

# *Biology of* **HUMAN**

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## **Community Learning Center Club: Who Am I? Exploring Ourselves**

### **Attendance Summary, Student Survey Results, and Compilation of Weekly Write-ups**

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**Spring 2016**



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# Community Learning Center Club: “Who am I? Exploring Ourselves”

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## *Participation Summary, Student Survey Results and Compilation of Weekly Write-ups*

### **Introduction**

The Biology of Human (“BioHuman”) project, funded by the National Institutes of Health (NIH) Science Education Partnership Award (SEPA), focuses on helping youth and adults understand themselves by exploring scientific principles that underlie modern research in human biology. Currently in its fourth year of a five-year grant, the project is creating innovative outreach materials for youth and families, educators and librarians.

One project goal is to generate greater interest in biomedical careers, particularly among youth. “Who Am I? Exploring Ourselves” is one in a series of a semester-long science-themed afterschool clubs funded, designed, facilitated and staffed by the BioHuman project and offered through the local Community Learning Center at a public middle school. This collaborative outreach effort serves multiple purposes, not only providing rich, hands-on science experiences for participating youth, but also providing the project with an age appropriate target audience to trial test project deliverables and get relevant timely feedback to make modifications.

*Who Am I? Exploring Ourselves* was offered once a week after school during Spring 2016 at a local, Title 1 public middle school. Each session was 75 minutes, 4:15-5:30PM. The club was organized and run by two facilitators from the BioHuman project, Sara LeRoy-Toren, a retired high school science teacher and former lead science teacher at the LPS high school Science Focus Program, and Adam Wagler, assistant professor of advertising and public relations in the UNL College of Journalism and Mass Communications. Two undergraduate students were selected from among several applicants through the sociology department to assist on a weekly basis. In the flyer promoting this club to students and their parents, it was described as follows: “Exploration of who we are: inside and out. Explore everything that makes you a person from cultural influences, environment, food/diet, all the way down to your cells. Take multiple field trips to UNL, try virtual reality using Google Cardboard, and play crazy science games.” This club and the description provided to promote it were created with the intent to be more inclusive of girls. Participation in the prior club offering was almost two-thirds boys, so we tried to be more deliberate in making the language about and content of the club activities welcoming of girls. Research shows specific strategies can be used to make science and engineering activities more attractive to girls, including making the content more personally relevant (Ilumoka, 2012; Liben & Coyle, 2014; National Academy of Engineering, 2008; Thompson, 2014).

### **Purpose**

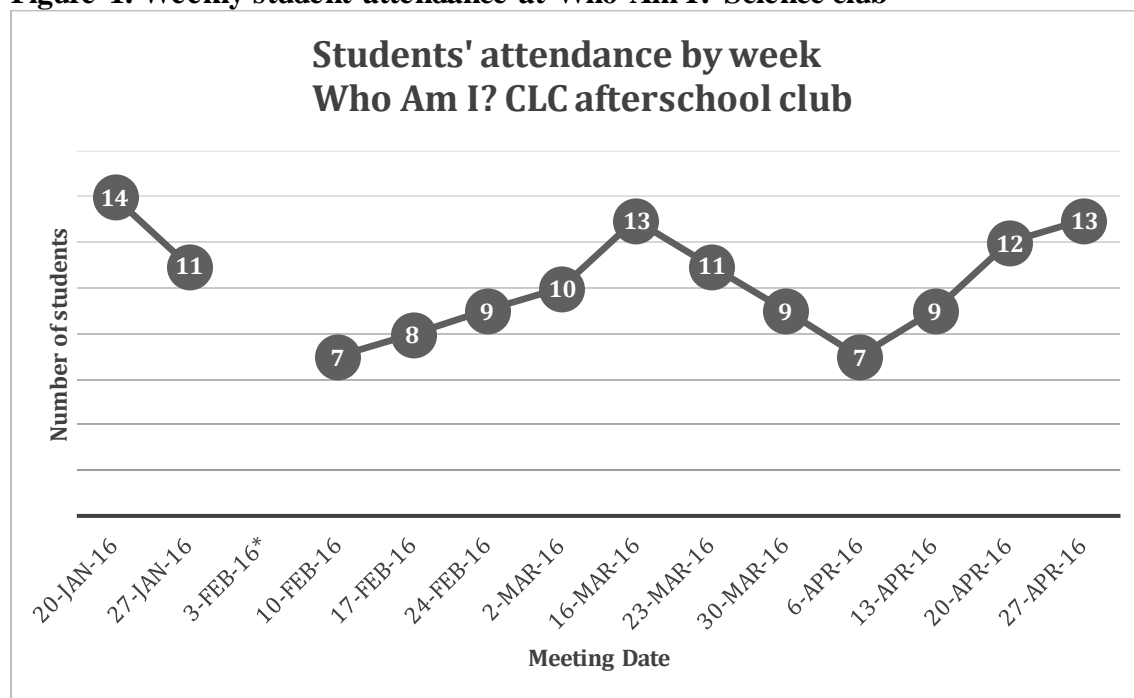
This report is designed to serve as documentation about the club participation, activities, and weekly facilitator feedback, and to provide some information about the student attendance

on a weekly basis. The first section of this report describes the student participation in the club. Next, results from a brief pre- and post-survey that was administered to the students during the semester are described. Then, the initial planned sequence of weekly activities is provided. While changes were made as needed during the semester, this list provides the general themes and content of the club meetings. Last, the weekly summaries of the club meetings are included in their entirety. These include a summary of each week's actual activities, attendance information, reflections and comments of the lead facilitator, and the written feedback from all the participating facilitators.

## Participants

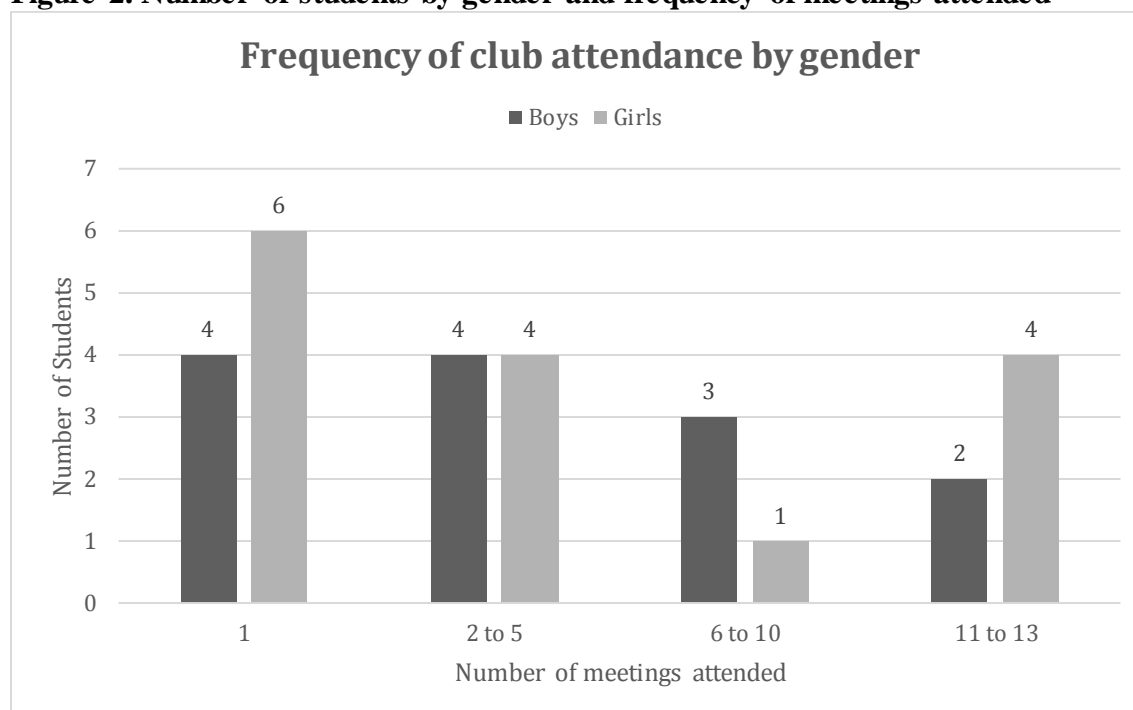
The Community Learning Center (CLC) afterschool club *Who Am I? Exploring Ourselves* met 13 times during the spring semester of the 2015-2016 school year (one meeting was cancelled by school district due to inclement weather). Weekly attendance ranged from seven to 13 students with a mean attendance of 10.2 students (with weekly averages of: 4.5 male, 5.7 female; 3.0 European American, 5.6 African American, 1.2 Middle Eastern, 0.2 Hispanic, 0.1 Asian, 0.2 unknown/not reported), and median attendance of 10 students (see Figure 1). A total of 28 different students attended the club, with 10 students attending just one meeting and 10 students attending 6 or more of the meetings (see Figure 2).

**Figure 1. Weekly student attendance at Who Am I? Science club**



\*February 3 was a snow day, so all school activities were cancelled.

**Figure 2. Number of students by gender and frequency of meetings attended**



Compared to the prior semester, fewer total numbers of students participated (28 this semester, 37 last semester), but the number of students participating frequently (6 or more meetings) was almost as high (11 last semester, 10 this semester). Last year, there were almost twice as many boys than girls participating on a weekly basis. This semester, however, the proportion of girls participating was much higher. In fact, girls actually outnumbered boys, on average, every week. Although a direct causal link cannot be drawn, the project team did make a concerted effort to address the gender gap when creating the club and the description promoting it.

