Mentoring Students in A Scientific Inquiry Investigation Project

Mentoring an inquiry investigation is a key part of students having a positive project experience. Depending on the level of student the amount of mentoring can vary. This is designed for those working with students who are just starting the scientific inquiry investigation project process and who plan on entering a science fair.

Mentoring Pointers

Getting Started

1. Work with your PTA/PTO to get the word out about science projects and important dates.
2. Have a family science night if possible.
3. Look for community volunteers that might want to work with students. Make sure you have them cleared through the school’s security system. They also need to know your expectations.
4. Set up a project information desk in your room on open house night.

Topic Selection

1. It always starts with topic selection. Students take it very personal when ideas get turned down. If you could meet with fellow teachers or adults forming a topic approval committee it takes the burden of rejection off one person. The other benefit is that someone in the group might have the expertise to suggest ways the project can be changed to be approved.
2. Make sure the students know the expectations for their grade level and give some examples of what not to do. Ex: Grow crystals, music and plants
3. Use the checklist included on the topic selection guide on why the project was disapproved and then meet with the student. Ask questions-often they leave out details that could lead to an approval.
4. Don’t be bullied by parents who think the topic is fine. If you do not have a committee get some other opinions before you speak to the parent. Ask the parent to come in for a conference if they send emails. This will facilitate better communication. Have the student present as well. You may want to include your department chair.
5. Guide and help the students. It’s okay to give them ideas.
6. Start a list of project ideas you see as you go throughout the year and see something that would make a good project. Keep a notebook or something similar for writing down ideas because you will forget them.

Timeline

1. Provide the students with a timeline of checkpoints and due dates on the project. You may want to give them 2 copies, one for their notebook and one for their parents. Post upcoming due dates on your school website.
2. If students have planners encourage them to put the due dates in the planner. They should also put a note in the section a week before the due date stating, “next week is a project due date.”
3. Before you make your timeline make sure you have checked the school calendar, so your due date does not coincide with a major school event or testing.
4. Don’t be afraid to be flexible-just be consistent.

Progress Monitoring

1. If you meet with your students regularly then you see what they are doing, have them make corrections and move on. This will save you time grading at the end.
2. Make sure students have notes and/or resources that they can use to guide them.
3. Give students rubrics so as they do each part they can give themselves a grade.
4. Encourage the parent to use the rubric to grade before the student turns it in. They can make the students redo whatever may need it.
5. Use peer review. Give extra credit if needed. The peers will see mistakes and what doesn’t make sense etc. on procedures. The students can fix them and then bring to you the peer review page and updated research plan.
6. Make it clear you want to check all progress in the logbook. This shows their work. If it is hard to find a meeting time you can leave sticky note suggestions in the logbook.
7. If older students in your school are experienced with this have them work with the students just starting out.
8. Students who are new to science fair need more monitoring. Set up a schedule for meeting with students before and after school. Be sure and get a count so you can make sure you allow time to talk to all students who show up. At the beginning of the project you will need more days.
9. Find times within the school day to talk to students. Homeroom and advisory are good times for meeting. If your class is full ask an administrator to sit with them as you talk to your project kids.
10. Lunch meetings where they eat in your room and you can go over the project can work. Another option is the last 15 minutes of lunch go to the lunchroom and sit at a “help” desk to answer questions. The rewards will come with your student’s success for giving up you lunch time.
11. You may not want to set up an email system for monitoring for several reasons. The first is everything should be done in the logbook and you don’t want to see photos of it uploaded. The second reason is they will start doing everything that way and it may become overwhelming to you. This should be only if the student is absent.
12. Use Scienteer to see where your students are in completing forms.