Reach for the Stars

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Reach for the Stars

Facilitated by Jillian Heilborn in collaboration with Read and Write Kalamazoo

April 8, 2017
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A special thanks to Emily Kastner and Read and Write Kalamazoo for partnering with me and making this incredible experience possible.
Literature Review: The Literacy Initiative

“Real writing and real reading intrigues people.”

—Nancie Atwell

Literacy is often defined as the ability to read and write. However, in our ever expanding world now full of technology, literacy could be regarded as the ability to use any number of ways to communicate (including texting, coding, etc.). Literacy can thus be expanded to mean the ability to listen to, communicate, and represent ideas, thoughts, and dreams. So when it is reported that 785 million adults in the world are illiterate, that means they are unable to effectively communicate to obtain items and relationships that would enable them to function in a society (Global Illiteracy & Global Literacy Statistics). According to the U.S. Department of Education and the National Institute of Literacy, 32 million American adults cannot read (41% of the population); and a sobering 19% of high school graduates cannot read (Harden). It has also been found that “Low literacy levels are highly correlated with high school drop-out rates … Even for college bound high school graduates, literacy abilities are often not at levels allowing students to perform well in higher education” (Moje & Tysvaer, 4). The high numbers of illiteracy may be blamed on the availability and effectiveness of the education system, but at its core, it is because “many illiterates do not see illiteracy as the major issue in their lives -- crime, drugs, poverty and joblessness are more important” (Chute, 16). While, ideally, education would lead the youth away from this kind of life, it is not realistic to believe that it will—though I hope, as an educator, that it could in the future. There are, however, many literacy initiatives that take this into account: “Community-oriented programs do not isolate literacy skill acquisition from other issues clients may face, and tend to see the literacy process as a means of
empowerment” (Chute, 16). Such reading initiatives throughout the world are working tirelessly to help these numbers decrease (and, hopefully, disappear).

Literacy programs work to help students in America succeed both in becoming literate and learning the incredible value of literacy (as an individual and as a member of society). One such program is Reading Works, in Detroit. Its goal is to help 20,000 adults read by 2020 (Witsil). The focus on adults stems from the reality that children illiteracy may be due to their parent’s illiteracy. To work with adults on literacy, the program sets up tri-weekly one-on-one tutoring times. The executive director of Macomb Literacy in Clinton Township, Alisa Diez, explained she believes in her work (which is similar to Reading Works in Detroit) because “…boosting literacy helps put people to work — and it changes lives” (Witsil). While this program is working and doing good in the Detroit area, there are more ways than tutoring to further the literacy of others. Kalamazoo Public Library offers a literacy service called the Adult New Reader Collection, which is less involved but still supports adults who want to improve their reading skills (Literacy Services). Tutors are available, along with a collection of books of various levels (clearly ordered) to guide them through practicing.

Other types of programs combat illiteracy by focusing on the younger generation and using more creative means. This is a technique known as Literacy Enhancement, which “engage[s] young people of a range of abilities … through reading and writing comic books, poetry and novels, and information texts, [to] become motivated to use their communication skills and increase their literacy abilities” (Moje & Tysvaer, 1-2). These programs are a great alternative to the traditional school day (while still creating an environment to learn), which is a big draw for many who attend. In doing so, those running the programs have become especially
good at taking topics learned about in school and applying them directly to students’ lives. This is valuable because “… some of these youth who struggle in school demonstrate high levels of reading and writing skill outside of school, albeit in tasks not typically associated with school literacy demands” (Moje & Tysvaer, 7). Taking these tasks and connecting them with school work and real-world literacy is a lesson that will encourage life-long learning and literacy.

826 is one such program. It is a nonprofit organization that is comprised of seven writing and tutoring centers across the United States. They provide after school tutoring, educational field trips, writing workshops, and in-school projects. Students involved in these programs are learning to love learning. They are also having students collaborate with professional writers and editors to publish their writing. Students have shown academic, social/emotional, and communication skills development through this program: “‘I learned that you can write whatever you want to write about. Also, that mistakes can always be fixed and that a lot of thinking goes into writing’—Samantha, student at 826NYC” (826 National). The effect of such a community outreach is farther than just the students, though that in itself is impressive. Students have increased performance on homework, writing and language arts performance, and increased self-confidence. Parents have increased pride in their children and increased awareness of the importance of education. Teachers find more joy in teaching, are better able to meet curricular standards, and have an increased sense of support. All of these come together to form a community that supports students in their quest for knowledge and the pursuit of literacy.

