaining materials that correlate and support science programs within classrooms.
- ◆ Some collaborative work exists between elementary and secondary science classes; for example grade 3 and Earth Science classes worked together on the Water Cycle topic.
- ◆ Evidence exists that most teachers in the elementary building utilize K-6 BOCES science kits.
- ◆ There is evidence that textbooks are the primary resource in high school science instruction.
- ◆ Evidence exists that some special education and regular education teachers co-teach and plan science classroom instruction.
- ◆ Evidence exists that most science classes include hands-on/inquiry based instruction.
- ◆ Science is taught every day, normally for 30-50 minutes in some K-6 classrooms.
- ◆ The elementary library media center supports teachers with trade books and other science support materials. Materials may also be ordered from outside libraries and BOCES through the elementary library media center.
- ◆ Most teachers use a variety of materials and experiences to enhance instruction, such as science laboratory experiments, field trips, student interactive websites, Power Point® presentations (presentation software), community speakers, greenhouse, and visual media.

- ◆ Each year a portable BOCES planetarium program and teaching staff for 2-6 science classes is utilized.

**Student Outcomes:**

- ◆ None determined at this point in time.

### #3: The curriculum is linked to standards for and data on student performance.

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#### Definition:

The degree to which the curriculum is linked to state and district standards for and data on student performance.

#### Plan:

- ◆ Curriculum exists for science K-8 and for most high school science courses.
- ◆ A plan exists for Academic Intervention Service (AIS) in science 7-12.
- ◆ A plan exists for the Environmental Science class to collaborate with the State University of New York College of Environmental Science and Forestry.
- ◆ A plan exists for science curriculum work in the summer.
- ◆ A plan exists between the Superintendent and the four building administrators to review the science curriculum K-12.
- ◆ A parallel curriculum exists for science in all special education self-contained classes.

#### Implementation:

- ◆ Teachers utilize Board of Cooperative Educational Services (BOCES) Science Kits to deliver science curriculum K-6.
- ◆ The Agricultural Science teacher uses a curriculum based on national standards.
- ◆ Teachers in grades 5-8 use data from 8<sup>th</sup> grade Science Assessment to align their curriculum to, state standards.
- ◆ Teachers on the science curriculum committee have met to discuss science curriculum K-12 twice in the 2007/2008 school year.
- ◆ Evidence shows that AIS instruction is provided to students that need it in the high school in the area of science.
- ◆ Advanced Placement courses are offered to students in the area of science.
- ◆ Agricultural Science classes are offered to students.

#### Student Outcomes:

- ◆ Students created original poetry based on science in 2<sup>nd</sup> grade.
- ◆ First grade students shared their knowledge of assigned biome (desert,

ocean, rainforest) with other students in the 1<sup>st</sup> grade.

- ◆ Students created drawings and written explanations of their original inventions in 5<sup>th</sup> grade.
- ◆ Students created parts of a plant diagrams in 2<sup>nd</sup> grade.
- ◆ Community garden was created and is maintained by students in the 5<sup>th</sup> grade.
- ◆ Evidence was observed that science informational packets are completed by some students K-6.
- ◆ Windmills for electricity production were planned and built by students in the high school.

## ***#4: Professional and organizational development is linked to student learning needs.***

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### **Definition:**

The degree to which professional and/or organizational development is linked to student learning needs as measured by student performance.

### **Plan**

- ◆ A Professional Development Plan exists.
- ◆ There is a process in place for teachers to apply for staff development opportunities.
- ◆ The district has a mentoring plan.
- ◆ The district has an Annual Professional Performance Review (APPR) plan that is designed to set goals for teachers' professional growth.
- ◆ A plan exists for teacher training in the use of the BOCES (Board of Cooperative Education Services) elementary science kits.

### **Implementation:**

- ◆ There is a district staff development committee.
- ◆ Professional development opportunities specific to science curriculum and instruction are available pending approval by the staff development committee.
- ◆ High school science teachers share professional development experiences at monthly department meetings.
- ◆ BOCES elementary science kit training is available to K-6 teachers.
- ◆ The administration determines the focus of Superintendent's Days. The current focus is on K-12 curriculum development.
- ◆ Teachers are given the opportunity to choose professional development experiences (workshops, conferences, etc.) pending approval by the staff development committee.

