

## Data Nuggets Research Protocol

When you receive your box in the mail, please open it up and orient yourself with the contents. It is vital that you keep things organized and follow the protocol carefully. You can get another copy of this protocol on the project website [www.datanuggets.org/study/](http://www.datanuggets.org/study/).

If you have questions or concerns, contact Molly Stuhlsatz [mstuhlsatz@bscs.org](mailto:mstuhlsatz@bscs.org) 719-219-4129 or Val Maltese [vmaltese@bscs.org](mailto:vmaltese@bscs.org) 719-219-4185.

**1. BSCS will randomly assign one of your classrooms to the Data Nuggets treatment and another to the comparison.**

This assignment will occur in early August and will be emailed to you. It will also be noted on all research materials.

**2. Assign each student a study ID.**

A. Find the Student Study ID envelope. There is one record for each class (Data Nuggets class bright green, comparison bright yellow). In the left-hand column, write each student's name. In the second and third columns, assign each student a unique student ID that is not shared by any other student. This ID will be used throughout the study. You can simply assign a number (not a school ID), or some teachers like to use two random words so that students have an easier time remembering. For instance, "round tulip" or "purple grass." The important thing is that the ID assigned and is recorded on this form and used consistently throughout the study (students should always use their ID on study materials).

B. In the right-hand column, you will record whether assent and consent forms have been received for each student. In most cases, we are using a "passive" parental consent. This means that parents will likely NOT return the forms. They only need to be returned if a parent does not allow his/her student to participate in the study. **You will use the original to record student assent and parent consent. Later, you will mail the portion without names back to BSCS.**

**Make a copy of the ID sheets and put it somewhere safe! You will need to refer back to this if your students forget their IDs.**

**3. Ask students in both classes (Data Nuggets and comparison classrooms) to read the Student Assent form, sign, and return to you. Ask students to take the Parent Consent form to their parent/guardian for review.**

- Please explain to students that they are being asked to participate in a research study. We find that most students are excited to participate in research and think it is cool that we are studying what happens in their science class. Please make sure that students understand that even if they don't want to participate in the research, they would still participate normally in class and they would still do an alternative assessment.
- When you receive your box of materials, we will note whether your school district requires active consent from parents. Most will not.

- If a student decides not to participate in the study, this does not mean that they will not participate as normal in class. However, when the participating students are taking the assessment, they will be provided with an alternative reading (we will supply) and a few open-ended questions to complete that will not be shared with the researchers.
  - When you have received the assent/consent forms, you will remove the section of the ID sheet that says “SEND THIS SIDE OF THE FORM BACK TO BSCS” with your first shipment of materials.
- Record receipt of consent forms on the ID Sheet for each class**
  - Return all consent forms to the appropriate envelope**
    - Data Nuggets treatment class consent forms**
    - Comparison class consent forms**

**4. Administering Student Surveys #1 (Attitudes and Graphing) and #2 (Quantitative Reasoning).**

**Please read the following carefully! For those who attended the Michigan workshop, this information has changed! We are asking you to administer the surveys over two class periods. This is to reduce the cognitive load on students.**

**DON'T FORGET TO REMIND STUDENTS TO USE THEIR ID NUMBERS INSTEAD OF THEIR NAME!**  
**(Some teachers like to hand out note cards or sticky notes as a reminder of ID numbers. Others use a smart board to put the ID numbers up on the screen.)**

- A. Find Survey #1, the pre-Attitudes/Graphing task envelope for each class and administer in both the treatment and comparison classrooms.** At the end of this form, students will answer optional demographics questions. We expect Survey #1 to take about 30 minutes. They can use a pen or a pencil.
- B. At the beginning of another class period (within a few days) find the envelope containing Survey #2, the pre-QR Knowledge Survey and implement in both the treatment and comparison classrooms.** We expect Survey #2 to take about 40 minutes to complete. You will notice that not all assessment forms are the same. This is part of the research design. Students will respond to the questions by bubbling in the appropriate answer. They can use a pen or a pencil.
- **Please use the BLUE cover assessment for any student that would typically receive accommodations during testing. Please also follow the accommodations provided through their IEP or 504 plan.** It is fine if students do not complete the entire form or for them to have extra time to complete the form. We also recognize that some students have tests read to them. This is just fine. Please use the blue form for these students, as well. If you have specific questions about accommodations, please contact Molly or Val.
  - If students aren't sure what the right answer is, just ask them to pick the answer they think is best.