## Student Survey Results

An informal, exploratory study was conducted in the form of a pre- and post-survey administered to student participants. It consisted of two open-ended questions focused on the general content of the club and some demographic information. The first question asked students to describe themselves, asking “Who are you? I am \_\_\_\_\_.” The question was repeated, allowing students to answer it up to ten times. This is a modified version of the classic “Who Am I?” test that has been used for a variety of purposes, including to assess developmental change in identity (Grossack, 1960; Montemayor & Eisen, 1977). Next was the question, “What is science? Science is \_\_\_\_\_.” At the end, students were asked their gender, grade level, ethnicity/ race, and the last four digits of their student ID number (used for anonymously matching pre- and post-surveys). The pre-test was administered as web-based instrument at the first meeting near the beginning, and students accessed the survey on their school-issued chromebooks. Students were compliant in taking the survey, but some seemed uncertain how respond to the “who are you?” questions. Given that this was the first meeting day, students may have been somewhat excited, and had some difficulty focusing on a writing task right away. Of

the twelve students who logged into the survey, two returned incomplete sets of responses. Average time spent completing the pre-survey was 4:32. The post-survey was administered on the penultimate meeting day at the beginning of the meeting; of the twelve students who started the survey, one provided an incomplete set of responses (note that four students opted to complete it on paper because they arrived late and it was simpler and less disruptive). Average time spent completing the on-line post-survey was 5:21.

There were some differences between the pre and post-survey responses. Most notable was the number of descriptors that students used to describe themselves. In the pre-survey, students used, on average, 4.5 of the 10 possible blanks (see Table 1 below) to fill in a descriptor about themselves (although one student wrote a long, 8-sentence description in the first blank). In the post-survey, students completed twice as many blanks, with an average of 9.2 descriptors. This trend was even stronger when looking at just the six students who participated in both the pre- and post-survey. Again, while a direct causal link cannot be made, students were much more likely to provide a more numerous set of descriptors about themselves at the end of the “Who Am I?” club than they had at the beginning of the club.

**Table 1. Description of survey respondents and number of responses**

	All respondents		Matched pre- and post-	
	Pre-club	Post-club	Pre-club	Post-club
Number of respondents	N=12	N=12	N=6	
Gender	5 girls 5 boys 2 not given	8 girls 4 boys	3 girls 3 boys	
Grade level	3 in 6 <sup>th</sup> grade 7 in 7 <sup>th</sup> grade 2 not given	1 in 6 <sup>th</sup> grade 8 in 7 <sup>th</sup> grade 2 in 8 <sup>th</sup> grade 1 not given	1 in 6 <sup>th</sup> grade 5 in 7 <sup>th</sup> grade	
Race/ Ethnicity	3 White 3 Black 3 two or more races 1 Other 2 not given	4 two or more races 3 Black 2 White 1 Middle Eastern 1 Asian 1 not given	3 White 2 two or more races 1 Black	
Number of responses to “who am I?”	Median=4 Mean=4.5	Median=10 Mean=9.2	Median=3 Mean=3.2	Median=10 Mean=8.8

Given the exploratory nature of the survey, as well as the limited number and nature of the responses, I did not conduct formal content analyses of the responses. Rather, these descriptors provide some context about the students participating in the club. Below are most of the responses students provided, with individually identifying descriptors omitted and spelling corrected when in [brackets].

**Table 2. Matched pre- and post-club survey responses to “Who am I? I am...\_\_\_\_\_”**

<b>Student gender</b>	<b>Pre-survey response:</b>	<b>Post-survey response:</b>
Boy	<ul style="list-style-type: none"> <li>• <i>happy</i></li> <li>• <i>good looking</i></li> <li>• <i>street smart</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>fabulous</i></li> <li>• <i>open to people that are different</i></li> <li>• <i>a comb collector</i></li> <li>• <i>cool</i></li> <li>• <i>not popular</i></li> <li>• <i>[_ethnicity_]</i></li> <li>• <i>[weird]</i></li> <li>• <i>[beautiful]</i></li> </ul>
Girl	<ul style="list-style-type: none"> <li>• <i>Fun</i></li> <li>• <i>friendly</i></li> <li>• <i>cool</i></li> <li>• <i>powerful</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>a good friend</i></li> <li>• <i>funny</i></li> <li>• <i>cool</i></li> <li>• <i>friendly</i></li> <li>• <i>a human</i></li> <li>• <i>a [contributor] to society</i></li> <li>• <i>crazy</i></li> <li>• <i>wonderful</i></li> <li>• <i>a donkey</i></li> <li>• <i>the best person ever</i></li> </ul>
Girl	<ul style="list-style-type: none"> <li>• <i>I am smart and happy with a little dark side, who kinda likes goth and vampires. I ADORE mythical creatures such as dragons, fairies, unicorns, and the like. I am strong and empowering ready to put up a fight, but kind and gentle and sweet. I love the oldies like Looney Tunes and The Powerpuff Girls and love older things. I like 80's rock and am a wolf instead of a sheep. I am different and weird and well a nerd. I love to read and write and sing. I am just plain SILLY and GOOFY but that makes me different from the rest.</i></li> <li>• <i>AWESOME!!!</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>a [sincere] unbeliever in many different things, an adventurer and someone who [learns]</i></li> <li>• <i>happy and so lucky with many talents.</i></li> <li>• <i>a heart of gold who loves to be friendly and creative. I am ME and nothing can change that.</i></li> </ul>
Boy	<ul style="list-style-type: none"> <li>• <i>persistent</i></li> <li>• <i>different</i></li> <li>• <i>optimistic</i></li> <li>• <i>unique</i></li> <li>• <i>intelligent</i></li> <li>• <i>[claustrophobic]</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>A unique person who likes school and likes tech.</i></li> <li>• <i>a strange person</i></li> <li>• <i>[intelligent]</i></li> <li>• <i>a student</i></li> <li>• <i>a human</i></li> <li>• <i>someone who values learning</i></li> <li>• <i>different</i></li> <li>• <i>[anonymous]</i></li> <li>• <i>strong</i></li> <li>• <i>happy</i></li> </ul>
Boy	<ul style="list-style-type: none"> <li>• <i>cruel, mean, hateful, spiteful,</i></li> <li>• <i>mean</i></li> <li>• <i>cruel</i></li> </ul>	<ul style="list-style-type: none"> <li>• <i>Unique</i></li> <li>• <i>honest</i></li> <li>• <i>caring</i></li> <li>• <i>gay</i></li> <li>• <i>open</i></li> </ul>

		<ul style="list-style-type: none"> <li>• awesome</li> <li>• a good friend</li> <li>• better than you</li> <li>• a person</li> <li>• [name]</li> </ul>
Girl	<ul style="list-style-type: none"> <li>• tall</li> <li>• a hard worker</li> <li>• serious on my work at school</li> </ul>	<ul style="list-style-type: none"> <li>• kind</li> <li>• respectful</li> <li>• happy</li> <li>• sassy sometimes</li> <li>• a hard worker</li> <li>• unique</li> <li>• Awesome</li> <li>• young</li> <li>• Excellent</li> <li>• Patient (depends on what mood I'm on).</li> </ul>

**Table 3. Youth with only pre- or post- survey responses to “Who am I? I am...\_\_\_\_\_”**

Youth with only pre-survey responses:				
<i>Girl:</i> <ul style="list-style-type: none"> <li>• funny</li> <li>• nice</li> <li>• kind</li> <li>• mean</li> <li>• pretty</li> <li>• girly</li> <li>• beautiful</li> </ul>	<i>Boy:</i> <ul style="list-style-type: none"> <li>• [name]</li> <li>• Athletic</li> <li>• Smart</li> <li>• nice</li> <li>• fun</li> <li>• a good leader</li> <li>• cool</li> <li>• writing a book</li> <li>• 12 years old</li> <li>• bored</li> </ul>	<i>Girl:</i> <ul style="list-style-type: none"> <li>• I am [name]</li> <li>• [name]</li> <li>• [name]</li> <li>• [name]</li> <li>• [name]</li> <li>• [name]</li> <li>• [name]</li> <li>• [name]</li> <li>• [name]</li> </ul>	<i>No gender provided:</i> <ul style="list-style-type: none"> <li>• fabulous</li> <li>• pretty</li> <li>• lovely</li> <li>• still fabulous</li> </ul>	<i>No gender provided:</i> <ul style="list-style-type: none"> <li>• [name]</li> </ul>
Youth with only post-survey responses:				
<i>Girl:</i> <ul style="list-style-type: none"> <li>• a donkey</li> <li>• beautiful</li> <li>• nice</li> <li>• a person</li> <li>• a girl</li> <li>• pretty</li> <li>• bi</li> <li>• [_ethnicity_]</li> <li>• kind</li> </ul>	<i>Girl:</i> <ul style="list-style-type: none"> <li>• I don't know</li> <li>• [forgetful]</li> <li>• terrible person</li> <li>• depressed person</li> <li>• emo</li> <li>• gothic</li> <li>• suicidal</li> <li>• homicidal</li> <li>• annoying</li> <li>• just another person in the background</li> </ul>	<i>Girl:</i> <ul style="list-style-type: none"> <li>• [name]</li> <li>• A little childish.</li> <li>• Someone who wants to be there to help someone in need.</li> <li>• Someone who wants to believe what's going around.</li> <li>• Happy to be in this club.</li> <li>• Happy to explore somethings that other don't have the chance to do.</li> <li>• Someone who love to watch animation shows.</li> <li>• Glad to have friends who stay with me when I explore myself.</li> <li>• Someone who will do anything to complete my work or make someone happy.</li> <li>• Happy that I have a dream that would be benefit to others.</li> </ul>		



Youth with only post-survey responses (cont.)		
<b>Boy:</b> <ul style="list-style-type: none"> <li>• [marvelous]</li> <li>• fun</li> <li>• cool</li> <li>• nice</li> <li>• funny</li> <li>• smart</li> <li>energetic</li> </ul>	<b>Girl:</b> <ul style="list-style-type: none"> <li>• [artist]</li> <li>• students</li> <li>• fun</li> <li>• [exciting]</li> <li>• [daughter]</li> <li>• helper</li> <li>• [successful]</li> <li>• smart</li> <li>• [beautiful]</li> <li>• good friend</li> </ul>	<b>Girl:</b> <ul style="list-style-type: none"> <li>• [name]</li> <li>• I am good at drawing things.</li> <li>• I am very like animals</li> <li>• I am someone like to watch anime</li> <li>• I am the person that very good at math.</li> <li>• I am the person that is happy everyday</li> <li>• I am the person that is from [_country_]</li> <li>• I am the person that likes to play video games.</li> <li>• I am a person that loves to play computer and phone.</li> <li>• I am the person that is like to play with my friend.</li> </ul>

Students' responses to "What is science?" appeared similar in the pre- and post-surveys. Table 4 below lists students' verbatim responses.

