

CLC Club: "Being Human"

Attendance Summary, Student Feedback & Weekly Write-ups

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Community Learning Center Club: "Being Human"

Participation Summary, Student Feedback, 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 fifth 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. "*Being Human*" 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 offering rich, hands-on science experiences and face-to-face interaction with scientists 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.

Being Human was offered once a week after school during Spring 2017 at a local, Title 1 public middle school. Each session was 75 minutes, 4:15-5:30PM. The club was organized and run by a facilitator from the BioHuman project, Sara LeRoy-Toren, a retired high school science teacher and former Science Department Chair at the LPS high school Science Focus Program. One undergraduate sociology student, Grace Stallworth, assisted on a weekly basis as a volunteer. The BioHuman project evaluator, Dr. Amy Spiegel, was a participant observer at several club meetings throughout the semester. Dr. Emily Hammerl, a UNL anthropology professor teaching an undergraduate biological anthropology course, collaborated with the project. As a requirement of the class, Dr. Hammerl assigned her students a small-group project of creating a middle-school level activity to teach about biological anthropology. The students enrolled in the class were required to implement and facilitate their activities with the afterschool club students near the end of the semester. In addition, two education students from Concordia College were afterschool CLC volunteers assigned to assist with our club. They did not have specific designated responsibilities, but provided additional, consistent adult presence on a weekly basis and were asked by the primary facilitator to role-model appropriate behavior and provide activity assistance as needed. They did not contribute to the facilitator feedback summaries shared in this report.

In the flyer promoting this club to students and their parents, it was described as follows: "Are you curious about what makes us humans, inside and out? Do you want to discover who we are? And how we answer questions about humans? Meet scientists who study humans, where we come from, and what makes us who we are. Explore our human qualities, such as strength and movement, to discover how we work. Part of our journey will include field trips to UNL Athletic Department performance lab and the UNL State Museum." This club and the description provided to promote it were created with the intent to be particularly inclusive of

female students. The first few club offerings had tended to attract more male than female participants, so for the last three semesters (starting with the Spring 2016 offering), BioHuman staff were more deliberate in making the language and content of the club activities more welcoming toward 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). This club's focus on the study of humans, and specifically biological anthropology, was made with the intent to make the club appealing to a broad demographic.

The club description also included the following information: "This Community Learning Center Club is supported by an outreach grant from the National Institutes of Health to the University of Nebraska-Lincoln (UNL). Students choosing to enroll in this club will be involved in evaluation and research by UNL to help improve and understand the impacts of this program." All data collected and evaluation conducted for this report was approved by the UNL Institutional Review Board.

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. In addition, students completed a brief survey near the end of the semester, and responded verbally to feedback questions about the club activities in a whole group setting. The first section of this report describes the student participation in the club and some feedback from students about the club, including some survey responses about their attitudes toward science. 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 *Being Human* met 13 times during the spring semester of the 2016-2017 school year. Weekly attendance ranged from seven to 21 students with a mean attendance of 12.8 students (with weekly averages of: 4.8 male, 8.0 female; 7.5 European American, 1.6 African American, 1.7 Middle Eastern, 1.9 Hispanic, 0.2 Asian), and median attendance of 12 students (see Figure 1). A total of 48 different students attended the club, with 22 students attending just one meeting and 10 students attending 6 or more of the meetings (see Figure 2).

Figure 1. Weekly student attendance at the Being Human science club varied between 7 and 21 students during the semester

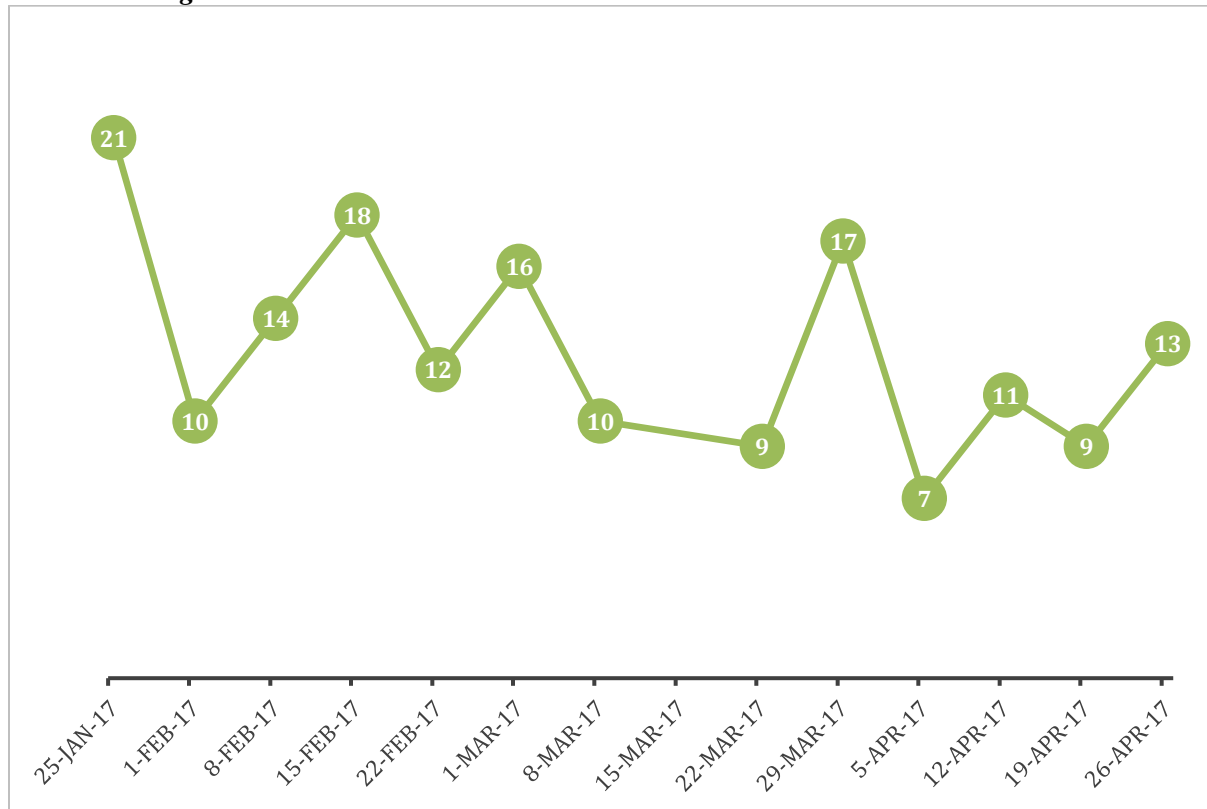
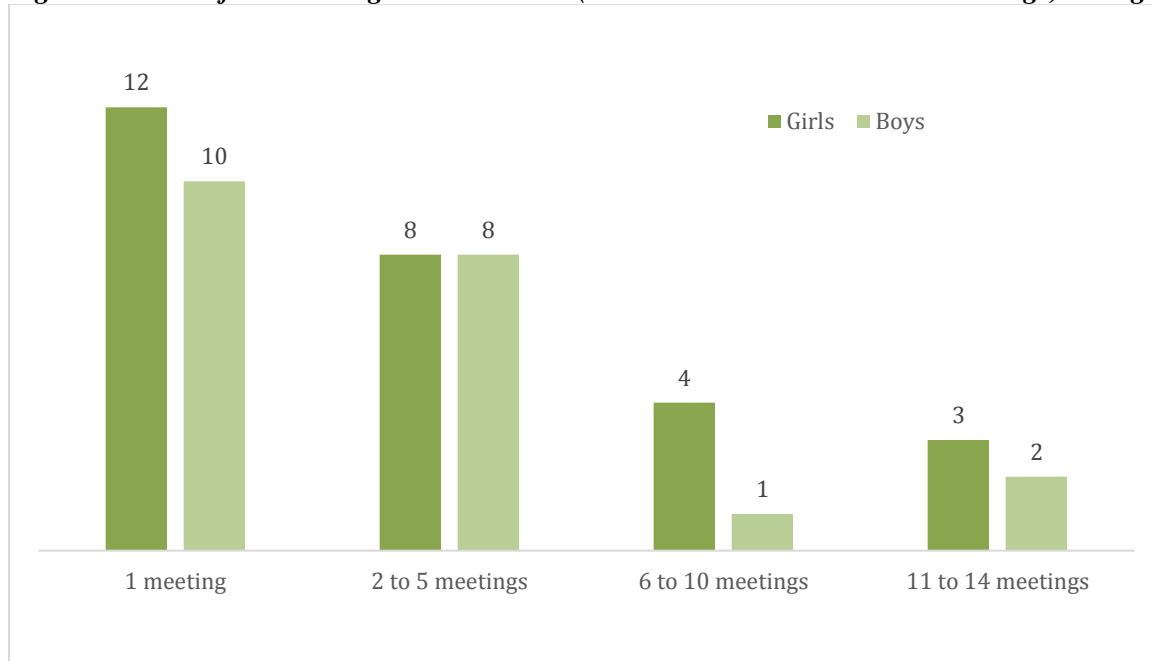


Figure 2. Seven of the ten "regular" attendees (those who came to 6 or more meetings) were girls



Compared to the prior offerings of BioHuman afterschool clubs, the total number of students participating was slightly higher (48 this semester, an average of 43 students for prior semesters), and the number of students participating frequently (6 or more meetings) was similar

to prior semesters (10 this semester, 9.5 average for prior semesters). This semester was markedly different with respect to gender of students participating. Overall, girls participated at a higher rate than boys (27 girls/ 21 boys) and were also much more highly represented among the more frequent participants (those attending 6 or more meetings), with 7 females and 3 males in this category of participation.

Many factors influence the student attendance at this club, including homework assignments, participation in sports, and home responsibilities such as caring for younger siblings. Other CLC clubs are offered at the same time at this school, and depending on the popularity of those clubs, they may also impact attendance at the BioHuman science club. The BioHuman staff continue to work closely with the CLC coordinator at this school to attract and retain students in the club. In particular, this semester, the coordinator worked to reduce any possible conflict with other clubs offered at the same time. Across the last several semesters, the BioHuman project has provided a consistent presence and opportunity for students to explore science ideas in a welcoming environment. The attached weekly summaries at the end of this report provide explicit details about programming, student reaction, and feedback.

Student Survey Responses

Near the end of the semester, students were asked to reflect on their participation in the club during the semester, first using a worksheet to collect their thoughts, and then providing verbal feedback in a large-group setting. Detailed comments from the group discussion are provided in the facilitator feedback notes from the Week 12 meeting (see summary notes at the end of this report). Students' responses to one of the discussion questions is highlighted here to illustrate students' perceptions about the differences between the informal science club led by the BioHuman staff and their formal, in-school science class. Students described many of the aspects that that were goals of the club, including creating a sense of belonging for all students, including topics and activities of particular interest to the students, and enabling direct interaction with scientists and other science experts.

