Frameworks for Success in Science

Hilo Complex Area · Hilo, Hawaii

Pascale Creek Pinner

N.B.C.T. Hilo Intermediate School & MSP Curriculum Coordinator

Esther Kanehailua

Former MSP Principal Ha'aheo Elementary School
MSP Principal, Hilo Intermediate School

Cathy Iwaoka

MSP Schoolwide Coordinator, Ka'ūmana Elementary School

Lee Ann Ragasa

MSP Cohort I Teacher, Hilo Union Elementary School

Claire Hamura

MSP Cohort II Teacher, Ka'ūmana Elementary School

Darryl Yagi

MSP Cohort II Teacher, E.B. DeSilva Elementary School

A SCHOOL-WIDE COORDINATOR'S PERSPECTIVE

THIS IS WHERE MSP ALL BEGAN: WE HAD A DREAM.

Let's use science as the vehicle to "drive" school-wide change.

CATHY IWAOKA
Kaʻūmana Elementary School

Frameworks for Success in Science
MSP Partners

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Ha'aheo Elementary – Brad Bennett
Hilo Union School – Patti Andrade-Spencer
Kaumana Elementary – Ray Mizuba
Kaumana Elementary – Cathy Iwaoka SWC

Cohort II Elementary School Principals
E.B. DeSilva Elementary – Dennis O'Brien
Chiefess Kapiolani – Bob Hill
Kalanianaole School – Joyce Iwashita

Hilo Intermediate School Principal
Esther Kanehailua
(former principal of Ha'aheo Elementary)

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SUPPORT SERVICES & FRAMEWORKS WEBSITE
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Frameworks for Success in Science

Goals

- Develop vertically and horizontally aligned elementary science curriculum for grades K-6 in the Hilo Complex elementary schools
- Utilize grade-level PLC's to develop, implement and evaluate common curriculum across elementary schools
- Deepen understanding of science content and pedagogy to strengthen student achievement and teacher efficacy

Learning and Planning Together: T2T PD

Summer Training (3 stipend days = 24 hours)

- AIMS Life science and inquiry process skills training for 1st Quarter Units
- UHH partners science content and technology training
- Collaborative development of fall meetings dates
  (all participating teachers and Curriculum Coordinator)

Fall Semester (3-4 sub days = 24-32 hours)

- 1st and 2nd quarter planning & debrief PLC sessions
- Collaborative development of all spring/summer meeting dates

Spring Semester (2-3 stipend days/3-4 sub days = 40-56 hours)

- AIMS Earth/Space and Physical Science training for 3rd/4th Quarter Units
- 3rd and 4th quarter planning and debrief PLC sessions

Summer (1 stipend day = 8 hours)

- End of Year CELEBRATION & evaluation

Total of 96+ professional development hours – set by the teachers for the teachers

Participating Hilo Complex Area Schools

Cohort I
Started Spring 2009
96 pd hours

Ka‘ūmana Elementary
All grades (K-6) = 13 teachers

Ha‘aheo Elementary
All grades (K-6) = 7 teachers

Hilo Union School
Grade 2 & 5 (2 teachers)

Almost 600 students were impacted in year one

Cohort II
Added in Summer 2010
96 pd hours

Chiefess Kapiolani Elementary
Grades 1,3,4,5 & 6 = 6 teachers

Prince Jonah Kalaniana‘ole
Grades K-6 = 8 teachers

Ernest B DeSilva Elementary
Grades 4, 5 & 6 = 4 teachers

Hilo Union School
Grades K, 1,3 & 5 (4 teachers)