**Table 4. Students' responses to "What is science? Science is...."**

Student Gender	Pre-survey responses:	Post-survey responses:
<b>Matched pre- and post-survey responses</b>		
Girl	• the study of things	• science is the act of finding new things for society and the swans
Boy	• using resources and intelligence to create new things, innovate, and to learn more about how the human race survives.	• Creating and Experimenting with different materials to create new things.
Girl	• is the study of something, like The Study of if Animals feel Emotions.	• Science is discoveries and research.
Boy	• hard	• science
Girl	• I think Science is the study of nature, animals, and also art.	• The study of living things and non living things. (Biology, Geography)
Boy	• the truth about things.	• sometimes interesting
<b>Youth with only pre-survey or only post-survey responses</b>		
Boy	• it is about [scientific] things	
Girl	• experimenting	
Boy	• fun	
Girl	• Science is a great class is may teach you so many thing	
Girl		• fun
Girl		• Science is the world
Girl		• Science is something that everybody need in the world. It is very good that we know science.
Girl		• The scientific way to explain things in which they are everywhere around us
Boy		• fun

At the "Celebration of Learning" on the last meeting day of the club, students were asked to verbally share "What did you like best or remember most?" Students provided a variety of

responses, with the most frequently mentioned activity being the Google Cardboard activity, with comments including,

*I liked the Google Cardboard... the haunted house app - it was entertaining; that was fun.*

*[We] put the phone in there, so we weren't actually there, but it felt like we were there.*

*The Google Cardboard...I got see underwater scuba diving. I never got to do that before, so that was cool.*

Half of the students mentioned the field trips as being a favorite activity, in particular, to the UNL stadium. Comments included,

*I liked the field trips. It was a way to get out of class, a good break. I liked the stadium, how we got to be in players' shoes.*

*Field trip to the stadium was my favorite time. We got to see machines and how it adapted to each person, and after the game, how they controlled twitter and stuff.*

*The stadium - I liked being out of school; it was funny and smelled like onions.*

The parasite lab at UNL was not as popular, with a few students noting that they did not like that field trip as well, although one student said s/he “kind of liked the parasites, how adaptable they are.”

The personal shrines activity and the visit from Bob Hall were each mentioned by a third of the students. Comments included,

*I liked making boxes [personal shrine], because I like designing things and keeping things in boxes*

*Personal box - I like putting stuff in there, I still put stuff there.*

*Cool to see how professional comics are drawn.*

*I liked the stories that [Bob Hall] told*

Other activities mentioned included,

*I liked Dr. West. We learned about viruses and monkeys.*

*The guy that came with the drone. Need license for how to drive, remote control. Like it - learned drone could be really dangerous.*

*Black Lives Matter was important because white people have advantages and black people should have them too. They shouldn't be discriminated against.*

Students also talked about circumstances around the afterschool club,

*Today [I like the best] ...sometimes I came here because I had nothing better to do.*

*I usually had to leave before anything fun began. I had to do everything early.*

*I like going to the university - I liked those best from last time, but wasn't able to come many times this semester*

One student summed up his/her experiences, saying,

*I got a lot of new experiences [in the club] and learned a lot.*

Overall the club provided students with multiple opportunities to consider the question about “Who am I?” in a variety of contexts. Students were more expressive in the written survey answers to “Who am I?” at the end of the semester than the beginning, and indicated their engagement in the club in their responses to the wrap-up sharing on the last day. This semester, participants tended to be more consistent in attendance, with a relatively cohesive group of “regulars” forming the core of the club.

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## Initial Planned Schedule

### Who am I: Exploring Ourselves

Middle School CLC Spring 2016

January 20 – April 27 | Wednesdays 4:15-5:30pm

*Draft 12/7/15*

Exploration of who we are: inside and out. Explore everything that makes you a person from cultural influences, environment, food/diet, all the way down to your cells. Take multiple field trips to UNL, try virtual reality using Google Cardboard, and play crazy science games.

1. January 20: Personal Shrine (Sara)  
All about you and what makes you tick
2. January 27: Where in the world or out. (Adam)  
Use phones to explore human body, outer space, and the entire world.
3. February 3: What goes inside (Megan)  
Explore multiple generations of foods through a taboo-style game.
4. February 10: UNL Sport Field Trip (Adam – Julia – Sara)  
Meet up with past and present UNL athletes about health, school, and sports.
5. February 17: What do you do between 6-8am-6-8pm Activities (Megan)  
Charades style game to have people guess your activities throughout the day
6. February 24: American Diversity at [Participating School](Adam)  
Bring NUSAMS, #BlackLivesMatter, and/or Gaughan Center People
7. March 2: Bring Things Together (Sara)  
Revisit their collages – either add to it or make new one

### March 9 – LPS SPRING BREAK

8. March 16: Points of view with Matt Waite (Adam)  
Selfie culture viewing our selves through cameras: GoPros, Drones, VR, and Selfies
9. March 23 (UNL Spring Break): UNL Field Trip on Parasites (Sara)
10. March 30: Investigating Parasites (Sara)  
Dr. Scott Gardner visits CLC for us to explore parasites
11. April 6: Food, Parasites and Health (Megan)  
Public health issues between these 3 areas
12. April 13: Monster Inside Us (Judy)  
Bob Hall visits to talk about comic book and process
13. April 20: Shrine Workshop (Sara)  
Organize personal shrines, put together collages, and photos/videos
14. April 27: Party and Sharing (Sara)

# Weekly Summaries

## Week 1

### Middle School “Who Am I?” Community Learning Center Club University of Nebraska Museum SEPA grant BioHuman Activity Report #012016

**Date/Time** January 20, 2016; 4:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Adam Wagler, Amy Spiegel, Jazmin Newton, Destiny Myers

#### **Student Participants:**

2 Euro Americans  
3 Middle Eastern Americans  
1 Hispanic/Latino American  
8 African American  
Total: 14

**Special circumstances:** This day was the first day for this school year’s SEPA BioHuman grant club. Efforts focused on recruiting and retaining students, with an emphasis to connect student interest with the club objectives of science outreach, relating to student life and meeting the needs of our diverse population. There were a number of returning participants from last year, indicating a continued interest in our club.

**Activities:** Introductions of staff were exchanged with student introductions. Adam and Sara gave a brief description of proposed activities for the semester, encouraged the students that their opinion was important and Amy Spiegel talked about the research parameters and opt out forms. After that, Amy gave the students a short survey.

The activity of the day was to make “personal shrine” boxes. Available materials for that were 7x3” paperboard boxes, an assortment of colored tag board, markers, small objects (plastic toys, beads, fibers, old copies of Science magazine, decorative wire, small sticky notes and clay. The objective was to have the club members choose and reflect on artifacts they related to their identity on that day. The students were told that they would be adding to this box as the semester went on, and that the boxes would be kept until the end of the semester so that they could take them home.

**Assessment:** Response to this activity was varied, but a number of the students were very interested and engaged. 3 of them asked Sara to look at their work, and wanted to share why they had chosen the objects they included. Science interests were expressed by a number of the students, and connected with their personal lives. The club is scheduled to end at 5:30, but some did not leave until 5:45pm because they were involved in their project. This day was a successful and engaging start for our club this semester. The continued involvement of students from last year indicated carry over interest, and is a good portent for the semester.

**Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**  
**20 January 2016**  
**Introduction and Personal Shrine**  
**Facilitator feedback, summarized by Amy N. Spiegel**

**Student comments/questions:**

- “What are your favorite animals?” “What are your favorite movies? School subject?” etc. (to undergraduate facilitator)
- “Super cool” (when getting the supplies for their personal shrine box)
- One student got excited at the magazine being *Science*.
- “This is personal information.”
- “How much is the Oculus Rift?”

**What worked well with the activities:**

- The box activity worked really well! The kids really enjoyed getting to create a box that represented who they are! Creativity really sparked their interest.
- It got them to think creatively about who they are with the items that they were given [to choose from].
- The box/shrine activities [worked well].
- The physical act of building, cutting, gluing [was good].
- Students enjoyed the survey and the personal shrine.

**What changes would you recommend?**

- The survey didn’t go over that well for some students. Some didn’t take it as serious as hoped, so answers were rushed and maybe not as detailed and accurate as they could be.
- Nothing, I was even engaged in the activity.
- [Having] more stuff [to choose from] and have them bring things to personalize more.
- None.

## Week 2

### Middle School "Who Am I?" Community Learning Center Club University of Nebraska Museum SEPA grant BioHuman Activity Report #012716

**Date/Time** January 27, 2016; 4:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Adam Wagler, Amy Spiegel, Jazmin Newton, Destiny Myers

#### **Student Participants:**

2 Euro Americans  
1 Middle Eastern Americans  
0 Hispanic/Latino American  
7 African American/Black  
1 Not reported/ Unknown  
Total: 11

**Special circumstances:** This day was our first follow up to see how many of the initial students would return to club for a second meeting, and the attendance was good. There were some snags with the less expensive "Cardboard" viewing devices we provided, but the kids found a way around the complications. Staff also provided enough of the more expensive devices that were already assembled which gave everyone an example of a model and function that they were attempting to make.