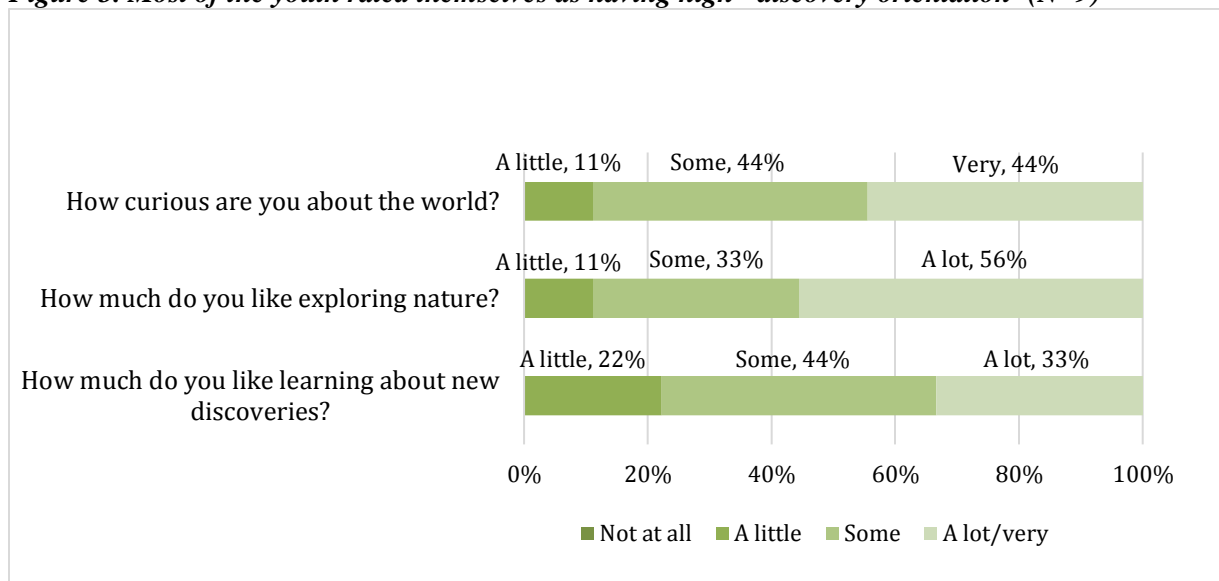
Facilitator question: How is this afterschool club different from your science class?

Student responses:

- *We get to paint and we don't have to read from a textbook.*
- *During science, we're forced to sit in one place with people you don't like-- it affects your learning. Here you're with people who understand what you're doing and want to be here and are thinking about the same things.*
- *In class, we learn about all kinds of things - electricity, geology, but here we learn about biology, anthropology and animals.*
- *My science teacher is rude to us; here, people are nice.*
- *For me, in the club setting, you have experts in the field who come here. In school, there are teachers who have training but it's in science teaching. Here [in the afterschool club], the people specialize in something. They are experts at it.*

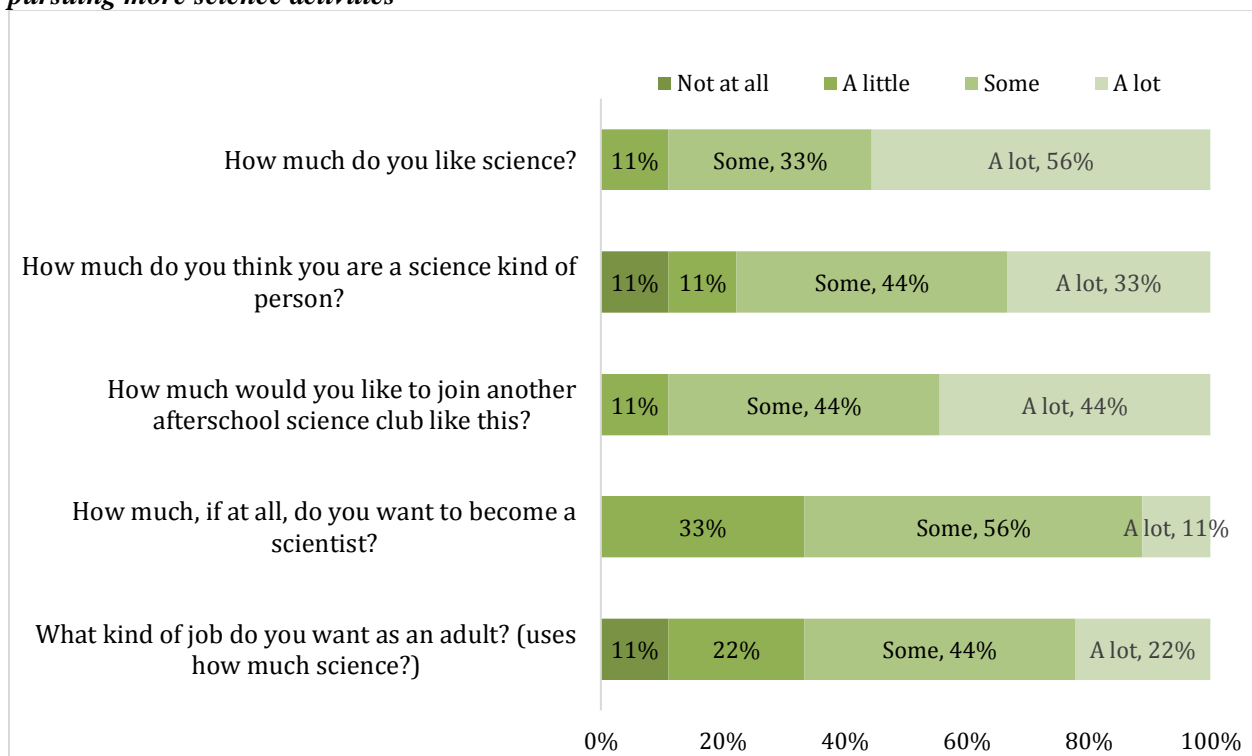
Students were also asked to complete a brief, anonymous written survey of mostly closed-ended items asking them to rate different aspects about their attitudes toward science. Nine students responded to the survey. Some of the items asked about students' "discovery orientation" or their interest in learning about and engaging with the natural world. Not surprisingly, nearly all of the youth rated themselves as somewhat or highly curious about the natural world (see Figure 3).

Figure 3. Most of the youth rated themselves as having high "discovery orientation" (N=9)



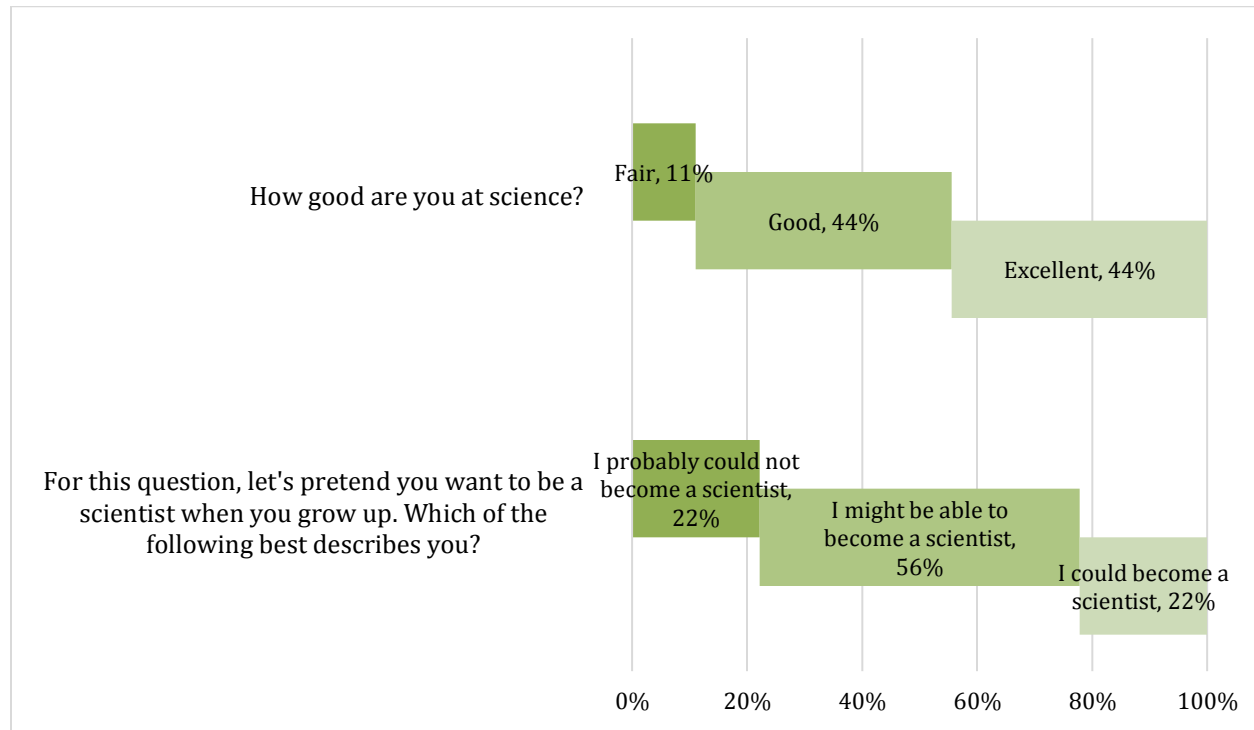
We also asked students a series of questions about their affinity toward science, including how much they liked science, if they were a "science kind of person," and about their level of interest in becoming a scientist (see Figure 4). Again, students reporting liking science, and nearly 90% wanted to join another after-school club like "Being Human." Two-thirds indicated they somewhat or very much wanted to become a scientist.

Figure 4. The large majority of students reported that they liked science and were interested in pursuing more science activities



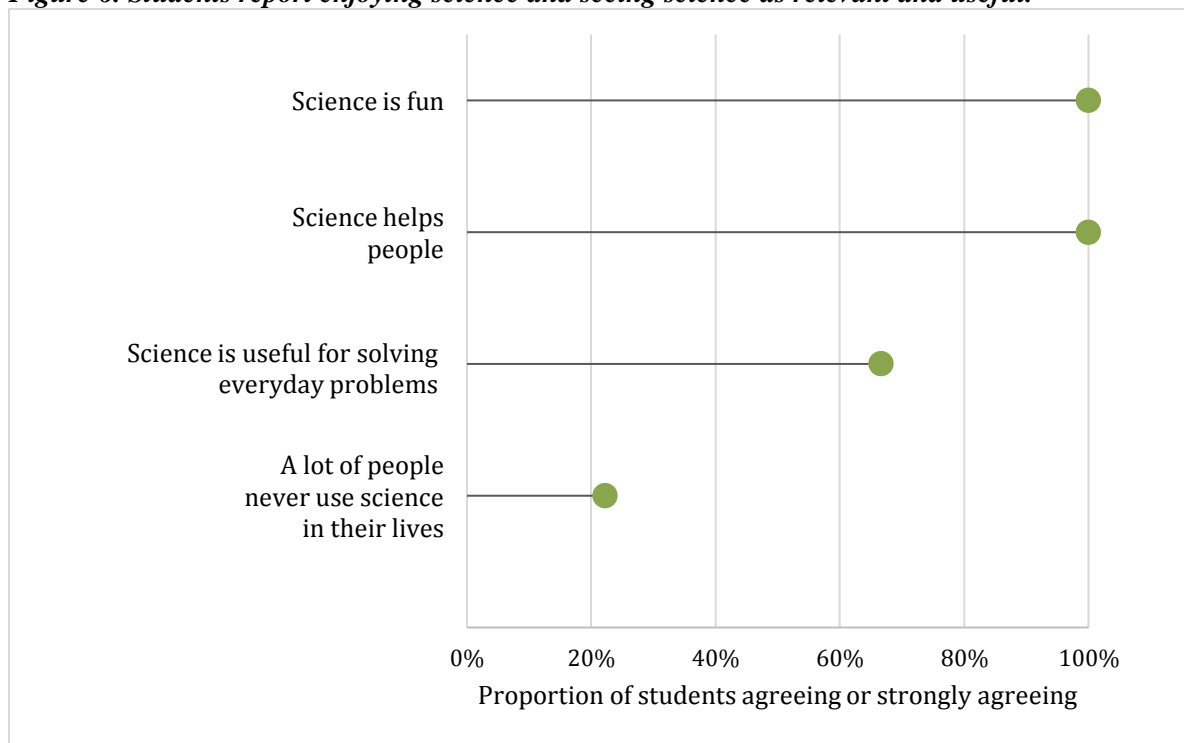
We were also interested in the extent to which students felt competent at science and whether they thought they could become scientists if they wanted. When asked, "How good are you at science?" nearly 90% of students rated themselves as "good" or "excellent"; a slightly smaller proportion felt they could become a scientist if they wanted (see Figure 5). None of the students rated themselves as "poor" at science, and none of them thought they "could not" become a scientist if that's what they wanted to be.