Over 1200 students impacted

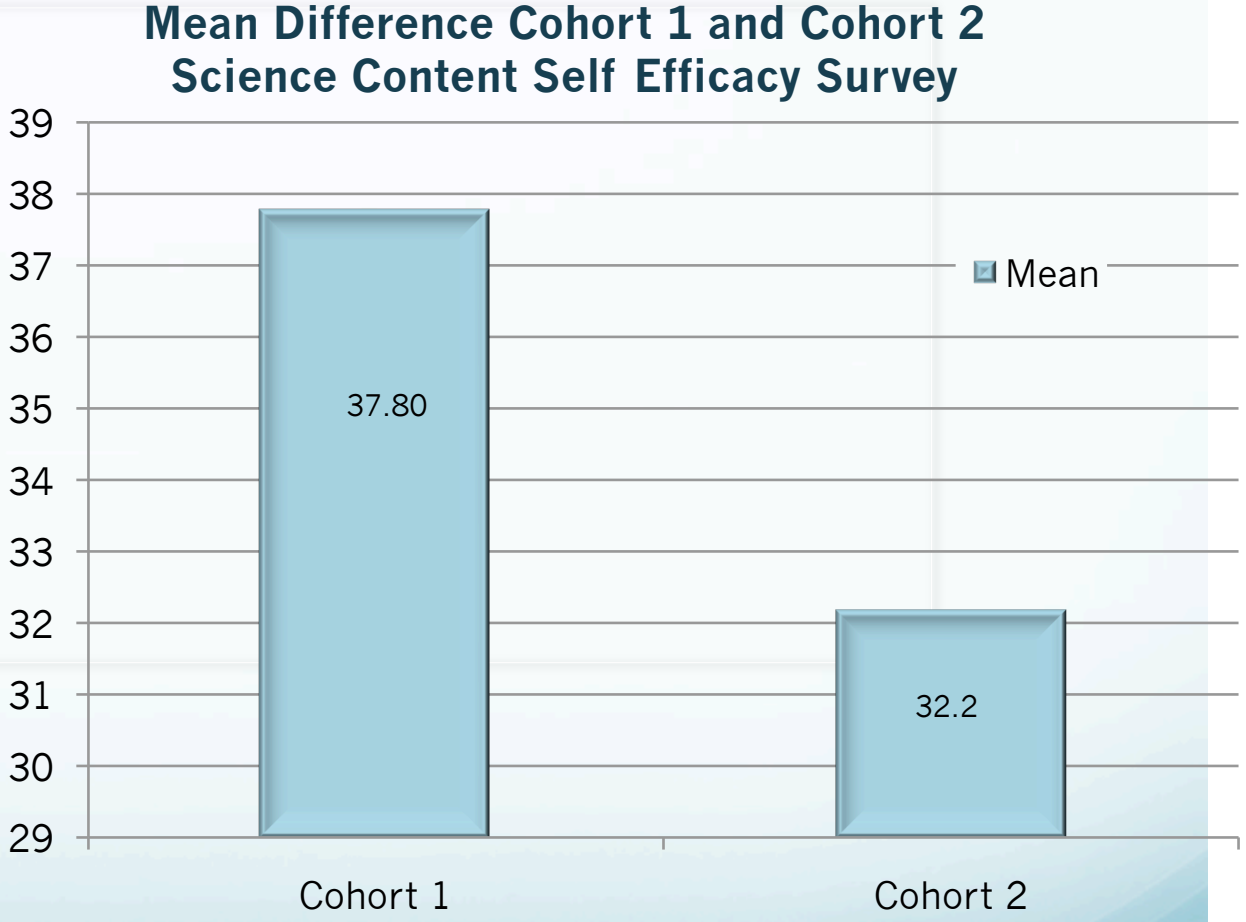

Frameworks For Success in Science 2009-2010
Ninety six (96) professional development hours completed
Year-end Celebration

FRAMEWORKS FOR SUCCESS IN SCIENCE
MSP ASSESSMENT INSTRUMENTS

Description of Data Collected	Tool or Assessment Used
Teacher pre/post science content assessment	Project MOSART (included select HSA Life Science Items)
Teacher pre-collaborative practices survey	HLW Collaborative Practices Survey
Teacher classroom pre/post-observations annually	HLW Classroom Observation Checklist
Teacher pre/post self efficacy measure	HLW MSP Teacher Self-Efficacy Questionnaire
Teacher on-going perceptions of PD and student impact	Group Interviews; Questionnaires
Teacher post-treatment survey	HLW MSP Post-treatment Survey-Pedagogical Preparedness
Student achievement data	Hawaii Statewide Assessment - Science
Student assessment data	Harcourt Science Text pre/post

Preliminary Findings

Science Content & Pedagogy Efficacy



Cronbach's alpha = .82 (N=39) F=1.7, p=.14, Survey item total = 50
Cohort I: M = 37.80, SD = 4.5
Cohort II: M = 32.2, SD = 3.5, t(37) = 34.2, p = .000, two-tailed.

