PIKE COUNTY SCHOOLS

316 South Mayo Trail
Pikeville, Kentucky 41501-1522
Phone (606) 433-9200 Fax (606) 432-3321

Primary TCT Observations

Types of TCT's Selected:

- Kindergarten teachers selected "Levi's Wagon" and "Cole's Chart"
- 1st grade -- almost all teachers chose "Picnic Lunch"
- 2nd grade--"Germinating Seeds" and "Halloween Candy" to a lesser extent.
- 3rd grade-- "Bundle of Joy" mainly with only a few teachers choosing "Manny's Trip".

- Issues with "Halloween Candy" sprung from the types of candy teachers chose to use. One school used too many candies that will melt within 5 minutes. Recommendation -- choose peppermint candy or Jolly Ranchers for some of the choices so that kids can truly see that these might be the best choice when high temperatures are being experienced.

- Issues with "Germinating Seeds" included several TCTs being marked "high" when students said the seeds grown in the dark grew better. Need to make sure we are NOT reinforcing something that obviously is incorrect. In this case, it might be best to redo the experiment to prove or disprove earlier results.

General Feedback:

- Some teachers were very detailed in writing what the students said
- Some teachers simply wrote group responses—students may have copied response
- Pictures with cell phones were difficult to read, scan quality was an issue in some cases
- All components of the TCT were NOT complete
- Many students made claims but did not support their claim
- Student and school name left on submitted items

Next Steps:

- There is a need for KDE to provide far more TCTs Teachers can use these to help get at the practices and to see student thinking.. If our elementary teachers will have more of them available to them, this would be a good way to have more two dimensional learning experiences.

Bottom line:

The Science Design Team "admires our elementary teachers and the Kindergarten through 3rd grade teachers especially. They basically take a blank page and teach that child letters, and words, and writing, and so much, much more."

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4th, 5th, 6th TCT Observations

Types of TCT's Selected:

- All but one 4th grade did the Bundles of Joy tasks
- Majority of 5th grade chose More Mantises
- The 6th grade teachers chose either the Food Web or Dissolving M and M's TCT

Misconceptions Observed

4th grade

- Bundles of Joy tasks and seemed to do ok naturally a misconception that was observed occurred in the last section when students had to agree with Maria or Tom they did not point out that although Maria's claim was the best that the whale did not fit the pattern.

5th grade

- More Mantises the misconception that was observed was students thinking that Model A where it was a list could not be an appropriate model.

6th grade

- Food Web or Dissolving M and M's TCT were selected. On one particular school I noticed that the student had the correct description with the opposite cup of water so I think that may have been a teacher error of mixing up which type of water should have been in what cup.

General Feedback:

- Everyone needs to scan documents in---NO pictures
  - Pictures with cell phones were difficult to read, scan quality was an issue in some cases
- All names need to be removed
- Have a set way to name file (grade_tct name_school_county)
- Put sample in as one file not separate each page
- District need to communicated timeline for when TCTs are due so that teachers are only completing them in a hurry at end of year

Next Steps:

- TCTs and incorporating the practices and cross cutting concepts should be part of daily instruction.

Bottom line:

"Most misconceptions will work themselves out when students and teachers become more familiar with the process."

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High School TCT Observations

Types of TCT's Selected:

- All TCT's were used but the hybrid braking and coral bleaching were sparingly used.
- The new element TCT was the most often used.

General Feedback:

- None of the TCT;s had teacher feedback
  - Even though this wasn't a requirement on the teacher's part, it is suggested that teachers provide feedback to the students with comments written among their responses leading them to further learning.

Issues:

- In the hybrid braking TCT the term "checklist" was a little vague and maybe not necessary. Instead leave it open for the student to evaluate the models in how they see fit.
- In the coral bleaching TCT some of the info that was labeled as data was very "un data like" Some students seem to have left out those pieces of data as evidence, maybe because they didn't recognize it as data. This is not necessarily an issue with the TCT though.
- In TCT's in which the SEP was constructing explanations or argument (both involved making and evaluating claims) the reasoning portion of the students' explanations was a little weak.
- Teachers are encouraged to use TCT's that use other SEP's. Those involving making or evaluating claims were used often.

Next Steps:

- Instruction as science teacher should shift and center on teaching beyond the content.
- To help students become proficient with the **practices** teachers need to incorporate them into lessons often.
- Teachers should add that 2nd and 3rd dimension to our existing content instruction.
- Teachers are highly encourage to plan early for next year by picking 3 TCT's this summer as soon as the new ones are released or using some of the same ones again as this year. By working them into our existing curriculum we can better place them and make them a part of our lessons.

Bottom line:

3 dimensional instruction (or at least 2 dimensional instruction) is needed NOW. Teachers should share our ideas with each other on how we will change our lessons to be multi-dimensional. We must **teach science every day in ALL grades**. Focus should be only on the PE's rather on using the 8 SEPS and the 7 CCC's as often as we can in our lesson creation. Only by practicing the practices will our students become better with them over time.

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7th, 9th, 9th TCT Observations

Types of TCT's Selected:

- 7th grade was Chemical Spill and Save the Egg that had equal amounts completing. Also included was Comparing Cities and Tourism
- 8th grade majority chose Tourism to complete.
- 9th grade the majority chose Coral Bleaching or Hybrid Breaking System.

General Feedback:

- Names must be removed
- The first page which describes or lists the name of the TCT task should be included for ease of reading
- Some included a lesson plan which is not necessary
- Instead of labeling as a TIFF document, some took pictures or loaded from their copier machine to their email as a jpg
- TCT were not labeled as name of TCT, grade level, school and teacher
- Teacher should put the grade level they are teaching

Misconceptions Observed

- Science content as well as other disciplines are included in the TCT's: tourism covered some geography as well as use of some data relating to cost and benefit, not all students were able to make the correlation to show the results.

- In the save the egg TCT, many students did not show the correlation between the size of the parachute vs. the time of the fall of the egg.

Next Steps:

- TCTs and incorporating the practices and cross cutting concepts should be part of daily Instruction.

Bottom line:

As students become more familiar with the TCT's, their ability to synthesize the information will become evident. As teachers work through their required grade content and cover the material, the TCT will become part of their instructional practices.

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