Figure 5. Most students rated themselves as good at science and as able to become a scientist if they wanted



We asked students about their opinions of science, to what extent they thought it was fun, relevant and useful. Most students agreed with the statements that were phrased in a positive way ("Science is fun" "Science helps people" and "Science is useful for solving everyday problems), and did not agree with the statement that was phrased in a negative way ("A lot of people never use science in their lives.") (see Figure 6).

Figure 6. Students report enjoying science and seeing science as relevant and useful.



Because the club involved a bio-anthropologist and college students enrolled in a human origins course, and included content and activities related to anthropology, we asked students whether they would consider becoming an anthropologist and whether they felt they knew a lot about what anthropologists do. Almost half the students said they would consider becoming an anthropologist, yet only one student felt s/he knew a lot about what anthropologists do. This is somewhat difficult to interpret. It's possible that they did not make a strong connection between what they were learning and anthropology as a course of study. However, it may be that because they had been exposed to anthropology students and an anthropology professor, they had a greater awareness of their own lack of knowledge. In particular, because the college students described the different types of anthropology, including physical, cultural, linguistic and archeological, the middle school students recognized that they were learning about just one area within a larger field of study. That many students would consider anthropology as a career and that most students were interested in participating in another afterschool club similar to "Being Human" suggests that students were interested in learning more about anthropology.

We asked students the open-ended question: "what kind of career do you want to have as an adult?" and then "how much science do you think you need to do [that job]?" Students indicated a wide array of professions, and rated all of the jobs as requiring at least some science.

Careers students want when they are adults (each student listed up to three):

...that they think require "a lot" of science:	...that they think require "some" science
<ul style="list-style-type: none"> • scientist • marine biologist • psychologist • doctor • paleontologist • cook • art • pottery • veterinarian • zoologist 	<ul style="list-style-type: none"> • firefighter • chef • photographer • teacher • art teacher • artist • zookeeper

Overall, participation in the club remained high, and the number of "regulars" was also consistent with prior semesters. The proportion of female students was higher among the participants attending 6 or more meetings. Student responses to the feedback questions indicate they are enthusiastic about science, think they are good at it and may have a future in it, find it enjoyable and think it is relevant. They found the club topics interesting and felt a sense of belonging in the club.

References

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Initial Planned Schedule

BEING HUMAN. SARA TOREN COORDINATOR
Wednesdays 4:15-5:30

Spring 2017 schedule

January 25, 2017 Draft

Being Human

1. **Jan 25:** Chewing Human: Guest presenter, Emily Hammerl. activity part 1: hand out water bottles and straws, observe partner drinking and sucking, draw picture of muscles. Part 2: Hand out fruit chews, make observations and share. Compare to images of medieval jaws.
2. **Feb 1:** Anthropology Human Origins students each engage with middle school students around an artifact they bring that will help explain how Anthropologists view the world.
3. **Feb 8:** Skulls: comparing primate skulls, matching jaws to skulls. Jaws, teeth and food.
4. **Feb 15:** (Field trip to the museum zoology collection.) tentative
5. **Feb 22:** Genealogy mapping activity that builds on Family Origins
6. **March 1:** Skeletons, teeth and food: Horse activity/Allison
7. **March 8:** Our Genes...Virus and the Whale activities.
8. **March 15:** LPS Spring Break – no club on this day.
9. **March 22:** Field trip to the Galapagos and Evolution exhibits. **This is UNL Spring break.**
10. **March 29:** Human origins UNL student activities: **Why Aren't We Chimps?**
11. **April 5:** Human origins UNL student activities: **Human variation.**
12. **April 12:** Human origins UNL student activities: **Human origins.**
13. **April 19:** revisit the semester and plan celebration.
14. **April 26:** Celebration of Learning.

Weekly Summaries

Week 1: Dr. Emily Hammerl: Hominin Skull replicas and Drawing/ Chewing

Being Human

Middle School Community Learning Center (CLC) Club

University of Nebraska Museum SEPA grant BioHuman

Activity Report 012517

January 25, 2017

BioHuman staff: Dr. Emily Hammerl, Sara LeRoy-Toren, Grace Stallworth and Dr. Amy Spiegel.

Student Participants:

January 25, 2017

Euro American Students: 7

Hispanic/Latino American Students: 8

African American Students: 5

Middle Eastern American Students: 2

Total: 22 students

Special circumstances: This was the first meeting of the semester. As has been the case in the past, we had students “trying the club out” to see if they were interested. Arrival and departure time was highly variable, creating a distractions.

Activities:

Today was the first day of the Being Human CLC. Introductions of Bio Human staff were made, and student participants were invited to introduce themselves and share their interest in choosing this club. Dr. Amy Spiegel distributed the Parental information and consent waiver materials.

Dr. Emily Hammerl, physical anthropologist was the science facilitator for this meeting. She brought a number of hominid (and non-hominid) skull/mandible replicas from the university for students to examine and compare. Students were seated at table groups of their own choosing and 2 or 3 skulls were available for their use. As the mandibles were not connected to the skulls, students were particularly interested in whether the mandible really belonged to the skull and mandible exchange took place at some tables. A better understanding of the temporomandibular joint seemed to be the result of this activity. The 4 table groups were assisted by Dr. Hammerl, Sara LeRoy-Toren, Grace Stallworth and Dr. Amy Spiegel. Previous training in Anatomy/Physiology was useful, as noted by Dr. Spiegel.

The follow up activity was introduced by Dr. Hammerl, who asked students to trace a partner’s profile onto a large piece of paper. The students then traced what they could find of the other’s jaw line. These tracings were then compared to pictures of Medieval period human jaw configurations. Dr. Hammerl explained that the human Medieval jaw was more “square” and perhaps heavier. Students were then given fruit chews and encouraged to both observe and feel the jaw muscles working. While the students

clearly understood the fruit chew activity, they appeared more uncertain about the comparison of modern and Medieval jaw configuration.

The activity was debriefed at the end, with remaining students asked what ideas were new to them (mostly skull/jaw configuration and similarity among hominid skulls, along with interest in the tiny adult human skull), what they liked about the day (science and fruit chews) and why they picked the club (like science and "sent here").

Assessment:

The activities were generally interesting to the students. They enjoyed manipulating the skulls and asking questions of the adult at the table (the room was organized with 3 different pods). At a point, the questions were finished, so getting the students to think about their activities and collaborate with one another was the next step.

The need for the back-up activity was high, a confirmation of this practice. Having trained teachers/learners (SLT, Dr. Spiegel, Grace Stallworth) was significant on this day. Formal university training is important for content expertise (Dr. Hammerl). Familiarity with non-formal learning (informal education, tutoring) was helpful on this day.

Being Human, Middle Level Afterschool CLC

25 January 2017

**Dr. Emily Hammerl: Hominin Skull replicas and Drawing/ Chewing
Facilitator feedback, summarized by Amy N. Spiegel**

Student comments/questions:

- "Does this fit on the skull?"
- "What happened to these teeth?"
- "How many teeth do humans have?"
- "How many teeth do we have compared to the Neanderthals?"
- "I'm getting more teeth now -- my molars"
- "Why do their teeth look the way they do?"
- "How old are these?" "How old are the fossil hominin skulls?"
- "Is this a human being?" [no - it was large primate: Gorilla]
- "This isn't a child? How can this be an adult? How do you know?"
- "What age are the 'kid' skulls?"
- "What are these lines on the skull?" [suture lines]
- "How can you tell how old the person was?"
- "How can you tell when a jaw is male or female?"
- "Can I draw your face?"
- "I like drawing the profiles"
- "Do we have the right parts?"
- "Where did this come from?" [replica not real, original found in Africa]
- "Do my teeth look like this? What holds them in?"
- "I don't like my teeth; I want them to be straighter"
- "I like science"

- "See my drawing?"

What worked well with the activities?

- The students were interested in the different skulls and how the mandibles fit. The stories about where the skulls came from and how old they were was interesting to the club members.
- Having a great number of different skulls for students to pass around.
- There were different levels of participation, but this was engaging for awhile.
- Splitting into small groups.
- Discussing how the medieval jaws relate to our own.
- Drawing our profiles and jaws; Drawing each others' profile and then tracing their jaw had some students active, and when we shared them, the attention was good.
- Feeling their chewing muscles while eating snacks; Students liked the fruit chews as a way to feel their muscles of mastication move.
- Students were calm, so the relatively open-ended activity was okay.
- Emily provided a lot of interesting information and interacted effectively with the small groups at the tables.
- Having the replica skulls was great -- students were very interested in seeing them.

What changes would you recommend?

- The handout about the muscles in the human face was dense with words. It might have been more effective to create a handout with information specific to the hands-on investigation, and to provide some guidance about the activity for students in the handout.
- Utilize hand-raising, etc. to organize students when it gets loud.
- Smaller groups -- perhaps not as many friends sitting together.
- It was not always clear what the students were being asked to do or to see; a more structured plan of action/ activities might have worked better to engage more of the students more of the time.
- This was the first meeting, so there was a fair amount of disruption. Some participants arrived as much as 30 minutes late and left as soon as 30 minutes early. Hopefully this will change as kids decide what they want to do. As first meeting go, this one was pretty well received and students remained engaged.

Week 2: Dr. Emily Hammerl's Human Origins students: Artifacts of personal anthropological significance

Being Human

**Middle School Community Learning Center (CLC) Club
University of Nebraska Museum SEPA grant BioHuman
Activity Report 020117**

February 1, 2017

BioHuman staff: Dr. Emily Hammerl and her students, Sara LeRoy-Toren, Grace Stallworth and Dr. Amy Spiegel.

Student Participants:

February 1, 2017

Euro American students: 4

Black Students: 3

Middle Eastern Students: 3

Total: 10 students

Special circumstances: This was the first meeting of the semester. As has been the case in the past, we had students “trying the club out” to see if they were interested. Arrival and departure time was highly variable, creating a distraction.s

Activities:

Middle school CLC club members got to meet and talk with Dr. Emily Hammerl’s Anthropology students at the second meeting of Being Human. The Anthro students brought artifacts they felt could explain their interest in Anthropology to show students about different discipline paths in Anthropology. These were varied objects, and included a bag of coffee beans, books of maps and geography, replica skulls from the lab, boxes of items that resembled artifacts found on a dig and other items.

The Anthro students were introduced to the middle school students, and asked to share a bit about themselves, and then the middle school students were asked to volunteer if they would like to say their name and share anything about themselves. This was received in an engaged manner.

Our students sat at 4 different table pods, and the Anthropology students distributed themselves around the tables. The College to Middle School student ratio varied from 4:2 to 2:4. Every 10-15 minutes, the college students rotated to the next table, leaving the middle school students in place.

At the end of the table discussion, the college students were asked to come to the front of the room, and respond to any other questions/comments that the middle schoolers had, after which the UNL students could ask the middle schoolers questions. This worked well as a debriefing activity.

At the end, the middle school students thanked the UNL students, and that was reciprocated. There was not time to start the Bio-box activity (it was 5:15), so the

middle schoolers were asked to think about what they would put into a Bio-box, and told we would do that next meeting.

Assessment:

This was a very successful meeting. The students remained engaged, including those with shorter attention spans. This day reinforced my observation from an earlier club that middle school students appreciate talking with older students about science, like the opportunity to have individual attention to their questions and to share their own thoughts. I appreciate Dr. Hammerl's willingness to work on this project with us. One note of concern: 3 of Dr. Hammerl's students did not attend. If these students end up together in their activity planning, it could have a poor result for them and our students. Emily and I discussed this.