MSP TEACHERS "TALK STORY"

Using PLCs to Deepen Science Content Efficacy & Pedagogy

Claire Hamura

Grade K/1 **Kaʻūmana Elementary School**

Cohort II Teacher

MSP TEACHERS "TALK STORY"

Using PLCs to Deepen Science Content Efficacy & Pedagogy

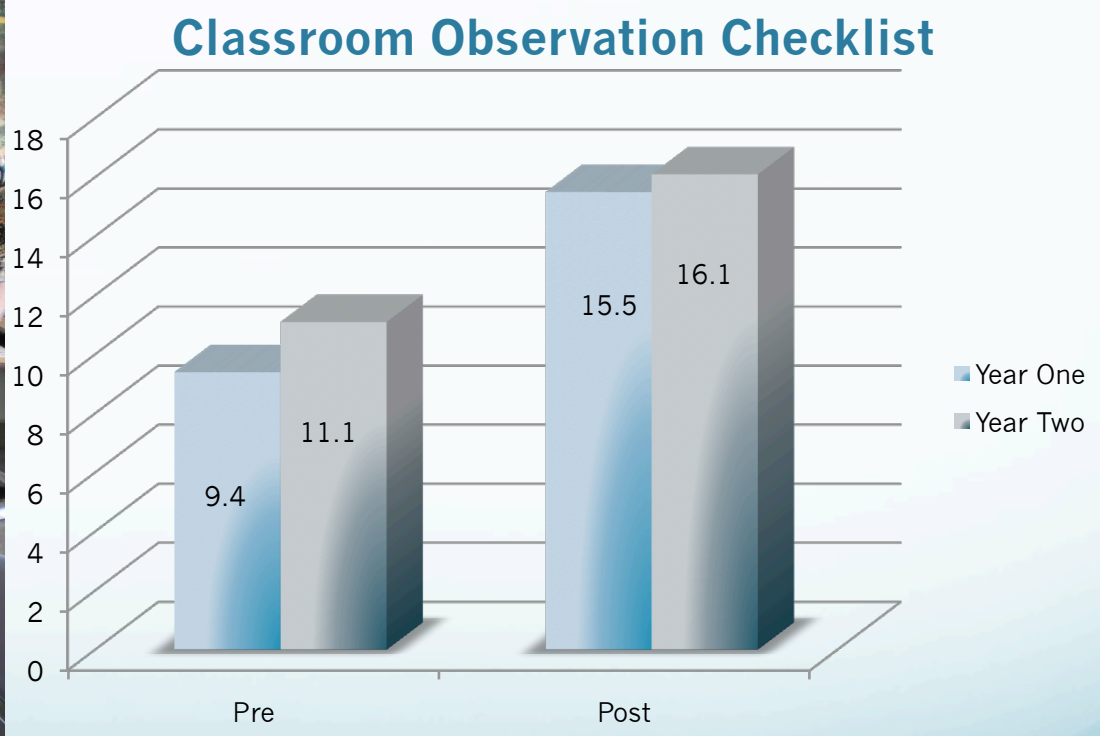
Darryl Yagi

Grade 6 **EB DeSilva Elementary School**

Cohort II Teacher

Preliminary Findings
Instructional Practices-Cohort I

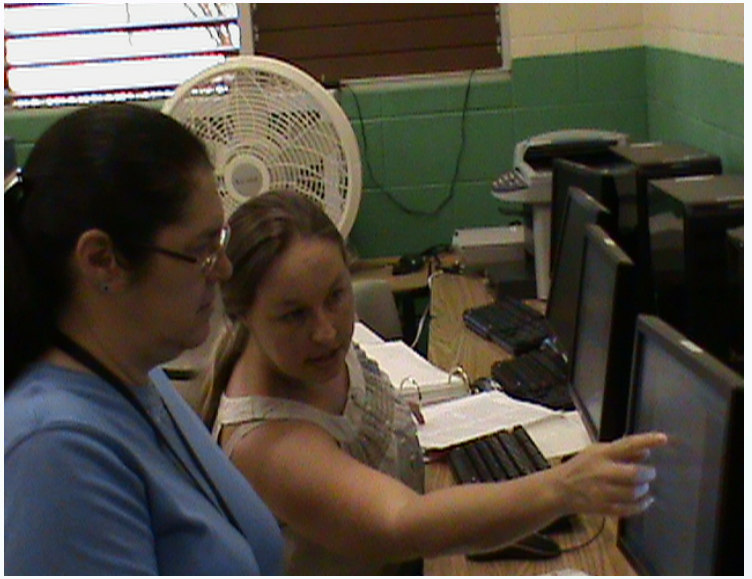
A Comparison After One and Two Years of the T-2-T Professional Development Model



There was a significant difference in the scores for the pre-treatment observation year 1 (M=9.4, SD=3.3) and post-treatment observation (M=15.5, SD=2.4) conditions; t=9.2, p < .01. There was an increase and a significant difference in the scores pre/post for year 2 (M=11.08 pre, M=16.16 post, SD 2.5) conditions; t=8.6, p<0.01. The Classroom Observation Checklist has a total of 20 items.