### **Student Outcomes:**

- ◆ None determined at this point in time.

## #5 Data Management and Communication are Linked to Improving the Entire Learning Organization.

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### Definition:

The degree to which information is managed and communicated for the purpose of improving the entire learning organization.

### Plan:

- ◆ There is a plan in the high school to adopt a new software grading system.
- ◆ The Superintendent plans to create a local school report card based on local exam results prior to state reporting.
- ◆ The Superintendent's plan is for district communication to be paperless (information through district website and blogs).

### Implementation:

- ◆ New York State Regents exams scored by regional information center provide data feedback.
- ◆ Reports indicating frequency of paid access website use in the school district is accessible from the Information Technology Office.
- ◆ The K-2 elementary report card indicates students are "exposed to science but not assessed".
- ◆ The 3-6 elementary report cards evaluate student content understanding and effort in science.
- ◆ Teachers in grades 5-8 use data from the 8<sup>th</sup> grade Science Assessment to align their curriculum to state standards.
- ◆ Communication with students, parents, teachers and community is accomplished through the Tully School District webpage, as well as email, teacher newsletters, "Knight Insight" Newspaper (district-wide school monthly newspaper), and Tully school calendars.
- ◆ New York State Grade 4 and Grade 8 Science Assessment results are sent home to parents/guardians.
- ◆ There is evidence that a few secondary teachers use data to modify and adjust science instruction based on student outcomes on current state assessment results, classroom assessment results, and projects.
- ◆ There is evidence that NYS science assessment data is compiled.
- ◆ There is evidence of ongoing science assessments at the elementary and secondary levels such as quizzes, tests, state assessments, essays and projects.
- ◆ There is evidence that administration shares assessment data, with the Board of Education through weekly "Tully at a Glance".
- ◆ The district newspaper, "Knight Insight", publishes Board of Education minutes.

### **Student Outcomes:**

- ◆ The District Report Cards indicate student scores at level 3 or 4 on the 8<sup>th</sup> grade science assessment ranged from 83-96% during the years 2004-07.
- ◆ The District Report Cards indicate student scores at level 3 or 4 on the 4<sup>th</sup> grade science assessment ranged from 83-89% during the years 2004-07.
- ◆ 2006-07 New York State Regents results indicate a passing rate of 92% on Living Environment, 79% on Chemistry, 93% on Earth Science, and 100% on Physics exams.

## #6: Technology for Teaching and Learning

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### **Definition:**

The degree to which technology is integrated with teaching and learning (curriculum, instruction, and assessment) to provide educational opportunities for all students.

### **Plan:**

- ◆ A district technology plan exists.
- ◆ One teacher has a plan to use Data Mentor® ,a student data analysis software package, to improve student outcomes.
- ◆ A plan exists for all K-6 classes to have scheduled time in the computer lab.

### **Implementation:**

- ◆ Most teachers are aware of the process to obtain new technology.
- ◆ One teacher is using Data Mentor® information to teach lessons.
- ◆ Some teachers are using technology for science instruction: Power Point® (a presentation software), Elmo (presentation equipment), video streaming (downloading video clips from the internet), overhead projectors, and Liquid Crystal Display (LCD) projectors (presentation equipment).
- ◆ Some staff has received training on technology.
- ◆ Many students use technology to complete science assignments: Brain Pop® (student interactive informational/assessment website), Power Point®, Webquests® (internet based inquiry assignments), and research databases.
- ◆ Most K-6 classes use the computer lab for science instruction.
- ◆ The district employs a District Technology Coordinator and two Computer Lab Teaching Assistants.
- ◆ Some teachers are trained to create and use individual webpages.
- ◆ Three technology committees exist in the district.

### **Student Outcomes:**

- ◆ None determined at this time.