Being Human, Middle Level Afterschool CLC
1 February 2017
Dr. Emily Hammerl's Human Origins students:
Artifacts of personal anthropological significance
Facilitator feedback, summarized by Amy N. Spiegel

Student comments/questions:

During small group discussions at the tables:

- "I am here because I am interested in science and I am pleased to be here."
- "What is anthropology?"
- "What is archeology?"
- "This is the study of human beings!"
- "What kind of bone is that?"
- "Why do you like this book?" [Carl Sagan's *Cosmos*, which was presented by one of the UNL students]
- "That [skull model] is cool!"
- "People are really old"
- "This is how the skull fits together - see?" [club member demonstrating]
- "I've seen that! I've been there! It's in the Middle East" [looking at photo in book of ancient ruins]
- "I want to study biochemistry"
- "How does space relate to humans?"
- "What does this have to do with evolution?"
- "I like learning about space!"
- "Our teeth are different from our ancestors because of evolution."
- "Ethiopia is in Africa" [answering UNL student's question]
- "Because the first humans were in Africa?" [answering UNL student's question]
- "We learned about anthropology in 6th grade. About Lucy and Big Foot."
- "Has religion ever gotten in the way of anthropology [for you]?"
- "We had to study about 5 religions [Christianity, Islam, Judaism, Hinduism, Buddhism] last year -- because when Trump was running and what Trump is doing. Everyone is mad about it. I'm really mad about it." [over the prior

weekend, President Trump had imposed a temporary travel ban for people entering the US from seven Muslim-majority countries]

- "Religions are different; don't they think about this differently?"

Wrap-up: Middle school club students were asked for any final questions/ comments they had for UNL anthropology students:

- "Why did you choose to take this [Human Origins] class?"
- "I learned a lot from them about homo sapiens and about mythical mummies and I'm happy to be in this club today."
- "Have you ever dissected anything? I want to dissect a frog and put it back together again! Of course, it would be dead!"
- "Tell us about the grossest dissection you ever did"
- "I don't think you said the 4th [type of] anthropology. There are four parts to anthropology - biological, cultural, lingu... I can't say that word... and..." [student wanted to know the four areas of anthropology, and hadn't heard about them all because their table discussion was cut short to move students to next table]

Discussion about linguistics and languages - students were asked how many and which languages they speak

- "I speak Kurdish, English and Arabic"
- "English, Arabic, Hebrew, Farsi and little Spanish"
- "English"
- "Some Spanish"
- "Cat and dog"

Asked club members "what was the most interesting thing you learned today?"

- "About human beings. How they evolved to us, about vertebrates and all those things."
- "I liked looking at the archeology book, the space book, and the bones."

What worked well with the activities?

- 12 of 15 Anthro students attended and brought items to describe their view of Anthropology; Definitely the students' artifacts! They promoted discussion and student interest; worked well for interactions; club students were very engaged and asked many questions.
- The small groups provided a nice setting for students to talk together.
- The anthropology students were very open and approachable, and were enthusiastic about their studies; the middle school students seemed to enjoy talking with them; Having the open-ended discussions was very productive; although the UNL students were driving the discussion, the middle schoolers were able to steer the conversations in a direction that most interested them. This can of course go very terribly without engaged discussion leaders, but the UNL students were definitely on their best game here – engaging by using the club student's first names, asking questions adjacent to the topic ("what do you like about your science classes," "what do you wish you were learning in your classes," "what do you think about this bone," etc.)
- The most popular objects seemed to be the books that the UNL students brought (N=2) – middle school students were flipping through the pages and engaging in discussion about the pictures and topics that appeared. Additionally, one UNL

student chose to bring in a single thoracic vertebra to share with them that was beautifully mounted. The club students really seemed to enjoy the guessing game trying to figure out what it was.

- There were four tables of student groups and the college students rotated to a new table about every 10-15 minutes; The concept of rotating the UNL students from table to table to ensure that all of the club students got a chance to meet with each group of college students seemed to be efficient. However, this did on occasion break up a good conversation.
- Because engagement and thoughtful discussion was continuous, the table discussions took all of the club time. At the end, the UNL students came to the front of the room. club students asked final questions and thanked the UNL students. One club member came up to the UNL students and thanked them as well.

What changes would you recommend?

- Perhaps facilitators could prompt students with specific questions when there is a lull in the discussion; Maybe if either or both middle school and college students had prepared a few questions for each other ahead of time, that might have helped keep conversations rolling. Or if facilitators had prepared some questions to help focus and expand on the discussions about anthropology.
- Perhaps partnering UNL students with [middle school club] students
- Several UNL students vented some frustration with technology usage by the club students during the session. Of course, this is a more global issue rather than one specific to this session. One UNL student mentioned the idea of having a "Technology Bucket" where students would deposit their cell phones upon entry to the room.
- Another suggestion would be that in the future, UNL students would bring more interactive materials. In this exercise, students were encouraged to bring in anything that they could relate to Anthropology, no matter how esoteric it may seem, in the hopes that it would drive discussion. So, some brought in very esoteric things: a rubber band represented the "stretch" that our human ancestors had to make to bridge the gap between our early hominin landscape and the present; a necklace that displayed a tribal symbol was a link between on UNL student's previous life and his discovery of Anthropology, which was weakly received by the club students.
- No changes recommended. This is a reinforcement of our experience at another time. We had Computer Science students from UNL come and talk with club students and there was similar engagement -- club members were respectful, interested, there were good questions and answers. Really good day!

Additional observations from participating UNL Human Origins students:

In addition to the feedback and observations by the club facilitators, the UNL anthropology students also completed the evaluation facilitator feedback forms at their professor's (Dr. Hammerl's) request. Six of the twelve participating UNL students complied with this request and their feedback is summarized below:

Student comments/questions:

- "What does _____ mean?"
- "What is anthropology?"
- "Do you like _____?"
- "What is your favorite _____?"
- Questions about political stances (random)
- Questions about the objects and how they relate to anthropology
- Comments on mummies, bones, and archaeology
- "Where did people come from?"
- "Why did people start moving other places?"
- When do certain movies come out
- What we liked about school
- What our political beliefs are -- Clinton or Trump
- Have we dissected any animals -- what animals have we dissected and grossest thing we've dissected
- "Is anthropology about mummies/skulls?"
- Why we decided on Anthropology?
- How many languages did we speak?
- Who did we vote for in the election?
- What year we were in school.
- The students were really interested in with bones and animal skeletons. There was one girl who wanted to be an archeologist like her aunt, and a boy who was really interested in how myths came about.

What worked well with the activities?

- Showing kids objects; they really got involved when we showed them "cool" things.
- Trying to have open-ended conversations and letting the students guide the flow.
- The kids seemed interested to see tangible, hands-on objects
- Smaller groups, with adults moving tables, kept the kids a little more from disengaging and running around.
- Getting to ask students what they knew about anthropology and filling in what they were unsure about
- Showing what had brought us to become interested in gave the reality of our background made the experience for them more personal and interesting
- Just letting the conversation go by itself was a good way to know what the students liked.

What changes would you recommend?

- It would be nice if there was a way to stop some of the unnecessary comments that were made.
- N/A
- More structure in some way -- tended to get off topic.
- Possibly splitting kids up to help keep attention a little better
- N/A
- It would have been nice to have more structure to have specific talking points

Week 3: Student Biography Boxes
Being Human
Middle School Community Learning Center (CLC) Club
University of Nebraska Museum SEPA grant BioHuman
Activity Report 020817

February 8, 2017

BioHuman staff: Sara LeRoy-Toren, Grace Stallworth and Dr. Amy Spiegel.

Student Participants:

February 8, 2017

Black/ African American Students: 2

Euro American Students: 8

Middle Eastern Students: 3

Hispanic/Latino Student: 1

Total: 14 Students

Special circumstances: This meeting had the addition of 2 practicum students as requested by Mr. Mack to join our CLC group as part of their experience for Concordia University. Their names are Tyler and Christopher, and they are seeking certification in secondary Social Studies teaching. The majority of the group showed up between 4:20 and 4:30pm.

Activities:

Middle school CLC club members participated in making "Biography Boxes" at this meeting. This particular activity had been successful a year before as a "personal shrine" activity, and I tried it to see if we could connect it with the stories and artifacts activities that Dr. Hammerl's students brought to the last meeting.

The kids sat at their table groups, as they did last meeting. We asked students to come up by table group and pick out supplies for their Bio-Boxes and help themselves to an orange. This organization strategy worked for a bit, but ultimately most got whatever they wanted to make their box. Repeated trips were made to the supply table, students were interested and engaged. Some of the most engaged were those who often have the shortest attention span. This reinforces our observations about the usefulness of creative activity and choice.

We finished at 5:20, and the students cleaned up the room. They left in good spirits.

Assessment: The majority of the group showed up between 4:20 and 4:30, which created a challenging dynamic in terms of our planned activity for the day. Since the activity was flexible, there was not as much disruption as there might have been. The connection between the anthropology artifacts at our previous meeting and the students Bio Boxes may or may not have been well expressed. As in the past, the discontinuity between the attending students and our themes could play a role in this. We have also been joined by 2 practicum students from Concordia College in Seward. Troy had brought them to the meeting last time to "see what we're doing", and I did not anticipate having them with us again. With a larger group, the additional help might be

good, but I am not sure this is quite what I am comfortable with. My perception is also that Troy needs a place for these young men.

Being Human, Middle Level Afterschool CLC
8 February 2017
Student Biography Boxes
Facilitator feedback, summarized by Amy N. Spiegel

Student comments/questions:

- "How do I put this together?" [box]
- "What is this?" [small items provided]
- "There are hats! Why are there hats?" [small items provided]
- "I love these - they are my favorite insect [dragonfly]."
- "Can I use more items?" [of the artifacts Sara brought for the students to use]
- "Can I make this stay?"
- "Where is the tape? Is there scotch tape?"
- "Do we have glue?"
- "We need a glue-gun. Bring the next time."
- "Can you help me with my box?"
- "You can't look inside. I wrote my name on the outside."
- "Thank you! I like this!" [in response to facilitators saying student's project box was beautiful]
- "I know what anthropology is!"
- "This is my box"
- "Can I use this tape?"
- "Can I have an orange?"
- "Can I have another orange?"
- "Are we doing this again?"
- "This is my anthropology -- that's the study of humans. Want to see this?"

What worked well with the activities?

- The activity was engaging for the students.
- There were a lot of options for them to make choices which worked well; Having a lot of items to work with (markers, tape, string, stickers).
- Sharing items!!
- Box demonstrations/ suggestions
- The most historically disruptive members were the most engaged in this activity which reinforced ideas about offering creative choices.
- This activity was flexible, which helped a great deal. The majority of our students appeared between 4:20 and 4:30.

What changes would you recommend?

- The group was enthusiastic, so some agreement about how we bring down the invasive (loud) enthusiasm would be good. We have been joined by 2 practicum students from Concordia College whom Troy brought to the classroom. They are

nice young men, and perhaps we can get them accustomed to some management strategies.

- A recurring activity/ hand gesture to utilize when students get loud.
- Also, not sure a good connection with anthropology was made.

Week 4: Cultural Identity and Where you came from in the world
Being Human
Middle School Community Learning Center (CLC) Club
University of Nebraska Museum SEPA grant BioHuman
Activity Report 021517

February 15, 2017

BioHuman staff: Sara LeRoy-Toren.

Student Participants:

February 15, 2017

Euro Americans Students: 11

Middle Eastern Students: 2

Black Students: 3

Hispanic Student: 2

Total: 18 Students

Special circumstances: Sara and a practicum student were the only facilitators on this day. Ms. Stallworth had a meeting for her Ucare grant.

Activities:

This meeting was about exploring Cultural Anthropology and thinking about how it pertained to each of us in the club. There were 18 students who signed in, and left at varying times to be picked up from school. I was the only SEPA staff present, and had some help from a Concordia student who comes in on Wednesdays. Later, Troy came in and worked with a group of the students.