MSP TEACHERS "TALK STORY"

Supporting Teacher Leaders and Sustaining Science Curriculum



Lee Ann Ragasa

Grade 4 **Hilo Union Elementary School**

Cohort I Teacher

AN MSP PRINCIPAL'S PERSPECTIVE

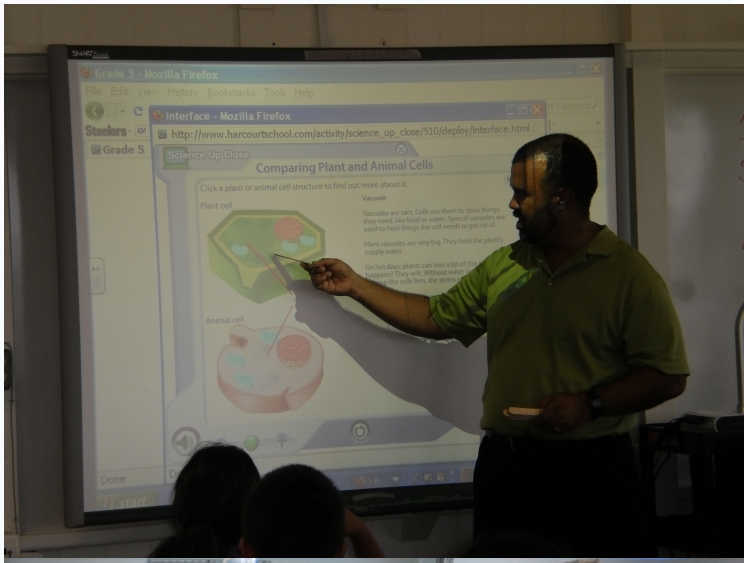
Seeing Hands-on Science in Action

Esther Kanehailua

MSP Principal Ha'aheo Elementary School **MSP Principal** Hilo Intermediate School

Professional Learning Communities
Frameworks Impact on Personnel

- PLCs grow over time and are unique in their development (strengths, needs)
- TKC website has grown into a powerful sharing tool between teachers, grade levels and schools
  http://www.kohalacenter.org/frameworks/10webcastsgrade6.html
- New PLCs are being developed; Principals, Schoolwide Coordinators, UHH partners, school Technology Coordinators