Read and Write Kalamazoo was founded in 2012 and is modeled after 826 National. This organization has a number of programs to get children in the Kalamazoo area excited about reading and writing. Neil Gaiman said, “The simplest way to make sure that we raise literate
children is … to show them that reading is a pleasurable activity. And that means … finding books that they enjoy, giving them access to those books, and letting them read them.” The pure joy and excitement that is evident in the planning of RAWK activities is what really sets RAWK apart from other literacy initiatives (such as an after school tutoring session). The personal relationships that can be made through literacy and learning make it fun, and easily relatable. The activities are age appropriate and inviting. One such activity is the Secret Book Club, which meets every month at a secret location. There are also Saturday workshops—that encourage students to connect reading and writing to real-world applications. A local middle school is partnering with RAWK as well, providing a writers room for students, which gets kids excited about writing and allows the students to work one on one with a mentor while writing.

These many programs (and more) that RAWK partners with and plan all show the core hope of RAWK: to create “supportive community around young people to give them safe and positive spaces to learn and grow. Through the investment of the adults around them, young people begin to hear and know their own minds and voices and enact agency in their own lives.” RAWK has been and will continue to work with the community to foster excitement for literacy. This has the power to have lasting effects on the kids of Kalamazoo and the community as a whole. Students who see the value of reading and writing have the capability of using their literacy to further their own success. The connections that RAWK makes between reading, writing, and the world/occupations can pique interest in students and guide them to new hobbies or even future career choices. Education is far more effective and life changing when there is motivation. Motivation can be found through positive experiences, something RAWK works to provide
Works Cited


Personal Narrative

“The more that you read, the more things you will know. The more that you learn, the more places you’ll go.”

—Dr. Seuss

My mom likes to boast that all of her children teethed on books. I tend to believe her because almost all of my childhood memories include a book. I remember with distinct clarity my mother reading my favorite story (*Over in the Meadow*) to me every time I asked her to (which was very often). No matter what, I knew my mother and father would drop everything they were doing and read to me or my siblings. This careful attention my parents took to foster a love of reading in their children certainly paid off. I do not remember my life without books and stories—and I would not want it any other way. The same attention was paid to writing, as my father often wrote poetry and shared it with us. I was never ashamed of my writing, and loved opportunities to share my poetry, the next big idea I had for a novel, or a small prose story. I knew my parents would always read what I wrote and smile, then give me a few tips on how to make it better if I asked.

Because of my wonderful childhood experiences, I have always been incredibly passionate about, and proficient in, reading and writing. However, it took until high school (and even in to college) to understand that others did not have the same experiences and therefore placed a different value on them. As a college student, I began to become more passionate about increasing science literacy and reading/writing literacy in the world. As a Secondary Education Major with focuses in chemistry and English, I have learned a plethora of skills to impact a classroom, school, and community in positive ways (with literacy always at the forefront of my
mind). As much as I was learning about literacy and how to help others, I had never found a distinct opportunity to serve, but that was about to change. Upon entering my last semester of college classes, I was feeling rather nostalgic. I was happy to be reunited with some colleagues and meet some new ones in my last required education class, Writing in the Secondary School taught by Karen Vocke. On our first day, Dr. Vocke was excited to announce that our class would be working with Read and Write Kalamazoo (RAWK), a community based organization that has a number of programs to get children in the Kalamazoo area excited about reading and writing. It was clearly evident how much Dr. Vocke looked forward to partnering with RAWK by having all of us in the class work with the RAWK Writer’s Room at Maple Street Magnet School. From here, I looked in to opportunities I might have working with RAWK beyond Maple Street, and I have found a great opportunity.