We began with the kids seated at a pod of their choice, with some who indicated they wished to work alone. The class discussion began with my asking what they thought culture was. We then handed out the question sheets with the request that they talk with a partner and write down a few ideas about what they thought. There were a number of animated discussions, with some students pulling out their computers to look up definitions. The question sheet goes on to explore different aspects of this topic, including being interested in studying different cultures and how they currently find out about other cultures. While they were discussing and jotting down some ideas, the "identity bubble" sheet was distributed as a means of thinking about the difference between culture and cultural identity. The level of cultural competence in this group, perhaps not unexpectedly, is very high

Following up on these discussions and activities, pads of thin sticky notes were distributed and the students were asked to come up to the central table that had a large map of the world. They were asked to put a sticky note on the places they and their families came from. This elicited a great deal of discussion ("I'm from here!", "Does that mean where I came from?", "Should I put where my grandparents are?", etc.). They were then asked to share with the group and respectfully listen to the student who

had the floor. After sharing their sticky notes (which was really interesting), we went on to the next volunteer.

The meeting was rowdy (student numbers, 66' temperatures, upcoming Presidents' Day off, who knows?), but kids stayed to clean up the room and talk. I think they have a better idea of cultural anthropology, and did not need much help with understanding culture.

Assessment: This was a day about personal connection with learning and sharing culture. The opportunity to share and explain where each of us come from is a powerful tool for self-reflection, collaboration and relationship building. The students responded enthusiastically, and did share ideas that had been explored in previous meetings.

Being Human, Middle Level Afterschool CLC
15 February 2017
Cultural Identity and Where you came from in the world
Facilitator feedback, summarized by Amy N. Spiegel

Student comments/questions:

Replies to class discussion questions/ written on question sheet:

*Your **Identity** -- choose 5 different aspects of yourself and put them in the bubbles below:*

- education
- family
- I am a little bit very smart.
- I am an uncle
- I like board games.
- I really like playing with electronics
- I speak English
- pets
- softball
- Sometimes maybe I get bullied a little bit.
- swimming
- theater
- zoo
- Doggo named Karl.
- I was born in [foreign city], but now got my American citizenship so now I'm American

*Responses to **Where am I from?** worksheet:*

What do you think culture is?

- Where people come from
- Religious traditions that family or people go through
- Culture is many things like art
- Culture is cool, inspiring, fashion, clothing, music, nice, interesting, happy, sad, angry

- Where you were born and tradition, language, food, songs
- How a group of people live and interact with others

What do you think cultural identity is?

- What language we speak
- Things that you do and who you are
- Religion, clothing, language, traditions, food, birthdays, holidays
- Family, language, food, games, dances, how they act
- How people are able to identify me by my culture

Are you interested in studying different cultures (cultural anthropology)? Why or why not?

- Yes, because it might be interesting and fun
- Yes, because they inspire people like me; because it's interesting history and hobbies; because it's really cool and you may know things about everyone
- Yes, because I want to know what other religions and cultures do
- Yes

How do you find out about other cultures in your life now?

- Talking to family or people researching it or maybe find some answers online
- School, exploring the world, go anywhere, events and functions, friends from different cultures, foods from different cultures, museums and festivals
- Research them or look them up or ask different culture people
- I read books about other culture

What worked well with the activities?

- The activities all worked, however there was a great deal of disruption today. At one point, we had 18 kids in the room with just one BioHuman facilitator and the practicum student from Concordia.
- The question sheets about culture were discussed both in the groups and as a class. The students evidenced a good understanding of culture and were eager to think about studying culture. The fill-in-the-bubbles sheet (choose 5 different aspects of your identity) had some pretty reflective answers and the world map was very popular.
- Map reading and geography knowledge showed a spectrum of different abilities. During the map debriefing activity, students shared where they thought their families came from. Some students had better knowledge than others, particularly those recently immigrated students. Chocolate was shared during the debriefing and kept the talking to the student describing their story.

What changes would you recommend?

- We need to have more adults there. The students show a lot of respect for Grace, and anyone who conducts themselves as calm learners and adults. Ever observant, Troy did come in and facilitate a group. My sense is that these students really enjoy having more individual attention, perhaps because they can ask any questions or share things in a low risk environment.

**Week 5: Observing/ Mapping Genes and Traits
Being Human
Middle School Community Learning Center (CLC) Club
University of Nebraska Museum SEPA grant BioHuman
Activity Report 022217**

February 22, 2017

BioHuman staff: Sara LeRoy-Toren, Grace Stallworth

Student Participants:

Euro Americans Students: 11

Middle Eastern Students: 2

Black Students: 3

Hispanic Student: 2

Total: 18 students

Special circumstances:

- Highly variable arrival and pick up times for students.
- Unfortunately, but not unexpectedly, the wifi at the middle school refused to play the short genetics animation I had planned as an introduction.
- Discussion with Concordia practicum assistants regarding taking photos of student club members.

Activities:

This club was linked to our previous meeting, Cultural Anthropology, and was an exploration about how our cultural characteristics are reflected in some of our autosomal phenotypes. There were 18 students who signed in, and left at varying times to be picked up from school.

The students signed in and sat at 1 of 3 available tables. They were asked to remember our previous week's activity, and provided brief answers, setting the stage for connecting the day's exploration.

The ideas for the day were introduced, including taste, ear lobe configuration and tongue rolling and a 4 screen PPT which was the visual key for the phenotypes was projected on the classroom television. Large pieces of paper were placed on the tables, and the students were given example tree diagrams (to make larger copies on their paper), the phenotype key' and a set of "leaves" with the phenotype choices on them. The goals of the activity were scientific observation, data gathering and analysis.

The students observed one another's phenotypical characteristics, and made a list that corresponded to the labeled leaves. When each student's leaves were placed on the correct branches of the tree, we talked with each table to see what they thought that placement meant about the phenotypic distribution of their group.

Subsequently, a central table (the one with the largest tree diagram) was selected to attach all the leaves and make a visual of our observed genetic distribution in the class room.

The students were excited to see who ended up where on the tree, and the ones who were alone on a branch expressed pleasure at being "unique". The club finished with a debriefing discussion, and linking our activity to the cultural anthropology activity from

the previous week. Many students expressed the idea that “I think it doesn’t matter-our skin color, etc. We are all people.”.

The “Tree of Genetic Traits” came from the Learn.Genetics.utah.edu site.

Assessment: The plans for this activity were largely successful, despite the widely fluctuating arrival and departure times. Students participated well, and showed engagement in the activities.

The difficulty of dealing with absent parents, adoption, and sequential foster placement was not a problem with this activity since it addressed observable characteristics in the here and now. This is particularly desirable for this group, given their very diverse makeup.

Some difficulty arose with the Concordia practicum students regarding taking pictures of the club members (I told them they would have to have permission from Troy) and told them that the pictures could not show any student enough to identify that student. This incident was successfully resolved at a later date.

Being Human, Middle Level Afterschool CLC
22 February 2017
Observing/ Mapping Genes and Traits
Facilitator feedback, summarized by Amy N. Spiegel

Student comments/questions:

- Ugh, it tastes gross -- what is that stuff PTC?
- What is PTC? How do you know if something tastes bitter?
- Are my earlobes attached?
- Are you sure my ears are connected?
- Are your ears attached?
- Eww! [in regard to Brussels sprouts]
- I can taste this! It's sweet!
- Why do I like this?
- Why do we need to label this?
- What do we do with these? [leaf sections with gene observations]
- Do I need to cut them apart?
- I made our tree! [tree sketch for leaves]

In talking about ourselves:

- I think that it doesn't matter our skin color, etc. We are all people.
- We are all the same!
- My eyes are green!

What worked well with the activities?

- Splitting into groups; They worked well in their groups.
- They were fine with drawing the tree when they understood what was for (attaching the leaves); Students were pleased to see where they landed on the tree.
- Using activities to engage students; The students were responsive to talking about cabbage, broccoli and Brussels sprouts. They were interested in tasting

the sprouts, and many seemed to have the connection down between the brassicae family. A number of students knew their siblings like/dislikes.

- Asking students questions and encouraging new ideas

What changes would you recommend?

- The wifi would not let me play the learn.genetics.utah.edu animation, which would have been helpful
- Things with the activity went smoothly -- satisfied with the outcome
- N/A

Week 6: Horse fossil foot puzzles, horse fossil teeth with Alison Stevens
Being Human
Middle School Community Learning Center (CLC) Club
University of Nebraska Museum SEPA grant BioHuman
Activity Report 030117

March 1, 2017

BioHuman staff: Sara LeRoy-Toren, Grace Stallworth, Amy Spiegel, Guest presenter: Alison Pierce Stevens

Student Participants:

Euro American Students: 9

Middle Eastern Students: 3

Black American: 2

Hispanic/Latino Student: 1

Asian American Student: 1

Total: 16 Students

Special circumstances:

Activities:

Dr. Alison Stevens brought 2 activities to our club meeting today. Since we have been working with skeletons of various animal groups, we had the opportunity to look at horse foot puzzle diagrams and fossil horse teeth. The activities were intended to show change over time, and consider evolutionary pressure for change. These activities are being developed for use in classrooms.

Once again, students sorted themselves into separate tables, and Alison introduced the activity. The horse foot puzzles were handed out and the students were interested in arranging the pieces to fit. This was challenging, and as they sought help, Alison passed out outlines for each puzzle that helped solve the mystery. This was a good tactic for the students. After the puzzles were assembled, I decided that we needed to put them all on the same table and talk about them. We had been traveling from table to table. Arranged side by side, the kids asked very good questions and responded well to Alison's prompts, leading to a clearer picture of evolution associated with environmental pressures.

After this, the central table bank was pulled out, and we all gathered around to look at the tooth fossils. The students were very interested in examining the fossil teeth, and presented ideas about the animals from which they came. Alison related the tooth configuration to the places the horses lived and what they ate. This was a very successful activity.

Assessment: The middle school students were well engaged with both the horse foot puzzles and the examination of the fossil teeth. They enjoyed trying to make the feet puzzle parts fit, and were interested in the finished results when they were lined up so all could compare them. This led to a productive discussion about environmental adaptation and evolution of morphology. The teeth were viewed as a group on a central

table, and being able to touch the fossils was exciting for the students. A final comparison of matching the teeth to the feet would have been useful. Group work, collaboration, access to adult scientists and hands-on activities are successful with these students, and are well received.

Being Human, Middle Level Afterschool CLC

1 March 2017

Horse fossil foot puzzles, horse fossil teeth with Alison Stevens

Facilitator feedback, summarized by Amy N. Spiegel

Student comments/questions:

Horse puzzles:

Lots of comments about predators of horses, how we use our toes when we walk. Not a lot of questions, but good answers to facilitators' questions

- What is this?
- Where do these go?
- Look at this! I got it!
- What is this for?
- How can a horse have 3 (or 4) toes?
- Are these toes? Horses don't have toes!
- Will you come look at this?

After the outline key was handed out:

- Oh! That's how it fits!
- Is this where it is?
- These are all different!
- I know I have this diagram right; can I look at others?

Fossil tooth activity

Lots comments about what horses eat, different kinds of teeth (ours and horses') and what they are used for.

- Those are teeth! Gross!
- We have canine teeth!
- These are canine/ molar/ incisor! [tooth type]
- What is this?
- They are grass eaters!
- There's glass in grass!
- I don't like this activity; I already know some of this information.
- Why can't people eat grass?
- I vomited when I ate grass - 5 times.

What worked well with the activities?

- Puzzles; The puzzles were interesting to students. Providing the students with the outline key helped a lot. This activity was too challenging for the students without the outline to guide them, especially for the puzzles with smaller pieces.

Okay to start without the outline and let them struggle for a few minutes, then distribute outlines.

- Working in pairs when building horse bone puzzles and encouraging students to take turns here as well; Kids working in separate groups with three adults made the activity go more smoothly
- Getting the students in small groups and having them speak one at a time, calling on students who raise hands; Grace's calm, clear, persistent request that the students talk one at a time
- Taking the assembled feet to a single table and compare/contrast.
- Having fossil teeth to hold was important -- examining them and reflecting on their own teeth.