**Activities:** This activity centered around the physics of lenses and the technology (Google Cardboard) to tell stories about activities with low tech virtual reality. The convergence of stories of self and virtual reality were planned as a part of the club. The students were welcomed and there was a very short PPT on how lenses work, related to how human eyes work. Students were shown the Google Cardboard devices, both assembled and in kit form. Adam worked with the students to download free apps to use with the cardboards, and the group was given an unassembled GC device to put together. For this part, the students were separated into groups of 2, mostly self-selected. They assembled their Cardboards and used phones to play the apps that had been downloaded. It was necessary to use student and staff phones, as the survey phones were not amenable to downloading the apps. This did not present a real challenge, and all were able to experience low tech VR.

**Assessment:** This activity was very successful, with high engagement, strong correlation with previous club activities (to encourage consistency in attending through the middle school years), and substantial team building (reinforcement of common interests, understanding of diversity, high interest in activities). These were planned goals for this group, so the response was a positive indicator for this activity. Both the students and staff had a good experience, and were able to get to know one another during this meeting.

**Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**  
**27 January 2016**  
**PPT on Lenses, Building & Using Google Cardboard**  
**Facilitator feedback, summarized by Amy N. Spiegel**

**Student comments/questions:**

- “What does that do?”
- “What apps?”
- “Can I scan this?”
- “Everybody has a smartphone? I should’ve brought mine – I left it at home.”
- “Do you have your phone? We’re supposed to download...”
- “Yeah, it was cool.” [in response to, “Did you do Oculus Rift last year?”]
- “This actually looks like a real camera.”
- “How do I put this together?”
- “Can you help me?”
- “Building these looks complicated.”
- “Can you do it for us?” [to facilitator]
- “I don’t have a phone.”
- “What does this do?”
- “Does this part need to come out?” [while assembling Google Cardboard]
- “Our lenses are failing; they keep falling out!”
- “I’m confused!” [while assembling Google Cardboard]
- “Do you need help?” [one student to another, while assembling GC]
- “We’ll have to slit this part, since we taped it.” [one student to another]
- “We worked together without any argument!” [one student to another]
- “Are there movies?”
- “Can you watch video?”
- “This is cool!!!”
- “How do they do these?” [apps]
- “I’m in the ocean! Awesome!”
- “I saw Earth! Venus!”
- “Can I go to Africa?”
- “Can I go to Colorado?”
- “It looks like I’m actually there.”
- “This is so cool!!”
- “It’s a roller coaster.”
- “Can we keep these?” [Google Cardboards]
- “Is there a stool in front of you? It’s not there.”
- “Where can I get this?” [apps and cardboards]

**What worked well with the activities:**

- Learning about lenses [worked well].
- Building the cardboards.
- Kids liked the virtual reality with the Google Cardboard; [they like] playing/exploring the different apps.
- Even with an individual activity (Virtual Reality), the students found a way to make it social – leading one another across the room.
- The whole day has been a huge success! The kids really love Google Cardboard and the games and activities it has to offer.
- Teaming the students in two’s; The kids worked well in pairs when building and playing with the google cardboard!



- Circling the tables [around the room].
- When told to put the glasses together with the kits, they said things like “it’s complicated,” but once completed, they couldn’t put them down, saying things like, “This is so cool!”
- Having them put them together on their own so that they could experience and know the concept behind what they are seeing.
- The finished product was very popular!
- A number of students had their own phones, which worked well.
- Having them use/create content with Cardboard Camera.
- We had fun!!

**What changes would you recommend?**

- Kind of difficult to have students use their own phones, but ended up working well.
- Next time, I would just make the introduction about the science of the lenses more interesting to keep them engaged before getting to the fun stuff.
- I think this activity went well and they were fully engaged.
- Find ways to get everyone devices and cardboards.
- Get all the students on the same apps and build out specific/ guided activity.
- Would be good to figure out how to get enough phones that work so we could make our own video.

### Week 3

**Middle School “Who Am I?” Community Learning Center Club  
University of Nebraska Museum SEPA grant BioHuman  
Activity Report #021016**

**Date/Time** February 10, 2016; 4:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Adam Wagler, Jazmin Newton, Destiny Myers

**Student Participants:**

1 Euro American  
1 Middle Eastern American  
1 Hispanic/Latino American  
3 African American/Black  
1 Not reported/Unknown  
Total: 7

**Special circumstances:** This fieldtrip followed a week with school closure due to weather conditions, so that likely affected our student number on that day. Since the university had also closed during the previous week, the planning/communication for the field trip was interrupted. This activity was intended to follow a “Who Am I?” on the inside activity (what we eat and why) the week before. The weather on this day was very good, and the students who came on the trip were in a good mood.

**Activities:** Dr. Wagler coordinated the trip to feature the technology of telling a story (drones, 3D camera, performance measurement) with a trip through the athletic training facilities and stadium. The students got to see the center that provides the tech support for the stadium and athletes and experience the VR technology that is used. A drone was demonstrated with explanation in regard to its use on game days, and manipulation of the facility climate was discussed.

The group went on to explore the women’s volleyball weight center, and try out the machines (designed and built in Nebraska) that measure an athlete’s effectiveness in weight training. The individualization of the equipment was interesting to them as they viewed their own performance on the machines. Later, they were able to run on the football field, and do a “tunnel run”. Our guide pointed out how the surveillance in the stadium works, giving the security staff a clean view of all to keep the stadium safe.

**Assessment:** This field trip was very successful, with high engagement and continued the connections with previous club activities. Seeing and experiencing the VR connections we had begun with Google Cardboard was an extension recognized by our group. The opportunity for the students to seeing the “behind the scenes” in an iconic part of the university was received with enthusiasm by our group. This trip continued the much appreciated practice by CLC coordinator, Troy Mack, of making bus arrangements for our group. This is invaluable in allowing our students to experience things outside of their school, and to expose them to the opportunities afforded by the University of Nebraska-Lincoln

**Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**  
**10 February 2016**  
**Field Trip to UNL**  
**Facilitator feedback, summarized by Amy N. Spiegel**

**Student comments/questions:**

- “Where are we going?”
- “What will we do?”
- “This place is huge!” [entrance to stadium]
- “I’ve never been here.”
- “I came to a football game once.”
- “How do they control the temperature in this place?” [When viewing where the athlete’s work out and after they were told they could change the temperature of the room to resemble where their game will be played in the indoor football practice area, many students were interested in how they could do that.]
- “Do they really go through there?” [tunnel walk]
- “Oh that’s cool” [after touching the horseshoe]
- “We’re on the football field!”
- “I wish I went here” [to school]
- “Wow, look at those trophies!”
- “What is that?” [computerized lifting machine in the volleyball training area]
- “I want to try it!” [using the weight lifting machine that records performance]
- “Who gets to use this?”
- “How much did that drone cost?”
- “When do you use that? Can we fly it?”
- “That is so cool” [multiple screens in room showing drone videography]

**What worked well with the activities:**

- It interested a lot of students because it was a major university that they have heard about or been to games and got to see behind the scene aspects.
- Kelly talked about social media, VR, and drones with how the Huskers use that technology in their communications to manage their identity online. It will be a good setup for things we do in the future at CLC. His “office area” is really cool, too.
- Having the kids see the training equipment and the tech that is involved with the athlete training schedules: cameras, touch screens, and motion tracking that all had data visualizations. A couple students tried it which recorded their clean jerk so it was fun to watch their reactions. Having a performance trainer to show us those things was great. Very knowledgeable.
- The visual technology demonstration had many students very interested, and they asked many questions.
- The regular tour guide showed us the nutrition station for the athletes and talked about how their nutrition was monitored, managed, and tailored to each individual athlete.
- The tour guide also did a great job building up hitting the horseshoe for the tunnel walk where all the kids hit the sign above the door on the way out
- Adam did an awesome job of getting a variety of technology that is used in the stadium presented to us. Just to mention a few, we looked at drones, the indoor practice field for football, baseball, soccer, and softball, and the weight lifting equipment. All these involve technology, but in a variety of ways. This allowed for the kids to see that technology is EVERYWHERE.
- The student teaching assistants Destiny and Jazmin sat with the kids [as requested], and the interaction went very well.

- The students were well-behaved throughout the trip, and were fascinated by the different technologies presented at the stadium.
- A period of running on the field encouraged by our guide, Doug, and facilitated by Destiny and Jasmin was a lot a fun, fully participated in by the students, and a really nice addition after they had been shown things inside the building.
- Running around on the field was cool – Jasmin got a great photo of the kids running and jumping on the field.
- Engagement was high.
- Was a nice, quick, tour that seemed to go really well; Pretty much everything went well.
- Everything was on time and the students were a small group that was into seeing things.

#### **What changes would you recommend?**

- Mostly just planning got a little jumbled up. The regular tour guide took us to the pavilion, but we were supposed to have the trainer take us over there and talk more specifically about training, nutrition, and physiology. The trainer did a nice quick overview, but felt rushed by the tour guide because he wanted to make sure he got his stuff in. Not a huge deal and I think I was really the only one that noticed, but wished we had more time with the trainer.
- The originally ideas with Wrestlers and Volleyball panel of current and former athletes didn't work out because of practice schedules and locations. Also, the BioBrainLab ended up not doing tours because of a heavy research schedule
- The week before was a snow day at LPS, so we didn't do our normal reminder and promotion of the field trip so think this contributed to the small group.
- [Would have been good to have] more things to show them that related to science on campus. There are many labs and many researchers that work to discover many things such as spider work and aquariums or even talking to science professors.
- Letting them know during the touring that there is science to technology as well when talking about drones, and fitness equipment that was generated by technology.
- I think this field trip was PERFECTLY coordinated. The kids had a lot of fun and enjoyed experiencing the stadium and all the technology that was presented.
- Field trip turned out very well. I cannot think of any changes I would recommend.