This spring, I will be partnering with RAWK by planning and leading a workshop. I will be using my knowledge about science, reading, and writing to create this workshop. The overall theme will be astronomy. I will teach the students about stars, comets, and planets in an interactive way. We will also be discussing constellations, myths that go with them, and their origins. I will bring a text set that focuses on astronomy for the students to peruse and get ideas from. Then the students will be looking at a sky maps and coming up with their own constellations and writing their own myths to go along with them! The goal of RAWK workshops is for kids to learn in a fun way—showing them there is more to learning (and literacy) than school. I am excited to be working on something that will truly be making an impact in Kalamazoo’s community and on kids’ literacy.
Reach for the Stars Lesson Plans

Facilitator: Jillian Heilborn

Date: April 8, 2017

Time: 1 - 5 pm

Location: The Reality Factory

Objectives:

- Introduce aspects of astronomy that will get kids excited about science and the discovery that is possible in space.
- Give students tools they can use to further their knowledge of astronomy.
- Lead students to creatively and critically think about the names and shapes of the constellations.
- Give students time to read and creatively write in an encouraging environment.

Essential Questions:

- What does astronomy have to do with me?
- How can I explore space more?
- Why did humans separate the stars into constellations?

1:00 pm

- Welcome! Introductions and icebreaker: Our Solar System Mad Lib

See Appendix 1
1:10 pm

- **Activity/Group Work**: Have students brainstorm and call out what planets they can think of and what they know about them. Show them pictures of planets and have them decide which order they might go in (spacing them out on the floor). Once they have placed and named all the planets, have the students observe the differences between the planets and discuss what it might be like on each of the planets.

- **Instructional Input**: Share any quick facts about the planets the kids might have missed (such as the red spot on Jupiter, sulfur rain on Venus, etc.)

1:20 pm

- **Individual Work**: Have the kids brainstorm what they know about space and have them write or draw on a big piece of paper. Also have kids write down any questions they have about space or what they would like to learn during the workshop.

1:35 pm

- **Demonstration/Instructional Input**: Make a comet!

  - **See Appendix 2**

  - “This is one thing I know about space: there are comets! Comets are chunks of ice that float through the universe. When they get close to the sun, the ice turns into a gas and we can see that from earth”

  - I will make the comet and we will discuss what comets are made of and how they travel past the sun as I do. After the comet has been made, the kids will be able to watch it sublimate throughout the workshop.
1:55 pm

- **Individual Work**: Text set

  **Appendix 3**

- Kids will be asked to refer back to the questions they wrote down during their brainstorming time. They will now have time to peruse the text set to answer those questions. They will write any interesting information or answers they find on the paper they initially brainstormed on.

2:15 pm

- **Discussion**: Kids will share the new information they found!

2:30 pm

- **Instructional Input/Activity**: How do we see these phenomenon? Introduce telescopes/binoculars and allow kids to explore with them. The earliest telescopes were made in the early 1600s (that’s over 400 years ago!)

2:50 pm

- **Instructional Input**: Intro constellations: what can we see and when? Why can we see some in one part of the year and not another? Pointing out some more common constellations that we can see currently (so they can look at home). Use the pre-made star wheel to discuss this.

3:00 pm

  **BREAK/SNACK**
3:20 pm

• **Activity**: Make a star wheel This will allow students to see what constellations they can see and when.

  **See Appendix 4**

3:40 pm

• **Discussion**: How are constellations decided and named? “They are arbitrary, but are made of the brightest and most noticeable stars.” Ask students what constellations they have seen or heard of. How do you think they got their name? “Some were named a really long time ago by the Greeks, Romans, Arabs -- and they all named them differently!”

3:50 pm

• **Instructional Input**: I have drawn a few constellations (Draco, Cygnus, Cassiopeia, Orion, Canus Major, Ursa Major, Gemini, Leo, and Scorpius) and written up a shortened explanation of the Greek myth it is based on. I will show them the constellation and ask them to find the constellation on their star wheel they just made. Next I will read the myth and we will have some discussion about each constellation.

  **See Appendix 5**

4:00 pm

• **Individual Work**: Give students a blank sheet of black paper and let them draw their own constellation (or draw one that already exists). Also supply them with lined paper/pencil and give them time to write a myth or story to go with it.