What changes would you recommend?

- More coordination in initial activities - some groups were coming in later, so this was hard -- essentially being mindful of how long each activity takes.
- Perhaps the puzzles could be scaled larger and on heavier cardstock
- Quicker transition from puzzling to compare/contrast activity; A plan to move the assembled puzzles to a central area for debriefing, compare/contrast.
- Perhaps sketch/ diagram of pertinent environments to match with the horse feet.
- Maybe a plan to match feet to teeth?

Week 7: Watch Your Mouth! activities: Fluoride Protection, The Acid Time Test, Sugar Scout
Being Human
Middle School Community Learning Center (CLC) Club
University of Nebraska Museum SEPA grant BioHuman
Activity Report 030817

March 8, 2017

BioHuman staff: Sara LeRoy-Toren, Grace Stallworth, Amy Spiegel,

Student Participants:

March 8th

Euro American Students: 8

Middle Eastern Students: 1

Hispanic/Latino Student: 1

Total: 10 students

Special circumstances: Today at the middle school was busy. There was a 6th grade open house that some of our club members helped with, so were dividing their time. Additional activities in the building occasionally provided a distraction for our participants. This was the week before spring break for LPS.

Activities: Today was an opportunity to explore dental health and offer each student a copy of *Watch Your Mouth*, by Linda Allison, Rebecca Smith and Judy Diamond.

Three activities from the book were used, including Fluoride Protection, Acid Attack and Sugar Scout. These were organized for the club members with an instruction sheet that scaffolded their activities and allowed some independent investigation of the activities. This prompt sheet is attached at the end of this report.

Students divided themselves into three different table activity groups, and then rotated to new activities as time progressed.

Assessment: The activities were interesting and engaging for the students. Their response alternated between competition and cooperation. Some of the math involved in the activities was challenging for some of the students, and we allowed them to use their cell phones as calculators to fill out the tables where appropriate. Personal phones were shared with students who did not have access to a calculator.

Club members were interested to see what the connections were between their eating choices and their dental health. They were enthusiastic about the activities and pleased with their new books. It was also clear that basic math presents a challenge for some of these students, perhaps in the form of “story problem” rather than numeric problem. This was unexpected since the math in the activities is straightforward and explained in the text.

The students were gathered around a common table at the end to present their findings and discuss the implications of those findings. They shared constructively, and had

comments and questions indicating that they understood what had been done on this day.

**Being Human, Middle Level Afterschool CLC
8 March 2017**

Watch Your Mouth! activities: Fluoride Protection, The Acid Time Test, Sugar Scout

Facilitator feedback, summarized by Amy N. Spiegel

Student comments/questions:

Fluoride Protection

- I had a tooth grow without enamel!
- That stinks!
- It feels weird!
- Is it soft?
- That one's solid.
- Are those real eggs?
- That's the fluorine one!
- Yeah, real eggs. They're squishy!
- Crush it!
- That's why those people are called dentists! [after facilitator's comment about having dentin in our teeth.]
- Thank you for giving us these books. They have instructions in them.

Acid Time Test:

- I don't have a calculator
- I don't have a phone
- What do I do here?
- This total in the example is 80. [student pointing out an error in the book on page 39]
- I saw on a show that if you eat sugar it can cause cavities.
- I need a calculator.
- I already calculated all I needed.
- Can you divide 200 by 60?

Sugar Scout

- Can we eat this after the activity?
- I want the cola
- Can I have raisins?
- Do we label the bottom?
- Where do we put the food?
- I'm going to need to leave; I hope we can get done with our experiments.
- You got this part wrong/right. [to another student]
- I didn't know that Diet Pepsi had no sugar.
- I wish we were done with this part so I could eat!

Wrap-up activity - What was new to them?

- What is citric acid? [looking at ingredients in cola]
- I liked learning about acid.
- I learned that I could eat snacks and brush my teeth.
- Cheezits have no sugar.
- I learned that diet [Pepsi] has zero sugar in it. I thought it had one or two [grams of sugar] in it.
- I learned that mouthwash has fluoride that makes the egg squishy -- makes it healthier for enamel.
- This one [Coke] has really bad acid in it.
- It's healthier for my teeth when I'm having a snack, it's better to have Cheezits than diet pop because it doesn't have acid in it.
- That the bacteria in your mouth eats sugar.

What worked well with the activities?

- Table Groups - students are showing cohesion of grouping; Pairing up into groups; Letting students decide on their own groups.
- Providing rewards for participation, raising hands, being kind to one another -- first choice of activity food, support of synthesis; Having food-based rewards.
- Activity instruction sheet
- Not being overly prescriptive with the activities and worksheets -- students wanted to participate, and liked the idea of a competition, but also were comfortable with the less formal format.
- The timing and sequence of the activities worked well
- Books (Watch Your Mouth)
- Having students use phones as calculators (for adding in Acid Time Test and dividing by four in Sugar Scout)
- Gathering students around central table for final debriefing/ sharing.

What changes would you recommend?

- Not any come to mind. Day was pretty busy with students who are anticipating spring break. Also, there was a 6th grade open house.
- Satisfied with the meeting today.
- The kids were more rowdy today, but I think using tactics to get their responses (e.g. raising arms) that we've utilized help.

Fluoride Protection? Page 19

There are two eggs at this station. One was soaked in fluoride mouthwash, and the other was soaked in water. This morning, these soaking liquids were replaced with vinegar. The eggs are raw, so be cautious!

What does each egg look like?

What does each egg feel like? (be gentle!)

What might this mean about the effect of fluoride on egg shells and tooth enamel?

The Acid Time Test Page 39

This is a calculation station. In your book, there is a table for you to fill in. You can write on the table-the book is yours! So, follow the directions, and see what your Acid Attack Time is!

Sugar Scout page 40

This will be a competition between table groups.

1. There are snacks on the front table. Pick 2 or 3 for your group, and figure out the amount of sugar in the snacks.
2. Divide the sugar grams in each snack by 4 to see how many sugar cubes you put the paper container.
3. Line up the snacks on one side of your table, and the containers on the other.
4. Invite your club mates to guess which sugar cube containers match the snack!
5. Record the number of right and wrong guesses below!

Correct guesses

Incorrect guesses

**Week 8: Field Trip to Morrill Hall: Galapagos exhibit
Being Human
Middle School Community Learning Center (CLC) Club
University of Nebraska Museum SEPA grant BioHuman
Activity Report 032217**

March 22, 2017

BioHuman staff: Sara LeRoy-Toren, Dr. Judy Diamond, Grace Stallworth

Student Participants:

March 22, 2017

Euro Americans: 7

Middle Eastern American: 1

Hispanic/Latino American: 1

Total Students: 9

Special circumstances: This was a fieldtrip on the first week of class after spring break. Getting permission slips returned after a break proved to be additionally challenging (this is an already complicated procedure in a middle school.) Additionally, some CLC clubs change after the quarter, so there was some competition with the sports teams that were starting on this day.

Activities: Students are typically eager to take a fieldtrip, and today was no exception. The CLC-provided bus was on time and students gathered in the classroom to board. Sara accompanied them to Morrill Hall and back to the school.

Once in the museum, we met up with Dr. Diamond and Grace Stallworth, and proceeded to the floor to interact with the Galapagos exhibit. Dr. Diamond had designed an activity to facilitate students' inquiries and arranged for us to be in the museum after closing. This activity was designed to connect the ideas of evolution and research which have been viewed throughout the semester, this time with the various fauna on the Galapagos.

Students drew slips of paper with topics to research through the Galapagos exhibit materials. Each slip of paper had 1 unique question and the second question for all students was, "What would you research in the Galapagos if you could go there?". The resources were the physical exhibit and the texts that are in holders at the various stations. Each student was given a notebook in which to record their findings, and were told that these were theirs to keep.

After researching their questions, all gathered around and shared their findings with the group, allowing all to see the different parts of the exhibit.

Assessment: It is always exciting for students to be in Morrill Hall, and to be there when most of the public is gone and after hours was well received. They were happy to get their own notebooks, but had some challenges keeping track of them in the exhibit. The activity was open ended, and the participants varied in their ability to conduct a search for the right place in the exhibit to look for their topic. Some immediately employed their individual toolbox of research tools, and others floundered for a while. The Bio-Human staff directed those who were puzzled.

The input from the students varied, but was good overall. It is apparent that they have had little opportunity in their schooling to pursue topics without a lot of structure, but they responded well with some support.

The exhibit and activities were interesting to them, and provided an opportunity to see the Galapagos Exhibit that might have eluded them. It was a good way to understand our students and how they approach a different learning experience.

Being Human, Middle Level Afterschool CLC

22 March 2017

Field Trip to Morrill Hall: Galapagos exhibit

Facilitator feedback, summarized by Amy N. Spiegel

Student comments/questions:

- What is that? [cactus that is white]
- There isn't an index [reference book at exhibit]
- Why was this voyage so important? [about Darwin]
- I don't know how to answer my question.
- I already answered my question.
- I like looking at the boxes [trunks with expedition gear]
- The lizards are the coolest because they change colors.
- What is the answer to this? Can you help me?
- What happens if they swim away? [lizards]
- where is my notebook? Can we keep these?
- I can't find what animals eat. Where is that?
- Maybe they swam there [answer to how did Galapagos become populated]

Wrap-up activities:

What would you study more about?

- The blue-footed booby -- I liked how they had different colored feet.
- Iguanas and insects that are here -- they are cool and have camouflage
- the marine iguana
- owls, 'cause I don't know much about them
- I would study this kind [marine iguana] because I can find one and study it, to see if there was anything that makes them match things [camouflage]
- iguana; they interest me because they change color
- I like the boat - the old one. I would study that
- I'd study the cactus

What was the most interesting thing you saw?

- The ships, because they have details
- That actual people lived on the island
- watching cool videos and the activities, like the food and stuff in the boxes/ the interactive boxes
- How animals stay on the island -- they could swim away if they wanted.
- I liked the finches

What worked well with the activities?

- The questions activity went well; Having each student investigate a question to answer from the exhibit.
- Giving students separate questions and allowing them to "teach" each other what they learned; Having the students be the expert and taking turns explaining their findings.
- Having a search question; Moving around to the different parts of the exhibit
- Having students walk around and also see what caught their attention
- Asking students what they liked and a universal "what would you study" question was a good plan; Encouraging students to talk about the things they liked and wanted to learn more about during the debriefing and summary at the end.
- Exploring the museum exhibit and being there "after hours" was special.

What changes would you recommend?

- The exhibit is not intuitive, and the modifications by Judy were really important for our group. This is not really a comment on our activity as much as it is an observation about the exhibit.
- I might structure the groups more proactively given the structure of the exhibit. Perhaps assigning adults to an area to help.
- Different types of students may benefit from more/ less individual time to look around. Perhaps splitting into two groups during discussion could have helped the restlessness that I noticed.
- None. Students really seemed to enjoy seeing the exhibit and most were "regulars" to the club.

Week 9: Anthropology Student-led Activities #1 with Dr. Hammerl
Being Human
Middle School Community Learning Center (CLC) Club
University of Nebraska Museum SEPA grant BioHuman
Activity Report 032917

March 29, 2017

BioHuman staff: Sara LeRoy-Toren, Dr. Amy Spiegel, Grace Stallworth

Student Participants:

Euro American Students: 10

Middle Eastern Students: 1

Black American: 3

Hispanic/Latino Student: 3

Total Students: 17

Special circumstances: This club had a larger than usual attendance due to weather and cancellation of 2 other clubs. Students could not be outside, or at the other club, so some students were sent to Being Human, and did not want to attend. The guest facilitators were Dr. Emily Hammerl's anthropology students, who had created the activities and were providing the learning support for this day. Their activities had been previewed by Sara and Emily twice before they presented; once to look at initial planning and a second time to review progress and offer changes to the student facilitators.