## Week 4

### Middle School "Who Am I?" Community Learning Center Club University of Nebraska Museum SEPA grant BioHuman Activity Report #021716

**Date/Time** February 17, 2016; 4:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Adam Wagler, Jazmin Newton, Destiny Myers

**Student Participants:**

2 Euro American

1 Middle Eastern American

0 Hispanic/Latino American

5 African American/Black

Total: 8

**Special circumstances:** As we continued to explore the ideas of self identity, Dr. Megan Kelley facilitated a set of activities on stress and stress reactions. Once again, the wifi was not functioning in a way that we could utilize it for a video online. This was a day when a number of our students had slam poetry competitions, so that may have affected our attendance.

**Activities:** Dr. Kelley brought a set of activities for the students to examine the concept of stress in their lives, along with activities that might correlate with that stress. When the videos that she had planned would not work on the School wifi system, she gave the students connections and described what they would see on the videos. There was a start up activity that had the students write down what they did at regular intervals through the day (8am, 11am, 2pm, 5pm, 8pm), then they filled out a survey of feelings and reactions to stressful things in their lives, and formed teams to act these out with charades.

**Assessment:** The activities used had a good objective, and when the students could be active, worked very well. It was interesting to see how much the students could elaborate on stress in their lives, and identify their own reactions to it. When the day turned to discussion, the students were less involved, and had difficulty focusing.

As ever, dependence upon wifi at School was problematic, and it has been difficult to convince our guests that we cannot depend upon the technology working. This reinforced the idea that more effort needs to be made to proactively find alternatives to the wifi for video. It would have undoubtedly made a difference in how our day went, although the take-home message about stress appeared to be openly received by the students as part of our "Who Am I" theme.

**Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**  
**17 February 2016**  
**List of Feelings, Charades, Cards of Hour of the Day**  
**Facilitator feedback, summarized by Amy N. Spiegel**

**Student comments/questions:**

- “What are we doing today?”
- While playing charades: “What do you do at 11a.m.?” [“and 8AM, 2PM, 5PM, 8PM”]***
- “We do things like brushing our hair and teeth and going to the bathroom because its human nature.”
- “We do things because of human nature, or because of school or work, or what our parents say!”
- “We sleep because it stimulates the brain.”
- With list of feelings/Stress bucket***
- “Oh, these are emoji’s”
- “Little confused, what should I do with the emotions sheet?”
- “I feel content – what is that?”
- [What do you feel like/ do when you get stressed/ sad?]***
- [What do you do to get rid of your stress?]***
- “Watch TV after homework or to relax”
- “I cuss and throw things.” [when I get sad]
- “I have a pit in my stomach”
- “I take a bath”
- “Binge watch TV”
- “Eat”
- “I listen to music, draw or sleep”
- “I play soccer”
- “Like fight or flight?”
- “Don’t you think crying is healthy?”

**What worked well with the activities:**

- The charades of time [of the day]; The charades was fun and everyone seemed to enjoy it; Charades
- Got them to think about the reasons why we do things during the day
- Worksheets
- Got them to correlate feelings to why we do daily routines and how the body feels; How feelings relate to the science of the body
- Discussing/ thoughts about activity and stress
- Video; The stress video was a good way to end the day

**What changes would you recommend?**

- It was hard for a few of the kids to stay focused because a lot of this was discussion based. Maybe doing discussion in shorter spurts would be better in the future.
- It was good discussion, maybe more direct/ structure for discussion
- Need more activity – students were antsy
- WiFi was difficult
- Change grouping tactic
- None

## Week 5

### Middle School "Who Am I?" Community Learning Center Club University of Nebraska Museum SEPA grant BioHuman Activity Report #022416

**Date/Time** February 24, 2016; 4:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Adam Wagler, Jazmin Newton, Destiny Myers, Dr. Larry Gibbs, presenter, Grace Stallworth, presenter

#### **Student Participants:**

4 Euro American  
1 Middle Eastern American  
0 Hispanic/Latino American  
4 African American/Black  
Total: 9

**Special circumstances:** The students were particularly active when they arrived on this day. Once again, the wifi is not connecting with a computer, so the survey that begins the meeting is run off Airshare through a phone.

**Activities:** Dr. Gibbs began the day with introductions and some questions for the students:

- Do you like to own things? What? Why?
- Do you like to be free? How? Why
- Draw what comes to mind when you think of what it means to be free.
- How do you express "myself"?
- What do you want to be?

The students enthusiastically answered the questions and discussed the nature of the questions. Grace Stallworth presented the survey on social movements which the students took with paper and pencil, then Ms. Stallworth, Dr. Gibbs and the students talked about what social movements were and how they affected each of us. The students were grouped and went on to discuss how we can make a difference in society with a social movement.

**Assessment:** This day was intended to introduce the students to social movements and some of the ways we can think about them. As part of the semester, the objective was for students to consider both internal and external ways of knowing themselves, with possible strategies for understanding.

The participation was consistent and enthusiastic. Many students stayed after club was finished to talk. The observations indicate that the students did understand and like the activities of the day, and Dr. Gibbs and Ms. Stallworth did a fine job of helping our club members understand social movements and what they mean individually and in society.

**Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**  
**24 February 2016**  
**Black Lives Matter**  
**Facilitator feedback, summarized by Amy N. Spiegel**

**Student comments/questions:**

- “I don’t know what to call myself” [adjective before name]
- “Forensics – I want to do something like that”
- “I don’t like to socialize”
- “I express myself by my talents”
- “I am going to own a video game company”
- “I want to own my own record label”
- “I want to own a safari”
- “If you own something, so can you make your own choices?”
- “Hey, why can’t I?”
- “I like my own stuff because it makes me feel good.”
- “You care about things you own”
- “I can do what I want with things I own”
- “I’d be thinking words I can’t say in school”
- “I have Facebook and Twitter”
- “I have Twitter, Instagram, Facebook”
- “I only have Pinterest”
- “I like Pinterest because it’s really fun”
- “Do you have internet at home ‘cause that means you’re normal”
- “Black Lives Matter involve everyone”
- “Why can’t we do this on the computer?” [when asked to take a survey]

**When asked “how do you identify yourself?”**

- “I’m not sure”
- “By race or where you come from”

**What worked well with the activities:**

- Everything.
- Dr. Gibbs talked *with* the kids about social movements, Black lives matter, then did activities around questions:
  - Do you like to own things? What? Why?
  - Do you like to be free? How? Why
  - Draw what comes to mind when you think of what it means to be free.
  - How do you express “myself”?
  - What do you want to be?
- All of these things created a lot of good discussion; Got them to think about themselves and what they want to become in the future by expressing their interests
- Grace Stallworth then did a survey with students about their familiarity with social movements – lots of profound discussion.
- Got them to also think about social movements and this encourages them to think about different ways that they can make changes in the community
- This was different from our typical activity based things. This was a good change and very interesting!

**What changes would you recommend?**

- WiFi did not work
- Provide more explicit direction to help integrate the student assistants
- None that I can think of
- This was my favorite day so far!! Wouldn’t change a thing!



## Week 6

### Middle School "Who Am I?" Community Learning Center Club University of Nebraska Museum SEPA grant BioHuman Activity Report #030216

**Date/Time** March 3, 2016; 4:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Adam Wagler, Jazmin Newton, Dr. Megan Kelley, presenter. Destiny absent.

#### **Student Participants:**

3 Euro Americans

2 Middle Eastern Americans

5 African American

Total: 10 students

**Special circumstances:** This was the week before spring break which is a stress for some students trying to maintain a grade average. Several students were engaged in a slam poetry competition and arrived late.

**Activities:** The planned activity for the day was an exploration into personal diets with a connection to family and health. The students filled out a brief questionnaire about what their favorite food was, and how that correlated with healthy eating. The club members then played a Taboo style game to act out their favorite food. This led to passionate conversations about what food was most appealing to each of them.

As the conversation lagged, a decision was made to augment the presentation, so a discussion of reconstruction of diet in mummified humans was provided. Pictures of one mummy were shown, with pictures of the dietary remains and a conversation about intestinal parasites. The students talked about their knowledge of and experience with parasites, as well as asking questions about what kind of parasites occurred in Lincoln, how parasites were contracted and treated.

**Assessment:** This activity was a make up day from the club meeting that was cancelled in February due to weather. It had been intended to fall on February 3, 2016, as a prelude to the stress activities on February 17<sup>th</sup>, also with Dr. Kelley.

The students had a good time playing the Taboo style game, and clearly enjoyed talking about food. It was clear, however, that this was a limited activity for them, and would have benefitted from extensions that would have provided a platform for more science/synthesis with the club members. This reinforced the need to emphasize more planning for hands-on activities and trying to have visiting scientists understand the sophistication of these students.

The mummy fill in worked well on what was a chaotic day (spring break was 2 days away), but was limited in scope to linkage with modern diet and pathology. If this topic were to be addressed again, there would need to be more planning for interaction of the group.

On this day, one student assistant was absent with late notification, and the other assistant participated more as a student than as an adult. This did affect the group leadership on this day.

The students were interested in the topic, and did remain to talk about their thoughts at the end of the meeting.

**Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**  
**2 March 2016**  
**Nutrition Taboo Game with Megan Kelly**  
**Facilitator feedback, summarized by Amy N. Spiegel**

**Student comments/questions:**

- “How do you play that [Taboo]?”
- “What is your favorite food?”
- “I like things with noodles and milk stuff...”
- “Why do you like that?”
- “I’m not going to say...”
- “My favorite is cabbage leaves with meat stuffing.”
- “I like having those long noodles with red vegetables and meat.”
- “So we don’t get cavities we don’t eat super sugary foods all the time.”
- “Advertisements could influence it [what we eat].”
- “It’s important to eat healthy foods so we don’t get fat or have health issues.”
- “Sugar comes from sugar cane.”
- [questions about Sara’s research in mummies]
- “How do you get parasites?”
- “A parasite is quote-unquote a disease.”
- “A parasite is small that most people don’t see.”
- “How do you know if you have a parasite?”
- “What kind of them [parasites] are there?”
- “Will they [parasites] kill you?”
- “Where do they [parasites] come from?”
- “Can I bring a selfie stick that day?” [talking about next week’s activities]
- “Can we post all the pictures on Instagram?”

**What worked well with the activities:**

- The Taboo game was a good intro into considering food; Taboo game was fun and got the kids going.
- We did a fun Taboo game that got everyone talking, but we also had good discussion about healthful eating and why it’s important. It was cool to hear what foods people have tried and what family recipes they like.
- Having the students in smaller groups (3-4 students) around the room; Separating students into compatible groups worked again: 1) quiet and thoughtful, 2) loud and thoughtful, 3) loud and relatively impulsive. All groups needed adult leadership; spring break was imminent.
- Kids loved stories about dietary remains from mummies.
- Discussion with students after they calmed down a bit.

**What changes would you recommend?**

- Extending the activity more – the Taboo game was really fun, but fizzled out about halfway. Should just jump right into next activity.
- The Taboo game was not enough, so additional activities needed to be inserted (in this case, mummy diets). This led to parasite questions.
- Need more planning for hands-on and have visiting scientists understand the sophistication of these students.
- Today the kids were quite anxious and loud, but that’s probably because their spring break starts soon. Otherwise, things went well.
- One student assistant was absent which left us short of group facilitators.

## Week 7

### Middle School "Who Am I?" Community Learning Center Club University of Nebraska Museum SEPA grant BioHuman Activity Report #031616

**Date/Time** March 16, 2016; 4:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Adam Wagler, Jazmin Newton, Destiny Myers, Bob Hall, presenter.

**Student Participants:**

7 Euro American

1 Middle Eastern American

0 Hispanic/Latino American

5 African American/Black

Total: 13

**Special circumstances:** This was the week after spring break and the beginning of state wide NESAs testing. It is a time when school schedules begin to be disrupted to schedule the testing, and this may lead to more stress for students. The students were somewhat agitated when they arrived.

**Activities:** The meeting this day was part of the plan for students to reflect on who/how they are and how they might show that through illustration depicting a story. Bob Hall planned an activity that organized the students' thoughts and actions:

- What makes you you? Draw an action you are doing;
- Draw change in action,
- Draw how things turn out

The students worked individually to portray themselves, then Bob asked them to discuss their process, why or how they draw and what they think about when they draw. The answers were varied, and engaging for all.

**Assessment:** This activity went exceedingly well. The students were highly engaged, and thoughtful in their responses. Mr. Hall was very skilled with his planning and execution of this activity, and it connected well with our theme of "Who Am I?". A number of reflections were shared by club members which also allowed staff to make further connection with our club community and better understand how to tailor the objectives of the CLC with the students and their lives.

## **Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**

**16 March 2016**

**Bob Hall – Telling a story with illustration**

**Facilitator feedback, summarized by Amy N. Spiegel**

### **Student comments/questions:**

- “What are we doing?”
- “What are we drawing today?”
- “Can we put in speech bubbles?”
- “Did you draw these? [Bob Hall’s comic illustrations]”
- “I’m not a very good drawer”
- “I can’t draw”
- “I suck at this”
- “I’m an A student, but I can’t draw”
- “I’m very good at drawing, I need more time.”
- “You’re a really good drawer, it’s better than mine.”
- “You’re pessimistic because you drew someone dying”
- “It’s easy to make comics; I don’t do it often, but I like it”
- “How do I draw eyes?”
- “I put most of my effort into the story, not the drawing”
- “I don’t draw because I’m horrible at it.”
- “I’m sleeping” [re: subject of picture being created]
- “I want to choose what I draw”
- “Can we have the characters say this?”
- [when drawing toward the end of their comics, many had to think of what they would come up with next]
- [they were excited with their comics]

### **What worked well with the activities:**

- Guided activity – students were asked to draw themselves (What makes you you? Draw an action you are doing; Draw change in action, Draw how things turn out); Drawing the panels and story was really cool.
- Made them think about who they are to draw a picture
- Asking students to talk about what their thoughts and process were while doing activity; sharing their process after drawing and tying it back to identity and themselves
  - Individual students provided great descriptions of their process
  - One described why/how he draws
  - Another student talked about thinking about equality
  - Another described her story development
  - Another said how he likes to draw
- Having time to work on things; walking through a story.
- Letting them be creative by making their own comic; It’s really cool to see all the creativity.
- It was really interesting to learn about how comic books are made!
- It was also awesome that the kids could make their own comic with help from Bob!
- Sharing the comic book illustrations
- Bob Hall’s down to earth and honest self revelation
- At one table, three students discussed art as personal experience

### **What changes would you recommend?**

- None comes to mind. Turned into a good authentic learning experience.
- N/A – it was a nice day drawing and sharing
- None
- This was a great activity! Much different from other days this far. Great change of pace!

## Week 8

### Middle School "Who Am I?" Community Learning Center Club University of Nebraska Museum SEPA grant BioHuman Activity Report #032316

**Date/Time** March 23, 2016; 4:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Adam Wagler, Matt Waite, presenter.

#### **Student Participants:**

3 Euro Americans

2 Middle Eastern Americans

0 Hispanic/Latino Americans

6 African Americans/Blacks

Total: 11 students

**Special circumstances:** There was another slam poetry competition, so some of our students were 30 minutes late. We met in the west gym for the first part of the club so that Matt Waite had a clear place to fly the drone. The student assistants were on spring break, but had not notified us that they would not be there, so Dr. Wagler and I revised the plans for the day's activities right before club began. When Mr. Mack told students we were having drones at our meeting, a number of students not routinely seen came to the gym to view the drone portion of the club, but did not come to the rest of our meeting in the classroom.

**Activities:** The club began in the gym with a presentation and question answering activity with Matt Waite. The students had seen drones before in the stadium this semester, and were very interested to see them again. The emphasis for this meeting was "How do others see you?" and the discussion consisted of drone use in journalism, surveillance, science data gathering, farming and a number of other uses. Matt also emphasized safety and federal and local regulations, as well as ongoing change in drone technology.

When the drone portion of the club concluded, the group returned to the classroom where Adam and Sara separated the students into 2 groups. Sara worked with the group to take "selfies" and Adam worked with the Oculus Rift with the other group. At an agreed time, the groups switched and got to try the activity they had not been at the first time. Selfies required a lot of persuasion, but worked very well. Surprisingly, this group of students were not anxious to take pictures of themselves. The OC was well received. Many students had experienced it before, and very glad to build on their experience with the Google Cardboard activity from earlier in the semester. On both of the latter activities, the students cooperated and made the activities a community time

**Assessment:** This particular meeting required a lot of last minute planning, but turned out well for the students and Bio-Human staff. Combining the tools of "selfie" culture drones and cameras with the Oculus Rift was a powerful follow up to the previous week when the students were able to control the way they were depicted through their drawings. The relative lack of control of personal depiction (with others making the images) was observed by the students, and may have accounted for some of the reticence in making selfies.

**Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**  
**23 March 2016**

**Matt Waite and Drones; Selfie Activity**  
**Facilitator feedback, summarized by Amy N. Spiegel**

**Student comments/questions:**

- “How much did that cost?” [the drone]
- “What if I catch it in the air?”
- “How big are drones?”
- “Does that have a camera?”
- “How do you control that – it is like a video game?”
- “How high can it go?”
- “Can I fly it?”
- “Will it come back?”
- “Explain again how it would be bad to fly around airplanes?”
- “What would cause the damage?”
- “Did the airplane sink in the Hudson River? Did anyone die? Is it still at the bottom of the river?”
- “How do you use the Xbox controller?”
- “I don’t take selfies.”
- “I hate pictures of me.”
- “How do I look?”
- “You’re taking a picture?”
- “This is an old phone.”
- “How did you make the 3D models of us?” [Some were good and others they said didn’t look like them]

**What worked well with the activities:**

- The drone activity was interesting, and the students had lots of questions.
- We were in one of the gyms-- getting the gym for Matt to fly the drone around and talk about specifics on how it works and the safety/rules around drones worked well.
- The discussion on ethics of capturing images and flying over certain areas was good.
- Sara had a group of regular students who worked with her for a little bit about selfies and photographing each other that seemed to be thoughtful; The selfies went pretty well, but required a lot of encouragement.
- The Oculus is always fun – they enjoyed trying it out again, but this time seeing 3D models of a few of them that we made over the week. We had taken a few of the “regulars” photos the week prior and mapped their heads onto 3D models – we only had adult models so it turned out to be a “what you might look like in 10 years” which was fun.
- Also with VR it always surprises me how they make it a group activity – they were helping put the head phones on an explain how to use the controller.
- Staffing was really minimal, so we needed to adjust.

**What changes would you recommend?**

- One group came in pretty late -- we started out all the students with the drones because we had a pretty small group, but then we doubled our numbers while down there, so maybe we should have split into three groups like we planned originally. However, the kids were really into the topic and discussion the entire time so it was a good day that worked out well.
- I think we could have spent an entire session on selfies – bring a printer and check out the results.
- Drones are always interesting to the students, but would really like to fit more science in – why do they fly? What do wings/propellers do?
- The SAs were not in attendance on this day, which changed the previously planned organization for the day.