4:45 pm

• **Discussion**: Give students time to share what they have created.
4:55pm

- **Instructional Input**: Show students (on a laptop) what planets will be visible tonight so they can begin star gazing and planet watching themselves!

  See Appendix 6
Appendix 1

Found with a Google Image search

Appendix 2

Create a Comet with Dry Ice Activity. (2015, July 02). Retrieved from

Safety: goggles, lab coat, protective gloves

Materials:

- 2.5 pounds of dry ice, finely crushed with a mallet
- Large plastic bowl
- Large garbage bag
- 1 cup of dirt
- Bowl of water
- 1 tablespoon of vinegar
- 1 tablespoon of cornstarch
- 1 tablespoon of rubbing alcohol

Procedure:

Explain that kids must stand a safe distance back since dry ice can cause injuries. Tiny pieces of dry ice will shoot out, especially when you crush it and while you add water. That is why you have goggles and gloves.

Line the bowl with a plastic bag.

Add to the lined bowl: 1 liter of water, dirt, starch, vinegar and alcohol. As you do this, explain that comets have lots of ice and water. In our comet model, dirt represents the dust, minerals, and water found in comets and organics that give comets their dirty appearance; starch helps hold the model together; vinegar represents amino acids in a comet and rubbing alcohol represents methanol found in comets.

Mix ingredients and stir in the dry ice. Students will love this part since a murky white cloud puffs up as moisture in the air is being frozen out by the gas that is coming out of the dry ice.
Once all of the dry ice is in the bowl, pick up the sides of the bag and use them to form the mixture into a large clump. Add more water as needed.

Once you see you have a clump, take it out of the bag and show it to students.

**Appendix 3**

Text set


Appendix 4


http://www.skyandtelescope.com/astronomy-resources/make-a-star-wheel/
Appendix 5


http://www.comfychair.org/~cmbell/myth/myth.html
Appendix 6


Reach for the Stars Workshop Reflection

As I stepped out of my car and into the sunny, 70 degree weather, I had a great feeling about the day ahead. I grabbed my bag of books and box full of materials to share with the kids attending the workshop. I walked up the (slightly uneven) brick back steps and into the Reality Factory (the home of Read and Write Kalamazoo). I began setting up for the workshop upstairs—which is one big room with large windows and a rustic feel. A ping pong table held the books and star/Mars/Moon maps for the kids to peruse. A table in the back right corner was the home of large sheets of paper and markers the students would be brainstorming on. I placed the materials for the comet demonstration on a rolling table, the perfect size and height for me. Lastly, I set out the binoculars and telescope, ready to be used to discover birds, planes, and more.

About fifteen minutes before the workshop was scheduled to start, a volunteer came to help me finish setting up and was essential in the success of the workshop. She ran to get what I needed during the workshop and
helped me facilitate and keep the kids excited and interested. Set up was completed just in time for the first student arrived, followed by the rest. 4 kids came to the workshop — which made for an intimate group! As kids walked up the stairs, I asked them to introduce themselves, which led to natural conversation. When 1pm rolled around, I got out a mad lib, to get some creative juices flowing. Then I led a discussion and activity about the planets in our solar system. I am happy to say the kids knew their planets pretty well, better than I did in middle school. Next, we moved to the table with sheets of paper and markers and the kids wrote or drew what they knew about astronomy or any questions we had about it. The kids had some amazing thoughts to share and questions they wanted answered.
We had a great time discussing what we knew and what we wished to find out. Some of the kids had a really great understanding of things (such as the Higgs Boson particle and particle accelerators) while others knew about just phases of the moon and comets. It was great that both felt comfortable and were excited to learn more about what they wanted (at their own level).

Next, I pulled out the demonstration table and prepared to make a comet. I asked them what they thought comets were and we discussed it a little — turns out they weren’t so sure. So I explained what it was and showed some pictures of what they look like.
I then made the comet, using cornstarch, water, dirt, methanol, vinegar (amino acids), and dry ice. The kids were really excited about something solid turning right into a gas. We checked in on the comets throughout the rest of the workshop as they slowly sublimated. The kids kept going back to the demo table and were always excited about what they found.