- ALTERNATIVE TO TESTING for students who do not consent to participate in the study (this is usually very few students), please go to the study website and find the document marked “ALTERNATIVE TASK FOR NO CONSENT STUDENTS 1” for the attitudes and graphing task and “ALTERNATIVE TASK FOR NO CONSENT STUDENTS 2” for the knowledge assessment. (Please see the folder on the research website <http://datanuggets.org/study/research-documents/>) This is what the students without consent to participate should complete while the other students in the study are completing the research tasks above. You can feel free to keep these forms. We do not want you to send them back to us.

**Return all student surveys to the appropriate envelope.**

- Data Nuggets treatment class pre-Survey #1
- Comparison class pre-Survey #1
- Data Nuggets treatment class pre-Survey #2
- Comparison class pre-Survey #2

**5. Place everything that you have collected in the small box and email Val ([vmaltese@bscs.org](mailto:vmaltese@bscs.org)) for a shipping label. She will email a printable USPS label. Ship the box with the following to BSCS!**

- BSCS side of the ID Forms
  - Data Nuggets treatment class
  - Comparison class
- Completed student assent and parent consent forms:
  - Data Nuggets treatment class
  - Comparison class
- Completed pre-surveys:
  - Data Nuggets treatment class pre-Survey #1
  - Comparison class pre- Survey #1
  - Data Nuggets treatment class pre-Survey #2
  - Comparison class pre-Survey #2

**6. YOU ARE READY TO USE 8 DATA NUGGETS IN YOUR TREATMENT CLASS AND THE ALTERNATIVE LESSONS IN YOUR COMPARISON CLASS.**

- A. Each time that you complete a Data Nugget, ask students to use their study ID instead of their name, collect them, and place them in the numbered envelope.
- B. If you use any supplementary paper or other materials (e.g., C-E-R tool, graphing paper), please staple to student Data Nuggets and include in the envelope.

**7. Each time you complete a Data Nugget, also complete the Implementation Logs for both study classrooms.** The implementation logs will be in the envelopes for your convenience.

- for the Data Nugget you chose (green paper)
- for the Comparison class Activity (white paper)

Place the implementation logs (from treatment and comparison classes) and associated Data Nuggets and supplementary materials in the envelope.

8. **Schedule classroom visits** – One visit between September 1<sup>st</sup> and October 15<sup>th</sup> and the other between October 15<sup>th</sup> and December 5<sup>th</sup>. Information about scheduling visits will be coming soon! Watch your email.
9. **AFTER** you complete the 8 Data Nuggets (by the end of the fall semester) in your Data Nuggets class and the alternate lessons in your comparison class please administer the post-assessment surveys using the same protocol from #4.

**Return all student assessments to the appropriate envelope.**

- Data Nuggets treatment class post-Survey #1
- Comparison class post-Survey #1
- Data Nuggets treatment class post-Survey #2
- Comparison class post-Survey #2

10. Place all of the Data Nugget envelopes and post-assessment survey envelopes into the large box and email Val ([vmaltese@bscs.org](mailto:vmaltese@bscs.org)) for a shipping label to send the box back to BSCS.

These envelopes should be in the box:

- Data Nuggets treatment class post-Survey #1
- Comparison class post-Survey #1
- Data Nuggets treatment class post-Survey #2
- Comparison class post-Survey #2
- 8 Data Nugget envelopes that include implementation logs

**This is the end of the fall semester of the study!**

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**Begin spring semester! Flip the treatment! Feel free to use Data Nuggets in your comparison classroom, but please stop using them in your treatment classroom.**

We will contact you in December to clarify your plans for the spring semester.

11. **Beginning in the spring semester, start using Data Nuggets in your comparison classrooms.** This allows you to provide the comparison group with the treatment. At this point, you do not use Data Nuggets in your fall treatment classroom.
12. **Complete implementation logs for all Data Nuggets that you use with the comparison group (you do not need to collect the Data Nuggets from students)** and place them in the envelope with the corresponding student Data Nuggets.
13. **At the end of the semester administer the post-post assessment surveys in all remaining classes using the same protocol from #4.** We understand that for some schools, students are reassigned to different classrooms at the semester break.
14. **Place all the Data Nugget envelopes and post-post-assessment survey envelopes into the shipping envelope or box provided and email Val ([vmaltese@bscs.org](mailto:vmaltese@bscs.org)) for a mailing label. Send to BSCS.**

**DON'T FORGET TO REMIND STUDENTS TO USE THEIR ID NUMBERS INSTEAD OF THEIR NAME!**  
(Some teachers like to hand out note cards or sticky notes as a reminder of ID numbers. Others use a smart board to put the ID numbers up on the screen.)

The following should be in your final shipment:

- Data Nuggets treatment class post-post-Survey #1
- Comparison class post-post-Survey #1
- Data Nuggets treatment class post-post-Survey #2
- Comparison class post-post-Survey #2
- Implementation logs for spring