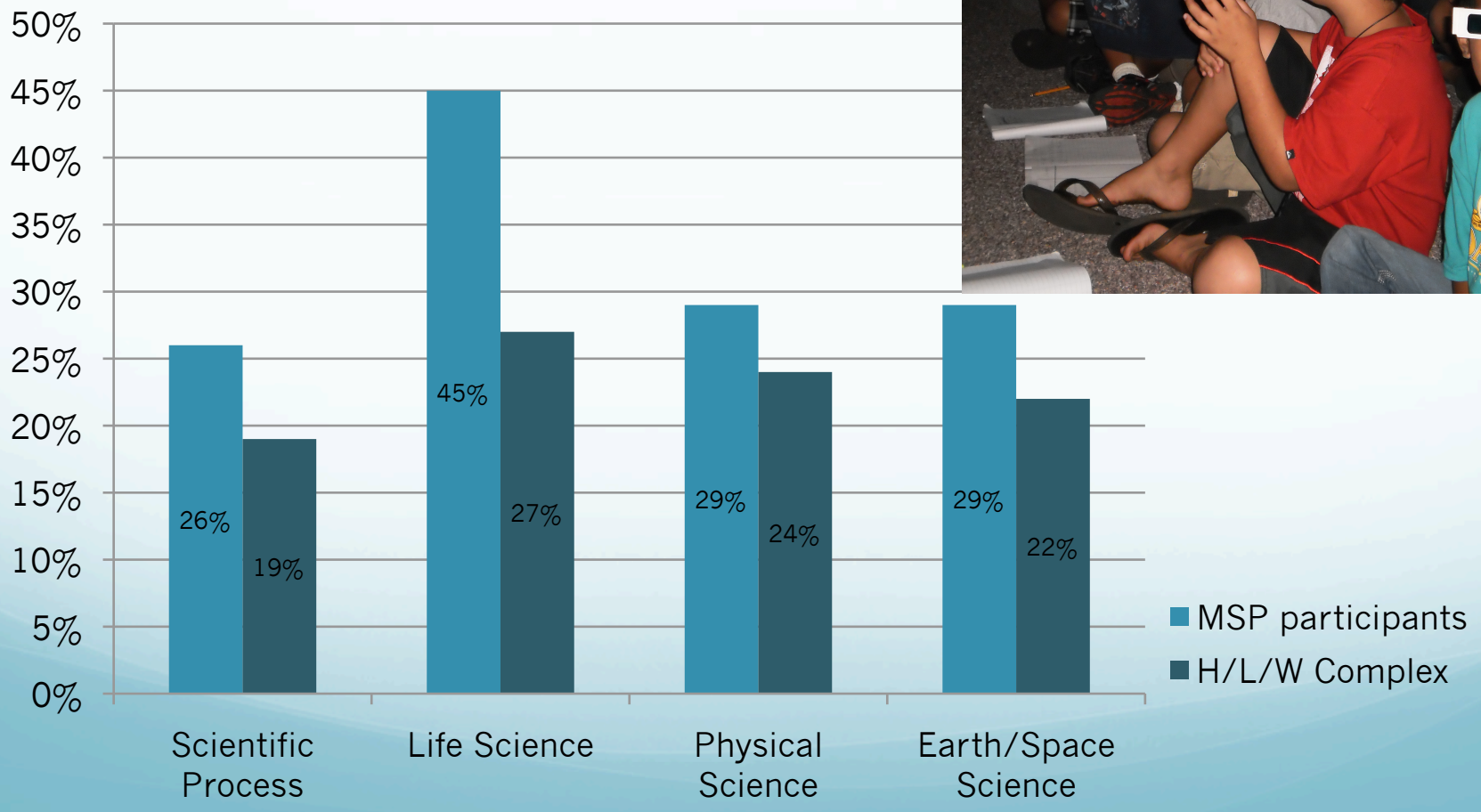


Impacts on Teaching Science in the Hilo Complex Area

- Benchmark and Unit maps provide the framework for professional development meeting days that occur twice per academic quarter, during intercessions & the summer
- Quarterly thematic units/lessons with identified vocabulary and common assessments continue to be revised and published after every PLC meeting
- Vertical science content alignment from grades K-10 for Hilo Complex Schools continues through the MSP Curriculum Coordinator