Activities: The activity set was arranged into 3 locations, with 2 table pods in the classroom and one station in the hallway (for the bipedal vs quadrupedal activity). The stations in the room were:

- Intermembral Index activity, where students measured their own bones and compared them with sample replica bones of early hominids. This required an understanding of the metric system, even if to just measure. The tape measures featured both metric and English measurements.
- And, skull morphology exploration, matching crania to mandibles of hominids, discussing the shape of the skulls and function of the jaw bones.

The hallway activity had students running a race with 2 legs and on all fours. While the students were working on the first 2 activities in the room, 10 more students appeared after not being able to do the clubs they had been enrolled in.

Assessment: The club meeting today was the 3rd time some of the anthropology students had interacted with the middle school club members. Credit needs to be given to Dr. Hammerl for making this activity an integral part of her course for the semester. While there were 3 or 4 club students who did not wish to participate, most were enthusiastic and adapted to the fluctuating numbers. By far, the race in the hall was the most popular activity. The UNL students occasionally needed a better grasp of their content, and 1 group was shy a member. With some coaching, the race activity was run in a fun way, with some competition. For future planning, more attention needs to be paid to what sort of math calculations will be used, what units will be used in the

calculations and how we might scaffold the teaching activity more for the university students. The CLC club members left in a good mood, and had fun on this day.

Being Human, Middle Level Afterschool CLC
29 March 2017
Anthropology Student-led Activities #1
Facilitator feedback, summarized by Amy N. Spiegel

(Note: All usual college student assistants were gone today)

Student comments/questions:

- I want to have snack - I was sent here because I can't go to sports and fitness [three students who wanted to be "elsewhere"]

Measuring activity

- Is it supposed to be centimeters? [measuring arm length]
- Do I go all the way down? [measuring leg]
- Can I measure [Lucy]?
- When did you find the skeleton bones?
- The last one [measurement] was 49 [cm].
- How are we measuring this? [inches vs. centimeters marked on the measuring tape]
- What do we divide? Can I use my phone [as a calculator]?
- Is she a kid [Lucy, because the print out showed how short she was]?

Bone comparing activity

- Where is Kenya?
- Why is that one brown (fossil cast)?
- Are these real?
- How old are you?
- Can we pick it up?
- That's a gorilla bone.
- That's a human bone.
- I broke my femur once.
- I've broken my nose.
- I broke my tooth.
- He needs braces to correct his overbite.
- Like ours but with fewer rows [mandible teeth].

Hall (walking) activity

- Can I do it like this? [hands flat on the floor]
- But I can still touch my toes.
- Think about Tarzan - how his parents died and he was taken in [by a gorilla] as if he were her own. [discussion about how differently gorillas and humans walk]
- Why would gorillas walk [on two feet]?
- Aren't they [gorillas] as smart as humans?
- Chimps are our closest relative.
- Is this a race?
- I can't run in my sandals, can I take them off?

Wrap-up

- I think she [Anthropology Student Facilitator] wasn't paying attention to me when I was talking

What worked well with the activities?

- The ideas [for the activities] were good; The activities were interactive and interesting for the students; The IMI activity was great, although see recommended changes below.
- Great to have the specimens for students to examine.
- Having two stations in the room worked well until we collected 10 more students
- Students enjoyed the hallway activity; Having time to run a bit in the hall helped to wake some of the students up and seemed to engage even the disinterested; The hall races between bipedal and quadripedal had potential
- Having Sara debrief, provide context and help students process the activities; Gathering everyone together to debrief and get the middle school students and Anthro students to share ideas.
- Good discussion at the end.

What changes would you recommend?

- There seemed to be a lot of diffidence on the part of the University students. When [the primary club facilitator] visited them in class [as they were planning for this session], the activity was in the beginning steps, but headed in the right direction.
- Don't quite know if the Anthro students practiced this -- certainly the middle school students were challenging today. Middle school is hard.
- The UNL students could have done a better job telling middle school students what IMI actually is. It seems that there was a bit of a disconnect in how much the UNL students thought the middle school students would know.
- Perhaps spend more time at the beginning of the activity introducing materials/ activity, and helping students become familiar with the context. Not all the students know that "Lucy" is "Australopithecus afarensis" and that the print-out on the table was of her. It would have been helpful to explain how long ago she lived and why she is important, for example, and to let the students talk about what they knew and wanted to know.
- More practice would have helped; It would have been helpful for the Anthropology Facilitators using the Intermembral Index activity to have practiced ahead of time. Knowing how the measuring would be done (from what point on the body to what other point on the body), recognizing that pairing students up would make it easier for students to measure their legs, and seeing what kinds of ratios the measuring actually produced would have enabled this activity to go more accurately and smoothly.
- The information worksheet for the Intermembral Index activity could have provided more information and in a clearer way. And, more discussion with the students to clarify what was on the sheet would have helped them understand the activity. What does IMI stand for? What does the ratio mean? What does it mean that the humans' IMI is lower than the chimpanzees' IMI? The picture of the Booted Macaque is great. Where is picture of the chimpanzee? What does it mean that Lucy's IMI is 88?

- The “Show and tell” station was a bit blah. There needed to be an activity associated with it to better engage the students.
- In matching the skulls with the femurs, it would have been helpful to talk more about differences and similarities, what they mean and why they exist.
- Give more students the opportunity to think about and discuss posed questions. When facilitator asks a question, ask several students to express their opinions instead of just one.
- Concerned that not all Anthro students were knowledgeable about their presented topic.
- More engaging activity for the middle school students (see above about “show and tell”)
- The number of middle school students that week was also a bit overwhelming, especially as several refused to participate; We had a larger group of students than usual, and some were not participating, so this was somewhat disruptive.
- These activities could have been more thoughtfully planned, prepared, and practiced, to be an active learning experience for the middle school students.

Week 10: Anthropology Student-led Activities #2, with Dr. Hammerl
Being Human
Middle School Community Learning Center (CLC) Club
University of Nebraska Museum SEPA grant BioHuman
Activity Report 040517

April 5, 2017

BioHuman staff: Sara LeRoy-Toren, Dr. Amy Spiegel, Dr. Emily Hammerl, Grace Stallworth

Student Participants:

April 5th

Middle Eastern American Student: 1

Euro American Students: 4

Hispanic/Latino Students: 2

Total Students: 7

Special circumstances: The number of students was smaller on this day. It was decided to have the students do the activity in the classroom together, and then do the 2 and 4 leg obstacle course as a group.

Activities: The classroom inquiry centered around brain size and tool use. There were a variety of hominid skulls with mandibles, rolled and formed aluminum foil ovoids to simulate brain size and tools set out on the table for the students. They were asked to make observations about the skulls, match tin foil “brains” to the skulls and guess what skull matched the tools on the table. Students had a good time answering the prompts, and discussing the varying opinions and observations with one another. The UNL students coordinated the activity in a pleasant and inclusive manner.

The bipedal activity was built around the idea that hominid efficiency was improved by running on 2 legs, leaving the front appendages free to hold children, grasp tools and carry food. The students took turns carrying a “baby” (stuffed toy), picking up a tool and carrying it to a plastic egg that they opened with the tool, and then running to the finish line. This was done once on all fours, and again on 2 legs. The students were timed on each round, and the times were compared. They discovered that 2 legs were better than 4, as well as who was quickest among the group.

After these activities, the club reconvened in the classroom and compared ideas about the learning for the day.

Assessment: While there was still room for improvement with the UNL students’ content knowledge, their interactions with the CLC club were very positive. Dr. Hammerl went to great lengths to correct misinformation or clarify explanations for the club members. The activities were very well received and the debriefing session showed that the middle school students had gained understanding of concepts that were shared. Additionally, the attention of adults who know the material was visibly important to the students. This was a fun and positive day, and gave our club a chance to see important ideas in Anthropology.

Being Human, Middle Level Afterschool CLC
5 April 2017
Anthropology Student-led Activities #2, with Dr. Hammerl
Facilitator feedback, summarized by Amy N. Spiegel

Student comments/questions:

Bipedality Activity

- We can run faster [answer to question about advantages of bipedalism]
- When we walk on four [legs], we have better ability to climb.
- I can do this faster!
- Oops, I broke the eggs!
- I dropped my baby!
- This is hard!
- I thought about putting my baby on my back.
- If they are climbing trees, they don't need their legs.
- What's a foramen magnum?
- Oh! Like in the back of my head?
- I was fastest!
- We want Tyler to do that! [run the course]
- If you stand up, you can use tools!
- Fun! Awesome! [in answer to question about "how was the obstacle course?"]

Brain size and tool use

- Which one is smarter?
- I think that's an ape [Human, modern]
- That one is like a Mohawk. [crest on skull model]
- It's for the muscle that connects to the jaw [why there was a hollow in the skull with the crest]
- The older examples are smaller.
- So none of them are birds?
- You'd think if they could make fire, they would make tools to hunt [discussing which skulls were associated with which tools]
- I think it [this tool] goes with this one [skull], because it's more evolved.
- How did they use that? [tool]
- Would they use this [tool] to defend themselves?
- Is that sharp? What would you do with that?
- Since they were more evolved, and had a better brain, they could actually hunt [with those tools].
- I was right!
- That looks like a rock.
- That one might be the oldest. [Aegyptopithecus]
- Why does it have this [bone behind the teeth]
- Where was the spinal cord on the Neanderthal?
- How would we evolve in the future?

Wrap-up

- Monkeys are closer to us than apes.
- Another difference is monkeys sound low-pitched, and apes sound high-pitched.

- It's harder to walk on all fours because we're not built for that.
- We can't hold something if we're walking with our arms.
- Quad means four.
- Before [Aegyptopithecus], what [mammals] lived then? Birds?

What worked well with the activities?

- Some additional planning and the Anthro students accepting the suggestion to work with 1/2 the students at one time eliminated some previous behavior management problems
- The smaller number of students helped all the activities go more smoothly than last week.
- The interaction between the college facilitators and middle school students was very positive. The club members were interested and the facilitators were enthusiastic and encouraging.
- Timing the obstacle course runs and cheering for kids; The "race" obstacle course was well-organized so that students knew what to do and why -- it helped them really think about the difference between quadrupedalism and bipedalism; Like the obstacle course - several items illustrated the hypotheses for the origins of bipedalism; Both Anthro students asked good questions to the middle school students to keep them engaged; Anthro students provided a good description of the obstacle course.
- Good interactive demonstrations and detailed examples when questions are presented.
- Having students put the skulls in order from oldest to youngest -- but timer at 1 minute is a bit short. Also matching tools to skulls was good.
- Letting students hold and look at the tools and skull models.
- Separating groups (one in classroom and one in hallway)

What changes would you recommend?

- All in all, this day went well.
- Significant preparation prior to deployment.
- Show and tell became more lecture, less activity.
- Work on big words -- find better ways to communicate complex ideas.
- There were some science content issues (misinformation) which is often a risk anytime inexperienced facilitators organize activities -- this is a skill that is learned over time.
- The chance for our club members to interact with the Anthro students is important.
- Maybe provide a simplified phylogenetic tree to illustrate that these different species were not from a single lineage. It could also show time since that is difficult to grasp and important to understand when thinking about early humans and ancestral species.

Week 11: Anthropology Student-led Activities #3, with Dr. Hammerl
Being Human
Middle School Community Learning Center (CLC) Club
University of Nebraska Museum SEPA grant BioHuman
Activity Report 041217

April 12, 2017

BioHuman staff: Sara LeRoy-Toren, Dr. Amy Spiegel, Dr. Emily Hammerl

Student Participants:

African American Students: 2

Euro American Students: 7

Hispanic/Latino Student: 1

Middle Eastern Student: 1

Total Students: 11

Special circumstances: This was the last day of the set of 3 club meetings with the UNL Anthropology students.

