

## **Literacy Learner Analysis**

**Caitlin Anderson**

**TE 846 Michigan State University**

### **Brief Background and Reason for Project Focus**

Literacy is often something we do not focus on as secondary educators. It is beyond important for our students of all ages to know the importance of literacy; and to truly know what literacy is. When talking to students across the K-12 grades, one of the main issues is that many students are not even sure of what literacy is! Many students, and I believe educators as well believe that literacy is simply the ability to read and write. In the primary years students spend a great deal of time in school reading, writing and working on expanding those skills. It is important that we continue to work with our children on literacy as they grow, and enter into secondary education classrooms. When students enter into high school I see them begin to really compartmentalize themselves. It is inevitable due to the way high school is set up, most high schools teach math for 50-60 min followed by science for 50-60 min followed by English for 50-60 min and so on. I often times see my students struggle with this shift, its almost as if they shut the part of their brain that thinks about other subjects off when they enter a particular classroom. It is my hope that with changes in education such as Common Core help combat that. In high school subjects aside form English it is difficult to focus on literacy and common core aims to combat that; encouraging literacy being integrated in other disciplines (Walker 2013).

The focus of this project will be to delve into the literacy history of one of my 12<sup>th</sup> grade students. In *Best Parctices in Literacy Instruction: Best Practices in Adolescent Literacy Instruction* it is discussed the importance for literacy instruction to all students. The Council on Advancing Adolescent Literacy has a

study quoted in the text challenging teachers across American to provide ' all students with a high-quality and challenging educational experience aimed at developing intellectual skills, critical thinking, and effective communication' (Ogle & Lang, 2011) Often times literacy issues are focused on children that have learned English as a second language, or have learning disabilities. I think it is more important almost to focus on the students who have always known English, and have no diagnosis in terms of learning disabilities, these are the students who I believe all too often slip through the cracks. The students that have always been praised for their ability to read and write often are unaware of their ability to grow in their literacy, or their need to do so. I would argue that this is the audience that the Council on Advancing Adolescent Literacy should be most concerned with, it tends to be more obvious when students are in need of assistance if they were raised in a home that did not speak English primarily, or their lack of literacy skills are rather apparent. To take a child that has always been praised on their literacy skills and help them realize the actual holes in their abilities I believe is the real challenge. Not being an English teacher I am somewhat concerned as to how I will be able to do this, I also believe one of the challenges will be getting Jane to accept that she has a great deal of room to grow. I am very close with Jane so being able to sit her down and point out her flaws will be of great personal and professional challenge for me. I have long wanted to become better at assisting my students in literacy, I think that tackling a seemingly proficient student will allow me to truly learn about literacy from a different perspective and pick up many tools to utilize with my students of varying

abilities down the road. Jane really struggles with the reading and comprehension piece which is very common with students of mine in the sciences. Science texts are often times very challenging, sometimes I even shy away from having my students read them because I know it will be a literacy challenge for me and them. I hope that through this experience I am encouraged to push through these more difficult assignments in order to enrich my students' learning experience with more literature. I look forward to following my student over the next few weeks in order to analyze how the system has perhaps failed them, and how we can assist them in the future!

## **II. Home and Family (i.e. focus on Literate Life routines)**

My student who I will refer to as Jane throughout this paper is 17 years old. She is a senior at a test in public high school in an urban environment. Her school is predominately African American, with a very small population of the students being Caucasian, or Hispanic. Jane is African-American, and female. Her primary language is English. She has no formal diagnoses in terms of learning disabilities. She has never received any sort of special educational services or support. She has several older siblings as well as several younger ones. Her parents are married and participate highly in their church. Her parents marriage has not always been perfect however, the past several years there have been problems in the home and several uncertain times in which she thought they may end up separating. This certainly impacted Jane's ability to focus in school and negatively impacted her performance in literacy and other aspects of school. She is a very emotional young lady who takes a lot to heart. When her parents were