Because there was such an interest in sublimation, I grabbed a glass and put some of the extra dry ice in it along with some water. This heats the dry ice up and causes it to sublimate faster — giving off hazy gas. They were all really excited about it and were asking a lot of questions!

Exploring the text set was next on the agenda. The kids looked at some of the questions they had written out before (on the sheets of paper they brainstormed on) and were able to look through books and maps to find the answers to their questions (and learn some more about astronomy along the way). I love books — they are like magic. As soon as I suggested we look at
the books, they grabbed a few and sat down to read in silence. I ended up giving the kids more time than I had allotted for reading, because they were all so intent as they were reading and writing down what they had learned. It was really fun to hear what they had learned, because they were so elated about it and anxious to share it! And some had questions that others were able to answer from their research. It was great to see them working together in that way!
After introducing binoculars and telescopes, they voted on going outside to practice using them. The kids were excited about focusing the binoculars and telescope on whatever was around them — tree branches, satellite dishes, birds, planes, etc. We spent some more time outside doing this than I had anticipated as well, because they all wanted to try each piece of equipment … multiple times! Right after this we had snack outside, because it was such a beautiful, sunny day.
Next we headed inside to discuss constellations and make star wheels. I explained to them that as earth moves, we are able to see different stars and constellations. The star wheels are something they can take home and use in their future star-gazing endeavors (which they promised me they would use as soon as they could convince their parents to let them stay up super late).

We then discussed the constellations and their myths. Some of the kids were surprised to discover constellations are random and arbitrary. They were also intrigued by some of the more strange constellations, such as Cassiopeia (seriously, it looks like a W and supposedly represents a woman). I shared some myths of the better known constellations and they were intrigued by
them. I mentioned some of the relations between some Harry Potter characters and stars/constellations and they got really excited about that! (i.e. Sirius, Regulus, Bellatrix, and Draco)

Following this, the kids were given about 45 minutes to draw a constellation of their own and write a myth about it; or to write a new myth about a constellation that already exists. The other volunteer and I both were able to write myths as well!
The kids were so creative! By far, my favorite part of this whole process was when the students shared their stories. The other volunteer made her own constellation and wrote a creative story to go with it. I wrote a story about scorpius (which I made into a fishing hook, because it looks more like that than a scorpion in my humble opinion). One kid made a book constellation called “Librarious”. It is Zeus’ guide to dating and women, which he stores in the stars so no one else knows his secrets about wooing. Another made constellations to fit the myth of Dido and Achilles — which she re-wrote in her own words.

There was a story about Canis Major — who got his tail bitten off, so the constellation changed a little bit. And another kid wrote about Libra, whose head looks like a kite, so her head was actually a kite in the story. It was incredible to see what these kids had in their minds!

If I were to do this workshop again, I would have the students keep personal notes, like a research journal. This way they could leave with what they learned or found interesting, instead of me throwing away all their ideas (the big pieces of paper) after they left! This might even encourage them to continue their research and keep track of it. I wish I had set aside more time
for partner work. We were able to discuss some, but it was a lot of questions for me, instead of questions for each other. I think the environment would have been more comfortable if the kids had more time to discuss and talk with each other more.

This was a great experience for me as a future professional teacher. I have always loved science, reading, and writing. The Reach for the Stars workshop showed that teaching these together actually works! The kids were engaged, excited, and happy. And reading, writing, and science worked together to create a meaningful learning experience for each kid. This is something I am really excited to explore in my future classroom. There are so many things about science that would be made even more significant through writing prompts or a text set. I think reading, writing, and science all belong in every person’s life, so I believe they can also all be taught in one classroom.

I am leaving college and finishing my honors thesis simply in awe of human ability — specifically middle schoolers! Kids are smarter and more capable than I think most realize. They are also incredibly hungry for knowledge, and it is an honor to learn along with them. I was also incredibly excited to use my love for science and literature in the same lesson plan. As an educator, I learned how well seemingly different subjects go together. I am excited to continue exploring possibilities of combining my chemistry and English background (and passions) to further student learning. From the moment I learned of RAWK, I was excited about what they are capable of doing and how they can have huge impact on the lives of those in Kalamazoo. It has been a pleasure to partner with RAWK, working to teach the value literacy and instill a great passion for learning in the community.