## Week 9

### Middle School "Who Am I?" Community Learning Center Club University of Nebraska Museum SEPA grant BioHuman Activity Report #033016

**Date/Time** March 30, 2016; 4:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Adam Wagler, Jazmin Newton, Destiny Myers, Dr. Scott Gardner, presenter.

#### **Student Participants:**

2 Euro Americans

1 Middle Eastern Americans

0 Hispanic/Latino Americans

5 African Americans/Blacks

Total: 8

**Special circumstances:** There were fewer students present on this day. There was a some sort of illness going around at school, and 2 students stopped in to say they did not want to do parasites. 1 student from last year came back from Northeast High School because she wants to be a biologist and is really interested in parasites.

**Activities:** This club meeting was the first of 2 meetings exploring organisms inside us. The second meeting was a fieldtrip to The Harold W. Manter Laboratory of Parasitology on the University of Nebraska-Lincoln campus. Dr. Gardner brought a slide show, boxes of specimens and parasite models to share with the students. He began by showing pictures of fieldwork at Cedar Point Biological Station, and explaining about field science. The students learned about research in Siberia, Mongolia and South America as well. Dr. Gardner then did some show and tell with the specimens, described the animal consequences for having parasites and talked about parasite life cycles. The students gathered enthusiastically around the front table, and even those who had been reticent about parasites eagerly asked questions which were as eagerly answered by Dr. Gardner.

**Assessment:** The students were ultimately very engaged in this meeting, in large part due to the teaching and communication ability of Dr. Gardner. He included sharing about art (he does his own drawings and this connected well with the Bob Hall meeting) and why science and art are importantly linked. His response to students was respectful and sensitive, and his enthusiasm was contagious. The students stayed after the club time was up and talked more about the parasites. Exposure to researchers who are able to translate their work and share it with enthusiasm is positive for all students, but particularly for this group, many of whom are recent immigrants or who may be first generation college students. It was a good day.

**Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**  
**30 March 2016**

**Parasites with Dr. Gardner; Projector presentation & specimens**  
**Facilitator feedback, summarized by Amy N. Spiegel**

**Student comments/questions:**

- “I think I’m going to puke.”
- “That looks like fettuccine!” [tapeworm]
- “Can I feel the rubber [model]?”
- “Can I take pictures of the parasites?”
- “How do you know if you have a tapeworm?”
- “How do you get a tapeworm?”
- “So if we had a parasite, would only stool samples tell?”
- “Use proper grammar, please”
- “Have you done human studies on humans with parasites?”
- “It’s gross, but cool” [when looking at picture of the parasite lab]
- “Oooh, I wanna go there” [parasite lab]
- “That’s small, wow!” [turkey tapeworm]
- “They move almost like a worm” [turkey tapeworm]
- “What do you do if you have a parasite?”
- “Is there medicine for all parasites?”
- “Cool!”
- “Why do you put a string on their leg?”
- “I heard that humans already had worms inside them.”
- “Red blood cells don’t have those back dots.”
- “We’re learning higher information which is kinda cool.”
- “‘Lice’ is plural.”
- “Will it grow another set of legs?” [larval tick]

**What worked well with the activities:**

- Slide show went well, once we got it hooked up.
- The specimens were very engaging; Viewing the items he brought from the museum really got the kids excited!; They all were interested in the parasites that were brought.
- The students really enjoyed the hands-on interaction of all the quirky things he showed us!
- The kids also tried drawing parasites; their perceptions of what they look like is super interesting.
- Dr. Gardner is engaging and enthusiastic – he listens well to students and answers questions respectfully.

**What changes would you recommend?**

- Maybe seminar seating for show and tell? Get students up front because that’s where they ended up.
- Would have liked more activity, but the lecture/picture agenda seemed to work.
- More explanation on the parasites that they were looking at would have been helpful.
- I think that was a super cool activity with a lot of valuable knowledge presented.
- This got the kids super excited about the field trip to the parasite lab [next week].
- Student assistants were more engaged with facilitation; we are working on more structure in that regard.



## Week 10

### Middle School "Who Am I?" Community Learning Center Club University of Nebraska Museum SEPA grant BioHuman Activity Report #04061616

**Date/Time** April 6, 2016; 3:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Adam Wagler, Jazmin Newton, Destiny Myers, Dr. Scott Gardner, Dr. Gabor Racz, presenters.

**Student Participants:**

5 African American/Black students

2 Euro Americans students

1 African American students

**Total: 8 students**

**Special circumstances:** This day was also one with fewer students. The malady going around school continued, and 2 of our participants were somewhat ill as well. Troy made arrangements for the students to have snack before we got on the bus at 3:15, and a high school student who had participated last meeting joined us with her permission slip.

**Activities:** This club meeting was the second of 2 meetings exploring organisms inside animals and people. Our group traveled to Manter Laboratory of Parasitology at the University of Nebraska-Lincoln city campus, and were greeted by Dr. Gardner on the 5th floor of Nebraska Hall. This gave the students an opportunity to walk through the halls of the research facilities for the University of Nebraska Museum, and Dr. Gardner was happy to explain what other research went on in the 5th floor areas. Dr. Gardner's lab has a large seminar seating area where we left our backpacks and divided into 2 groups. Sara stayed with Dr. Racz's group in order to fill in some of the information for students that would have been unfamiliar, and Adam stayed with the group that Dr. Gardner worked with. In the microscopy room, students were introduced to different types of microscopes and were able to see parasite specimens on a digital screen. Dr. Racz explained parts of the parasites to the students and connections with the parasite's lifestyle. There were many questions and a lot of interest. Dr. Gardner's groups did a nice tour around the lab talking about the process, storage of specimens, and lab equipment, and then went out into the hall to look at displays from other labs.

**Assessment:** The students were really interested in the things they could see, and questions they could ask as a result of that. The lab has been set up to be very learning friendly, which was a positive thing for the club members to see. The group was welcomed by Dr. Gardner and Dr. Racz with enthusiasm and grace and this was an excellent follow-up to the meeting the week before. The students did have to stand for a very long time, and were visibly tired. There had been plans to show them a video at the end, but the time ran out, and we needed to get on the bus. Our objectives of getting students to real labs to see what is happening, and to expand their understanding of research and parasites were met. In the future, some more active learning would be good as well, given their age and the time of day. Perhaps coloring different parasite diagrams and talking with the scientists about them, viewing them on the microscope and seeing the environment from which they came? Time would be a factor here.

**Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**  
**6 April 2016**  
**Field Trip to Manter Hall Parasitology Lab with Dr. Gardner**  
**Facilitator feedback, summarized by Amy N. Spiegel**

**Student comments/questions:**

- What is that smell?
- That was inside you?
- What does that [parasite] do?
- What are those things? [parasite mouth parts]
- Can I eat this?
- What is the fluid in the little vials?
- How do people get parasites?
- How do you know if you have a parasite? How did you find the one inside of you?
- You can get those through your feet?
- I don't wear shoes outside!
- Where do they [hookworms] live? Do they live here?
- How does this ice evaporate?
- What are those [pipettes] used for?
- Oohhh – that's cool! [picture of Mongolia]
- Where did these samples come from?
- Why are some of them so old?
- Are the animal heads fake? How did they make them?
- Are those "teeth" like sharks?
- How do worms eat with digesting the food?
- They puke their poop?
- Can I take some of the parasites home?
- The parasites creep me out.
- "That's so cool, I wanna come to your lab again"- to Dr. Gardner

**What worked well with the activities:**

- This activity was an awesome learning experience and hands-on activity; It got them engaged with the aspects that involved science and the organisms that are involved in biology not just animals that are involved in science.
- We split the group into 2 smaller groups. Each did an activity / tour then switched.
  - Scott's groups did a nice, quick tour around the lab talking about the process, storage of specimens, and lab equipment.
  - Gabor's groups at the microscope talked about how microscopes work, what different shapes parasites have, the different places they live – and there was time to answer questions from students. Students were engaged and the microscope, with the digital display, was great for all to view.
- Sara was able to fill in with a fair amount of "translation" due to students' stage of science study.
- It made them expand their thinking process on what different insects and animals do with regards to the environment.
- The kids got to see a lot of very high tech equipment, which they enjoyed. They were also able to see many parasites related things such as slides shown under a microscope, jars with dated parasites, etc.
- Seeing the parasite/worm that Scott found in himself that he saved was gross/fun/interesting and scaring. But seeing and talking about why all the samples were there and being studied.

- This was a super interesting day and I know the kids loved learning while also being in a new environment.

**What changes would you recommend?**

- We could have spent longer, but would have needed some hands-on activities; Give them activities to do while they are being talked to about the different insects and animals because I think at their age they like hands on activities although they still enjoyed the trip.
- Students were tired, so standing that long was observably hard for them (although they were all really well behaved), and we had several who were getting sick. It might have been good to do a bit of the slide show planned to let them catch their breath for a little while.
- We could also have sat at the seminar table and done some parasite activity (this is clearly not my call – appreciated Dr. Gardner and his colleagues)
- It was a really nice visit – if anything more time to have them share experiences or discuss after the tour in their little conference area.
- I think this went particularly well. I can't think of anything we could have done better.

## Week 11

### Middle School "Who Am I?" Community Learning Center Club University of Nebraska Museum SEPA grant BioHuman Activity Report #04131616

**Date/Time** April 13, 2016; 3:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Jazmin Newton, Destiny Myers,  
Dr. John West, Dr. Salum Lidenge, presenters.

**Student Participants:**

6 Black/African American students

3 Euro American students

Total: 9 students

**Special circumstances:** This was a day to talk about things inside us, and Drs. West and Lidenge came to talk and do activities about viruses and viral infections. Dr. West is a specialist in HIV and Dr. Lidenge, MD, specializes in malaria. The wifi was not working, but Dr. Wood was quite resourceful and figured out how to connect with the Apple TV, thus able to show the pictures he brought on his computer.