going through issues, her grades slipped as she was picking up a lot of the slack at home, as well as harboring a lot of emotion. Jane prides herself on being the girl you can come to when there are problems. Unfortunately this does not always bode well for her own emotions. She has a great relationship with her mom but her relationships changes frequently with her dad. She seems to blame her father for a lot of the problems in her parent's marriage. Some days she talks to me about her father as if they have the best relationship in the world; and others she seems very resentful. I often hear about how she blames him for hurting her family and her mother, she also seems to have a problem with how strict he tends to be. She reads almost daily at home, she is encouraged along with her siblings to read instead of playing video games and watching TV. Jane does not have a job so her primary responsibilities are school, church, and helping with her siblings and around the house. Church is highly emphasized in her home, much of her time is spent preparing for church, talking about religion, and worshiping with church friends, family, or on her own. Jane does find time to read a great deal while in her home, however due to the strict religious emphasis in her house she is somewhat limited on what she can read, her parents must approve it. She cannot read anything that has to do with promiscuity, or other topics deemed inappropriate by her parents. She has shared with me that there is a lot of reading in her home. Her siblings and her parents read often. She says that they do have video games and TVs however they do not often use them.

### **III. Emotional Climate**

Jane has always been fairly self-motivated. As a student in my AP Environmental Science course there is a lot of opportunity for students to work as a quick self-pace, and there are a lot of reading assignments outside of the classroom. In all classrooms in our building students are encouraged to read in their classes as well as read for fun outside of school. In my course specifically Jane was asked to not only read from her textbook, but also read current events, and we read several books off of our optional reading list as well. Jane seemed to be engaged in the current events and tended to stay on top of her course work; however every once and a while there would be stretches of time where I would get very inconsistent work, or lots of missing assignments from her. Often times when she has been asked to read an assignment she will get some of the points but not all of them that I believe she should have. When her inconsistencies or trouble with comprehension have been pointed out in the past she seems embarrassed, or resistant to hearing the change. When I have talked to her about her reading and comprehension, she often times slacks in her work for several days following. There is a big push for common core in the school, so vocabulary skills and reading should be being incorporated in every classroom. Unfortunately after talking to Jane apparently all teachers are not taking the literacy portion of the Common Core initiatives very seriously. She seems to be interested in this portion of literacy; and for sure is interested in reading for fun. Jane is often very discouraged when she cannot master something though; she certainly struggles in comprehension and focus of more technical reading and writing.

#### **IV. Literacy History**

Jane is very fortunate in that her upbringing fostered literacy success. She has a two-parent home which is not the norm for the city in which she lives. Both of her parents are excellent readers and she often sees them both reading. She believes her literacy proficiency to be exceptional, along with her siblings, due to the push in their home to read and value education. The district in which she resides is not considered to be a very highly respected district, as many of the schools k-12 are failing. She was fortunate enough to get into the test in high school that she is currently attending. This challenge not only reflects upon her intelligence due to her having to pass the test, and application process but it also is a testament to her parent's commitment to her educational process since the school serves the entire city it does not offer a bus service so students and parents must coordinate transportation. She pinpoints her largest issue plaguing her with literacy is the ability to focus when reading, she says that she is easily distracted often times when reading for a long time. She also says that any sort of commotion occurring around her easily distracts her. She is encouraged by her family not only to further her education but to build upon her literacy skills, and in fact this project is being highly supported by her mother who believes that higher education, and superb literacy skills are Jane's right, and ticket into a better life. In our building our different curriculum is very separated, meaning there is not a lot of collaboration. Throughout the four years that Jane has been in our high school there has also been a lot of changes in the ELS curriculum and staff. She has shared with me that there are some teachers who do things totally different

than others; obviously this inconsistency has negatively impacted her literacy ability. After talking to several students in various grades in my building I have found that two students in the same grade and course, but in different sections being taught by different teachers are learning drastically different things.

Recently as mentioned above there has been a big push on common core, we have a specialist that has been coming to our building and has banned reading novels, some teachers have followed these bans while others have not. Despite the confusion in the ELA department Jane has enjoyed most of her ELA classes. She has taken 4 years of English and has done quite well in all her courses. She has however, not had formal instruction in technical reading or writing in any other her ELA classes.