Activities: On this day, the CLC students experienced 4 activities on 3 stations and the floor. Students rotated through the activities in 3 groups.

The skull morphology and vision activity featured replica skulls with a comparison of eye sockets, facial shape and experimenting with putting various shapes on their own faces to see how that might affect their vision. A discussion ensued as to what features like brow ridges might hinder and help with in a hominid.

The second activity centered around bone difference in hominids (Neanderthal and Homo Sapiens). Examining the efficiency of bone length in arms and legs and comparing actions like running and spear throwing was a topic that encouraged students to think about form and function.

The final table activity was a map activity where students got to identify areas in which Neanderthal hominids were found and compare that with modern day areas.

The most popular activity was creating cave art on a roll of paper on the floor. There were examples of cave art in books, and the students were encouraged to make their own cave art on the paper with tempera paint. The students made interesting and lovely images, and clearly loved this part of the day.

Assessment: While there was still room for more refined pedagogical approaches, the UNL students' interactions with the CLC club were very positive. The planning and execution of activities this day were the best of the 3 Anthropology facilitated sessions. The activities were very well received and the students left with talkative and positive faces. Several helped clean up the room. Once again, the attention of adults who know the material and were willing to listen to their ideas was important to the students. Whenever college students are utilized as facilitators, it is important to remember that their experience in teaching may be very limited, if they have any at all. These students put a lot of effort into this day, and had clearly practiced and planned their activities. Our students were enthusiastic, and able to think about the study of Being Human in different ways.

Being Human, Middle Level Afterschool CLC
12 April 2017
Anthropology Student-led Activities #3, with Dr. Hammerl
Facilitator feedback, summarized by Amy N. Spiegel

Student comments/questions:

- Yea! Knowledge! [as activities were getting started]

Bone comparison activity

- What does robust mean?
- Are you sure this is a 5 year old human?
- How could you get a 5-year-old's bone?
- Throwing a spear is like throwing a javelin [in track].
- I learned how other people ran.
- Lauren and me were having a competition running.

Mapping activity

- Which way is north?
- My brain hurts from all this knowledge
- Where's Croatia at?
- These right here! [Croatia on the map]
- They are kind of all together [the spots where the fossils were found]
- I'm smart!

Skull comparison activity

- He needs to floss.
- Is that Neanderthal?
- The nose looks like a heart!
- It's like an old guy with giant eyebrows.
- These are homo sapiens
- Maybe you could see or focus better, but can't see up there! [with a pronounced brow ridge]
- Sun's not in your eyes constantly. [possible explanation for pronounced brow ridge]
- So they have a huge nose.
- Their jaw is thicker, because maybe they didn't have fire and then they could eat thick meat without fire [explaining differences between skulls and possible reasons why]
- Even though they had a bigger head, they didn't have a bigger brain.
- Basically, the Neanderthals are the ancient extinct ones and we are the modern ones.

Painting activity

- I need a pencil.
- How many hands are there?
- This is my area! Don't ruin my painting!
- Anyone want to high five? [with hand covered in paint]

What worked well with the activities?

- The anthropology students were well-organized and ready to facilitate

- Excellent use of multiple angles to provide content:
 - Map for location (geography) - great descriptions of "fun facts" at each site & clues on map labels,
 - Art activity to teach about cave painting & cognitive ability, and allows for relaxed exploration of cave painting.
- The activities all were interesting and the students were engaged:
 - skull morphology and vision,
 - map activity,
 - bone difference in hominids (Neanderthal and Homo Sapiens);
 - Cave art on roll paper on the floor
- The group leaders were receptive to the students' ideas.
- Every student was participating.
- The art activity was very engaging for students. They enjoyed the opportunity to get messy and creative.

What changes would you recommend?

- N/A
- The Anthro students could have done a better job providing more context for the activities and help the middle school students connect the new information with what they already know and engage them. What continents were on the map? Where is that in the world? Are these the only continents on which Neanderthal remains have been found? When did Neanderthals live? What is the current scientific thinking about their physical characteristics?
- For at least one group, it would have been helpful to integrate the "fun facts" *during* the search for the locations on the map. Searching the map for locations took so long that the students in the group I observed did not really learn much about the conditions of the remains that were found at the different locations since there was so little time left before switching to the next activity. For other groups, they moved very quickly through the location search. So perhaps building in some more flexibility and being sensitive and adaptive to those differences in students' experiences.
- Although these activities were successful in mostly engaging the students, it wasn't clear what the learning goals were at each of the stations. For example, when the middle school students responded to the question "why do you think Neanderthals had such a prominent brow ridge?" there was little ensuring discussion around their answers. They were not told if their answers were correct or incorrect, or if this is still a matter of discussion and debate among scientists. And, in fact, when one group of students were asked this question at the next station by the Anthro facilitator, students said they did not know why Neanderthals had a prominent brow ridge. As a "physical observation" type of activity to allow for consideration of different morphologies, this was good, but discussion could have more explicit.
- The leg bone comparison activity could have been better developed. Maybe including 2D images of the Neanderthal vs. human to better see the comparison. The two leg bones did not appear much different in size. Students spent more than half the time at this station simply waiting for the next activity, time that could have been spent engaging students around the content.

- The students enjoyed the art activity very much, but it was too bad that there wasn't time to do a wrap-up to discuss and make sense of the different content presented; A wrap-up discussion would have been desirable, and a longer piece of paper for the cave art activity, as well as separation the students more and perhaps a structured timing.
- This was a very successful day.
- As far as student-led activities, this was a pretty good one. This sort of activity is an evolving event, and is tricky for both teacher and students to refine.
- We had good retention and participation of students.
- Lessons/ experiences were excellent! No changes.



Week 12: Planning End of Year Celebration
Being Human
Middle School Community Learning Center (CLC) Club
University of Nebraska Museum SEPA grant BioHuman
Activity Report 041917

April 19, 2017

BioHuman staff: Sara LeRoy-Toren, Dr. Amy Spiegel

Student Participants:

Euro American Students: 7

Middle Eastern American Student: 1

Hispanic/Latino Student: 1

Total Students: 9

Special circumstances: NESA tests are changing the schedule at school and students are preparing for end of the year events after school. This may have had an effect on our student numbers.

Activities: As in the past, plans were made for the end of year celebration of our club. The only BioHuman staff present were Dr. Spiegel and Sara LeRoy-Toren.

Students arranged themselves around 3 banks of tables in the art room.

Sara brought a video compilation of all the photos taken during activities this semester that the group watched, and students were asked to consider their favorite activities and explain why they were significant. A set of questions for the group had been compiled, and you will find the students' comments in the "Notes from Group discussion" section.

As in past meetings, students were encourage to share their thoughts, and asked what they would like people to see about their semester in the Being Human Club. Invitations to the Celebration were handed out for students to take home to parents/guardians, and students were encouraged to invite family. They were told that there would be sandwiches available as well.

Assessment: This planning day was less formal than in other semesters. An activity with names of what we had done was planned, but the observed focus of the students was to talk about the semester without committing to a planned activity for either that day or the Celebration of Learning. The ensuing conversation with the students was recorded by Dr. Spiegel, and did reveal student commitment to our SEPA CLC clubs, was illustrative of the team building we had attempted, and did indicate an interest in informal science learning with this particular group.

19 April 2017
Being Human CLC
Notes from group discussion

What were activities that you liked?

- I like science, I liked learning about animals, about horses.
- We learned about their legs
- Those bones are called femurs.
- And about their teeth.
- We learned about how they walked.
- My dog walks like a horse.
- We learned about quadrupedal...[mobility].
- Cats are quadrupedal.
- You have to walk opposite [with four legs]...it's really hard.
- I liked really far back when the full class [of Anthropology students] came and shared with us. One girl brought coffee from another country. I liked how she connected it in some weird way to what we're learning about. The coffee [in the bag] was squishy.
- I also liked how we did the cave paintings.
- I liked getting my hands in the paint.
- I like freedom to make choices.
- We crushed up charcoal and chalk in the paint and it looked really good.
- I had never seen charcoal before, so it was cool.
- I like the hands-on.
- The activity that I didn't like was "no activity" because I love science. Science rocks.
- I liked the sugar content activity.

Have you looked at the Watch Your Mouth book since you got it?

- I know where it is
- Yeah, the drawings have big teeth
- I lost it in my room
- No

Are you going to do anything with the book this summer?

- No [multiple no's]
- Yes
- Maybe

What is that book for?

- It was made to make sure that you don't eat too much sugar.
- Tells you about the science of your teeth.

What did you dislike about the club or activities?

- I don't like sitting and listening for a long time. I liked how we moved; it was hard for me to sit still
- The listening and the boring things.
- People enjoy moving
- I liked trying walking on heels and toes

- It [walking on heels and toes] was interesting, but it hurt.

Why do you come to this club?

- To learn science
- For the activities and treats
- Because I'm a great leader -- we try to come as much as we can. Sara [the club facilitator] likes to have a lot of people here, and we got a lot of people to come and try out the club. At the beginning it is boring with a lot of talking, but you need to stick around to get to do activities [at the later meetings].

Would you recommend this club to friends?

- Yes [chorus of yes's]
- Yes, yes, yes, until they agree to come

Is there just one way of looking at science? [

- No [chorus of no's]
- You probably visualize it and then you start planning activity, you get it from what you see. To me, I look at it from two different points of view. Some people look deeper into science.

How do you visualize science?

- I visualize science like doing stuff in science class, like extracting DNA from a strawberry. That was fun.
- going out and exploring it for yourself, no one to tell you your theory isn't right.
- Sometimes my least favorite thing is visualizing, planning it out and deciding what to do.
- I don't like it when [others] disagree with what you want to do [in science class].
- Science class is boring.
- Science is something you can look at and experiment with.

How is this afterschool club different from your science class?

- We get to paint and we don't have to read from a textbook.
- During science, we're forced to sit in one place with people you don't like-- it affects your learning. Here you're with people who understand what you're doing and want to be here and are thinking about the same things.
- In class, we learn about all kinds of things - electricity, geology, but here we learn about biology, anthropology and animals.
- My science teacher is rude to us; here, people are nice.
- For me, in the club setting, you have experts in the field who come here. In school, there are teachers who have training but it's in science teaching. Here [in the afterschool club], the people specialize in something. They are experts at it.

What is a museum?

- A place where fossils are
- Place to see things.
- Cool things that are usually dead but there's also like the skating museum.

Week 13: Celebration of Learning
Being Human
Middle School Community Learning Center (CLC) Club
University of Nebraska Museum SEPA grant BioHuman
Activity Report 042617
April 26, 2017

BioHuman staff: Sara LeRoy-Toren, Dr. Amy Spiegel, Grace Stallworth

Student Participants:

Euro American Students: 8

Hispanic/Latino Student: 3

Middle Eastern Student: 2

Total Students: 13

Special circumstances: This was our last day, and Celebration of Learning. Sandwiches from Subway were supplied through the Department of Sociology, Sara brought bottled water and cookies were provided. A number of students who had not participated appeared for sandwiches, but most of them departed for other clubs before our activities began.

Activities: The club began with reintroductions of BioHuman staff and students. Students were asked to say what they thought was important during the semester, and staff provided reinforcement. Sandwiches and refreshments were made available to the club members, after which we all watched the video of the semester together. The remainder of the time was spent talking with the students about their plans for the summer, congratulating those were going on to high school and wishing those who were leaving school (either the middle school, LPS or the country) the very best.

Assessment: This was a bittersweet day. It was disappointing, (even with substantial effort to issue invitations) that no parents could attend, and disconcerting to learn that many students would be leaving LPS, some for other countries. That being noted, the club members who were present had a good time, and cooperated with one another in a positive manner. Discussions of our activities provided further anecdotal evidence of science literacy in Anthropology, and a reminder to staff that these are students with significant life experience.

NOTE: There is no facilitator feedback for this report. We were all occupied talking with the students individually.