## Areas of Strength

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The following areas of strength in the district's overall programs were identified during the District Review process:

- ◆ All elementary teachers have been trained in and use the same K-6 math program.
- ◆ There is evidence that parents are involved in the classroom and in extracurricular activities.
- ◆ Community organizations and local businesses provide financial support and act as volunteers for district programs.
- ◆ The district invests resources to update and maintain facilities including state-of-the-art science labs.
- ◆ A high school science class used the greenhouse to grow trees and planted them in the district.
- ◆ There is a project underway for a high school science class to build windmills that will power the school's scoreboard.
- ◆ The district provides technology to assist in the instruction of K-12 science.
- ◆ Kindergarten teachers presented a self-created program on play stations at an elementary level national conference.
- ◆ The K-6 character education program contributes to positive student behavior.
- ◆ There is a high level of student participation in extracurricular activities.
- ◆ The school campus and grounds are organized and maintained in an advantageous location as they are connected to Tully town recreation areas (i.e. nature trails) and State University of New York College of Environmental Science and Forestry (SUNY ESF) research sites.
- ◆ Tully Central School District has the only agricultural program in Onondaga County.
- ◆ Tully Elementary participates in Statewide Agricultural Literacy Day, a lesson presented by an outside agency to teach an agricultural topic.
- ◆ Tully's Future Farmers of America (FFA) chapter consists of a strong student, staff, and community base.
- ◆ Collaborative lessons exist between some elementary and secondary science classes to study common topics such as elementary classes and Agricultural classes working together on greenhouse projects.
- ◆ There is evidence that interdisciplinary work exists between science, English, technology, and agricultural classes.
- ◆ Exceptional elementary library/librarian participation with science programs

# Recommendations for Growth

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The following recommendations for growth in the district's overall program were identified during the District Review process:

## **Indicator 1: The leadership system is linked to goals for student performance.**

- ◆ Examine the need for grade level coordination.
- ◆ Communicate the role of administration as it pertains to curriculum.
- ◆ Consider reconfiguration of middle grades.
- ◆ Review initiatives of previous administrators to identify overlaps with new initiatives.
- ◆ The leadership team needs to create processes to ensure that the stated curriculum is the taught curriculum.
- ◆ The current policy of continuity of leadership succession needs to be reviewed.

## **Indicator 2: Instructional practices are evaluated and modified based on assessment of student performance.**

- ◆ Review the use of BOCES Science Kits as they relate to the established curriculum.

## **Indicator 3: The curriculum is linked to standards for and data on student performance.**

- ◆ Review the vertical alignment of the K-12 science curriculum.
- ◆ Examine the need for a study skills curriculum in the intermediate and secondary grades.
- ◆ Examine the need for a computer literacy curriculum 7-12.
- ◆ Examine K-8 science curriculum to eliminate overlaps and gaps.
- ◆ Examine the time scheduled for science labs in the high school and other possible uses for that time.
- ◆ Examine the implementation of Academic Intervention Services (AIS) on the high school level.

## **Indicator 4: Professional and organizational development linked to student learning needs**

- ◆ Review the district Professional Development Plan.
- ◆ Examine the need for training which will allow all teachers to implement more technology in their instruction.

**Indicator 5: Data management and communication are linked to improving the entire learning organization.**

- ◆ Communicate results of all New York State Elementary Level Assessments with all faculty.
- ◆ Communicate to all teachers K-4, the format of all New York State Elementary Level Assessments
- ◆ Communicate results of all New York State Intermediate Level Assessments with all faculty.
- ◆ Familiarize all teachers 5-8 with the format of all New York State Intermediate Level Assessments.
- ◆ Examine the K-6 report cards.
- ◆ Examine the expansion of the use of Data Mentor®
- ◆ A concise “Tully at a Glance” (TAG) be created for teachers on a monthly basis.

**Indicator 6: Technology for teaching and learning linked to student opportunities and performance.**

- ◆ Examine the current technology and use of that technology within the district to improve student outcomes.

## Innovative/Best Practices

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The following innovative and best practices were identified during the District Review process:

- ◆ Secondary science teachers have keys for all high school science classrooms to cooperatively acquire materials and supplies.
- ◆ Hands-on science education such as BOCES kits at elementary level and scientific field studies are done by K-12 students.
- ◆ Partnerships with Library (PAL) program and Literacy Across the Ages after school enrichment program.
- ◆ The district greenhouse at the high school that can be used by K-12 classes.
- ◆ Tully School District articulation agreement with SUNY Environmental Science and Forestry College (ESF) to offer college credit to high school students who take Global Environment.