## **V. Tests Given and Summary of Test Results**

Jane seems to be a very strong reader, or at least she believes she is. I believe that her problems with literacy lie in the reading and comprehension piece. She likes to read for pleasure but reading for knowledge, reading for school is often too difficult for her. I chose to utilize two pre and post tests for her. The first of which was the Assessing Adolescents' Motivation to Read put out by the International Reading Association. (Pitcher, et al., 2007; Pitcher, et al., 2007) I administered this reading survey when we began our process as well as when we were finally done. (Appendix A and Appendix D) The other assessment that I gave was one that I created for myself. I had Jane read a science related article (Gilbert, 2015) and then answer various questions about it (Appendix B). As the



post test I had her read another scientific article (Vaidyanathan, 2015) of similar length and skill level while incorporating the reading strategies we had addressed and then answer the same questions as I had her answer in the first (Appendix C) I chose to do the motivation to read survey one because it had to do with adolescents, as well as I was curious as to what was going on in Jane's head as far as what she wanted to read and why. As she prepares to go to college in the near future needing the desire to read becomes of upmost importance. In *Best Practices in Literacy Instruction* Guthrie discusses motivation as a powerful tool. We as educators need to motivate in such a way that encourages reading, and fosters interest in the topics at hand. A student will be that much more motivated to read if they understand how it relates to them. (Guthrie, 2011) In order for me to select motivational reading for Jane and help her find motivation to read even when the material does not grab her interest as much as she would like I needed to assess her motivation to read. The reasoning behind my having Jane read science related articles and then answer the same four questions about each is because I believe the largest thing that Jane struggles with is reading and comprehension. At the high school level as a science teacher many of even my most advance students struggle with being able to read something and then tell me what it was about. I wanted to have Jane read the article, tell me what it was about, read it again and tell me what she may have missed, and then synthesize what was difficult about the article, and what I could have done to assist her. After her pre-test I would teach her two lessons, one on motivation and one on how to better read critically for comprehension.

As mentioned before the first assessment was the adolescents' motivation to read test. (Pitcher, et al., 2007) When I administered the MRP reading survey Jane received a 75% on the self-concept section; a 68% on the value section and an overall 71%. I was not surprised at these results. I knew that Jane enjoyed reading. She seemed to still think that there were some negative stigma attached to reading, mentioning that she was slightly embarrassed when her peers saw her reading in her spare time. Or that she did not think that people who read often were terribly interesting. The results told me that Jane liked to read, but often times had a hard time feeling motivated for academic reading, or even for reading for fun. After discussing the results with her we discussed how many times the fun in reading was taken out with how much reading she had to do for her classes. After I taught the lessons throughout the week with Jane I re-tested her utilizing the MRP reading survey; her self concept score rose to a 100% her value score to a 83% and her overall score to a 91%. It is evident that after we had our motivation lesson, and assignments over the week Jane began to place more importance on reading. We talked about the importance of finding meaning in everything we read, and discovering how to make connections to your personal life. We also discussed how being proficient in literacy can help in nearly every aspect of your life. She seemed to really had a noticeable shift after these lessons.

The other assessment was the articles and questions. I was careful to select articles that I knew would be scientifically relevant, as well as challenging for Jane. The articles selected were also ones that I knew Jane would have some

interest in due to the fact that they were linked to our Environmental Science course. The first of which focused on climate extremes. Jane was able to identify the main point of the article, but defined it in very simple terms. 'The main point was that farmers lose money trying to keep livestock alive' there was no mention of the climate implications or the real scientific links. She mentioned that it was difficult to understand the names of the ways farmers protected their livestock and keeping the different diseases and treatment names straight. Jane mentioned that she wished she had prior knowledge of the breeding techniques before reading the article. After administering the questions and then discussing them with Jane I realized that Jane would probably really benefit from graphic organizers, or some vocabulary knowledge rating tables in order to better read these texts. (Ogle & Lang, 2011)

The second article I asked Jane to read was about how climate scientists had helped to create a pause so to speak in global warming. When looking at Jane's responses it was evident that having the graphic organizer, taking notes when reading the article, and reviewing the vocabulary before and after had helped her greatly. She was much more complete with her responses. She did not have a complete 180 due to the fact that the pre-test and post-test were only a few days apart but she most certainly expanded her comprehension and focus throughout the week.