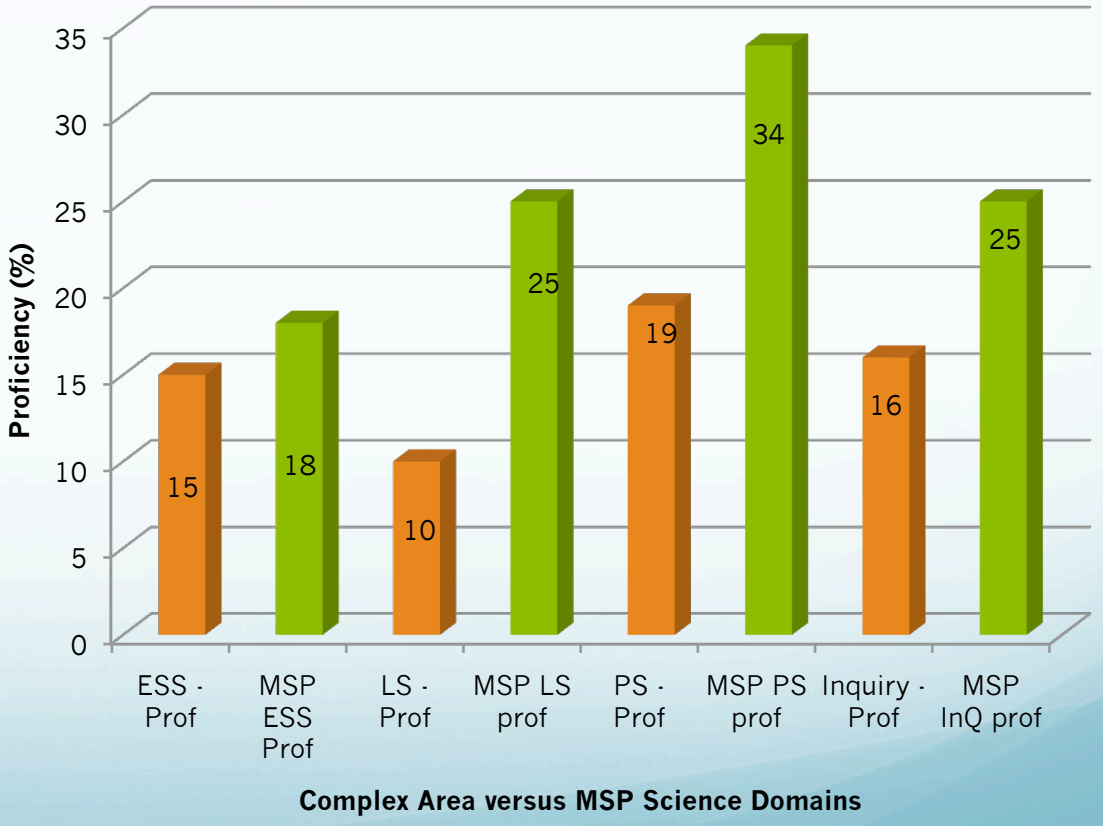
Preliminary Findings
Hawaii Statewide Assessment
Grade 4 - Science

Percentage of students in "meets or exceeds proficiency" range on the 4 science domains (MSP Schools compared to H/L/W Complex Area)



Preliminary Findings
Hawaii Statewide Assessment
Grade 6 - Science

Percentage of students with "meets or exceeds proficiency" scores
(MSP Schools compared to H/L/W Complex Area)



Cohort Teacher Comments

The participating schools in our complex in grades K-6 teach the same Science Curriculum by grade levels. Through MSP we want to insure our students meet the Science standards by grade levels. Teachers who were feeling weak in Science Curriculum now feel motivated to teach Science because of MSP—they leave with Curriculum Binders/Resource materials/Pre-Post tests—
We get to meet to collaborate-help each other--share materials & ideas.
MSP--has enriched and enlightened many teachers in our complex. AWESOME!!!! Cohort I Teacher

This is the best science training I have ever received. When you leave a training session you know exactly what to teach! I have become a better science teacher thanks to the MSP grant. Cohort II Teacher

Not sure if ****** told you, but I inherited one of her students. He felt so good because she was ahead of me, and was able to teach some of his classmates about the differences between plant and animal cells. Thought this was a great ego booster for him, as he's a Sped student. Talk about his turn to shine!!! He felt so good! He was able to jump right into Science and not have to catch up with any curriculum. This is a great program - especially with the pacing guide in place. Works so well for our transient students. Cohort II Teacher