**Activities:** Dr. West began the day's activities introducing Dr. Ladenge, and asking our students how they thought people contracted malaria. As they answered his question, he asked them where they were from, and told them that Dr. Ladenge was from Tanzania. One of our students is from there, and another is from west Africa. Then Dr. West had each student draw an animal or plant that he specified, and he put them together to illustrate the story of the sylvatic cycle. The drawing and sylvatic ecocycle activity worked well to explain the zika/malaria life cycle and transmission. After that, the group had an interactive discussion with Dr. West and Dr. Lidenge about how things were in Africa, what might happen with Zika in the United States and the world, and what it might be like in Nebraska.

**Assessment:** This club meeting gave all of us an opportunity to hear more about global disease, and gave our students some information about where some of their families still live. While a lot of the time was spent talking (after the drawing activity), the students were deeply engaged and interested in both Dr. West and Dr. Lidenge. They were thoughtful as the session concluded, and thanked both men for coming to talk with them. It was also helpful for all to see and meet with Dr. Lidenge as a trained physician from outside the US.

**Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**  
**13 April 2016**  
**Dr. John West and Dr. Salum Lidenge; Viruses and Viral Infections**  
**Facilitator feedback, summarized by Amy N. Spiegel**

**Student comments/questions:**

- “I think through mosquito bites” [how do you get malaria?]
- “Malaria is caused by mosquitoes.”
- “There is malaria where I’m from.”
- “Where are you from?”
- “I’m from Ghana and they try to prevent it by mosquito nets.”
- “The Panama Canal.”
- “What language do you speak?” (answer: “Swahili”)
- “I’m from West Africa.”
- “We use nets to keep malaria away.”
- They knew a lot about different diseases such as West Nile disease and different ways to prevent the diseases that were mentioned.
- “Is there malaria in Brazil?”
- “Can you treat malaria?”
- “I’ve heard of that” [DDT to kill mosquitos]
- “Oh really?!” [that not everyone who gets infected shows signs]
- “What other things could I draw?”
- “I can’t draw! This is a terrible Monkey!”
- “That is not a monkey, it looks like an alien.”
- “That’s a good bird!”
- “That looks like a sparrow”
- “For every mosquito there are thousands of babies”
- “I’ve heard of that.”
- “Can I use my device to draw?”

**What worked well with the activities:**

- This was a super interesting activity; all the kids were engaged.
- Interactive: got them to draw to illustrate a story of the sylvatic cycle; The drawing and sylvan cycle activity worked well to explain zika/malaria life cycle and transmission; There was a lot of listening, not much hands-on except drawing for a few minutes, but their drawings were all important to a cycle.
- Dr. West was an engaging speaker. Sara needed to interject some real life connections to break things occasionally.
- It was very good to have Dr. Lidenge with us. He is an African MD and works on human disease research (malaria, HIV)

**What changes would you recommend?**

- Overall, this was a good day; a little more hands-on instead of just listening for the entire time would have been good; We needed more activity, but at the same time, the students were pretty well engaged. Sometimes, this is just how information is transmitted.
- More activities for them to do since they are very energetic.
- The wifi was unreliable, but Dr. West figured out how to make it work for his equipment. Impressive.
- Wonder if we need to structure some discussion group formats?

## Week 12

### Middle School "Who Am I?" Community Learning Center Club University of Nebraska Museum SEPA grant BioHuman Activity Report #04201616

**Date/Time** April 20, 2016; 3:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Adam Wagler, Amy Spiegel, Jazmin Newton, Destiny Myers,

**Student Participants:**

6 Black/African American students

4 Euro American students

1 Asian American student

1 Middle Eastern American student

Total: 12 Students

**Special circumstances:** As in the past, this day was used to summarize the semester and plan the celebration of learning. One complication was that Dr. Wagler was in charge, but had been grounded by a storm in the west, so some last minute modification was required.

**Activities:** Sara began the day with a short description of what we were going to do: Dr. Spiegel asked the students to complete a post survey of our activities, and then the personal shrines we had made on the first day were handed back, along with all the artifacts that Sara had kept from previous meeting days (drawings, comments on sticky notes). The students were asked to think about what we had done during the semester, and envelopes containing strips of paper with the title for each club meeting printed in bold letters. We asked the groups at each of 3 tables to organize these titles in the order they found them to be interesting or important. At this point, Adam was able to join us after the challenges of air travel and he asked the groups to arrange their "lists" next to one another and contrast/compare the priorities and the rationale for their order. The students were very engaged and interested in one another's thoughts. After that, Adam gathered the lists to use to help plan the Celebration of Learning, and asked students for input on what they would like to do at our last get together.

**Assessment:** This club meeting gave all of us an opportunity to hear more what each of us were interested in during the semester and why. Although there were very different opinions, the atmosphere was one of cooperation and collaboration. The conversation was respectful and in many ways exemplified the learning community these students have created. They all indicated that they had learned new things this semester that were important to them, and were interested in having this club again next year. They stayed late to talk about this, and all but one took home the boxes they had made on the first day.

**Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**  
**20 April 2016**  
**Plan Celebration of Learning**  
**Facilitator feedback, summarized by Amy N. Spiegel**

**Student comments/questions:**

- “Can I take this home?” [personal box]
- “When did we do that?”
- “Did you keep our drawings?!”
- “I liked this activity” [personal box]
- Lots of questions revolved around trying to remember -- What we did do? Where did we go? Who was there?
- “I’m a bad drawer” [referring to drawings as part of activities memories]
- “Why do you like that one?” [discussing organizing semester topics]
- “We did a lot! I liked #BlackLivesMatter”
- “He doesn’t want what we do.” [organizing/prioritizing of topics]

**What worked well with the activities:**

- Both looking back on the memory box from the first meeting and organizing/remembering the activities went well.
- This was the day Adam’s flight was delayed, making him late to CLC. When he got there, facilitators had passed out slips of paper with all the activities and students were asked to rate them. The students were engaged with prioritizing and explaining their rationale for their activities preferences.
- There were three groups, all of whom ranked the semester activities. There was really great, candid discussion with the students about things they liked/disliked, why/why not, and ideas for future planning.
- At the end, Adam had them line up each group’s priorities and compare. This worked well and the students stayed late to talk about it. After this process, we generally narrowed it down to three categories they enjoyed the most:
  - Technology
  - Art/Creativity
  - Discussions

**What changes would you recommend?**

- We had to modify this day because Adam was delayed. The activities might have included pictures otherwise.
- The day went quite well, nonetheless.
- Good way to summarize.
- N/A – really like this format where students share and discuss their ideas.

## Week 13

### Middle School "Who Am I?" Community Learning Center Club University of Nebraska Museum SEPA grant BioHuman Activity Report #04271616

**Date/Time** April 27, 2016; 3:15-5:30pm

**BioHuman staff:** Sara LeRoy-Toren, Adam Wagler, Amy Spiegel, Judy Diamond, Julia McQuillin, Jazmin Newton, Destiny Myers,

**Student Participants:**

8 Black/African American students

4 Euro American students

1 Middle Eastern American student

Total: 13 students

**Special circumstances:** This was our Celebration of Learning day. The change in the date for the end of school had created some challenges for the CLC activities that occur during the final days of school, and it was a factor in everyone's final meetings.

**Activities:** All the club members and staff introduced themselves and thanked the SEPA grant PIs for their support of the club. Jazmin Newton made a short video with the students' pictures and activities and Adam played that for all to see. There were sandwiches provided by CLC for everyone, and various fruit drinks provided by Dr. Diamond. After the table groups helped themselves, we all talked about the semester: likes, dislikes, things we'd like to do next year, how things worked and what were favorite memories. The sandwiches were consumed, congratulations and best wishes were expressed, thanks were given, and we all went our way for the summer.

**Assessment:** This tradition has worked well in the past, and it worked well this year. The students appreciate being able to express themselves and be received with respect, and they genuinely like the science they were given an opportunity to learn. Many of the activities we planned followed the objectives for one grade or another (not surprising) and a comment that was made by a student was that, "I like to learn this without having to take a test over it." Informal science is low risk for the students, and for this group, it appears that the students thought it was a good thing to do.



**Who Am I: Exploring Ourselves, Middle Level Afterschool CLC**  
**27 April 2016**  
**Celebration of Learning – LAST DAY!**  
**Facilitator feedback, summarized by Amy N. Spiegel**

**Student comments/questions:**

- “When can we eat?”
- “How much can we have?”
- “Are those cookies? Did you make them?”
- “That’s not me! [in video] Yes, it is!”
- “You talk too much!” “I just explain things!” [students to each other]
- Not a ton of questions – mostly around food, but good to talk with students about possibilities for next year: audio science, music, the environment. Lots of students are into writing, music, art & creating things.
- A lot of them reflected on the good things they experienced this year.
- “I liked #BlackLivesMatter because its important”
- “I liked the stadium trip because those weight lifting machines’ technology was really interesting”
- “The training room smelled like onions.”
- “I really liked the parasitology lab”
- “I liked the drones because I didn’t know you needed a license to teach how to use them.”
- “I liked the box activity. I could put things in it. I’m still doing that at home.”
- “The Zika presentation was important – I got to learn more about what is happening and it’s a big deal.”
- All of the students liked the club and activities.

**What worked well with the activities:**

- Student sharing, food, general camaraderie.
- Food; They enjoyed the food!
- Showing the video
- Sharing photos
- Sharing top 3 activities this semester; Most of the kids enjoyed giving their opinions and reflecting on the semester; Engaged them into thinking about their likes and interests over the semester.
- Troy supplied a young man to help set up the room which was really helpful.

**What changes would you recommend?**

- Need to have more to do, but worked, and it was good being able to talk with students directly.
- None, today was great!; N/A
- I would like to see if we could get more parents to attend. I know it is hard, but would like to perhaps plan ahead for this through the school!