**VI. Lesson Plan Matrix**

Use the following table format to insert the overview of your 2 lesson plans.

Lesson Foci/Date	Objectives (include including performance, conditions, and criterion. State the Common Core State Standard at the end of each objective.	Instructional materials (what will use to deliver the main objectives of the lesson)	On-going assessment (to measure attainment of objectives)
Reading Motivation 6/10/2015	Student will assess her own motivations for reading; student will push herself to further her reading motivation and confidence	Instructor will use several studies in order to show student how reading can help make you successful; three daily homework over confidence building; instructor will provide student an opportunity to talk with several successful adults about how often they read and how often they read in the past	Pre and post test is the MRP reading survey; formative assessments is a motivational homework; a diary kept for three days giving positives negatives and ways to improve over each day; in general for student not just related to reading and literacy
Reading Compressi on 6/13/15	Student will be able to read a challenging scientific article, and understand its meaning. CCSS.ELA-LITERACY.RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to <i>grades 11-12 texts and topics</i> .	Instructor will make use of note taking strategy such as graphical organizers. Instructor will also make use of the vocabulary table so student can identify challenging words they need assistance on; and their misconceptions of their meanings.	Two articles with the same questions following each one; one administered before the lesson on 6/10 and the other administered after the article 6/13

## VII. Reflections on Differentiated Literacy Lesson Plans

It was evident from the start the Jane had difficulty with reading and comprehension; this is something that I knew going into this project. Many students in the high school levels struggle with the comprehension piece of reading more challenging texts; after having Jane in my class I knew that this is what I wanted to focus on with her. It was only somewhat recently that the need for focus on comprehension in adolescents came to the forefront. The RAND Corporation funded a study that determined that we needed to focus on comprehension, as it was the most important focus in adolescent literacy. It became evident that high school students in the US have not been showing achievement growth comparable to the growth students have been achieving in other countries. (Ogle & Lang, 2011). The amount of students I have seen who are so very bright and truly enjoy reading but lack in their ability to truly comprehend texts, whether scientific or even as simple as directions is discouraging.

After our initial meeting, and pre-tests it became obvious to me that the only thing I had to work with Jane on was not simply comprehension; she also had a serious issue with her self-confidence, both as a reader and as a young lady. I don't think that this is an uncommon issue as we have read about it in both texts this semester. *Best Practices in Literacy Instruction* emphasizes the importance of confidence building in literacy multiple times. 'Believing in oneself is more closely linked to achievement than any other motivation throughout school.' (Guthrie, 2011)urthie goes on to discuss how confidence is tied to what one believes is their capacity for success; it is difficult to succeed past the

point of what one believes is their max potential. I knew that I had my work cut out for me.

#### Lesson ONE:

The first of the two lessons that I taught to Jane was about confidence building. She was a bit taken aback when I first began the discussion with her on what we would be discussing and how I thought this would help her succeed as a student and a young woman. We began the lesson talking about how important confidence as a whole is. I explained to her the idea that you can only achieve to the potential that you believe you are capable of. We talked about how the color of her skin and the fact that she is female makes confidence even more key. It is an unfortunate reality that many people will lower their expectations of Jane by simply looking at her because of her sex and racial background. I told her to harness that; make their ignorance work in her favor, refuse to fall into their stereotype; whether that person is a total stranger, someone interviewing her for a job, or someone really close to her like her father. After we talked about confidence as a whole we focused on literacy; I showed her some of the studies that were referenced in our coursework, and other classes I have taken. I explained to her how the desire and confidence to read, speak articulately, and develop as an academic scholar is half the battle. I assigned her three homework assignments; in the form of a diary Jane was asked to name the highs and lows of her day each day. She was also asked to write down three things she loved about herself and three things she hated about herself with reasons as to WHY she felt that way. Finally she was asked to talk about how others perceived her reading for pleasure for the final reflection. We then got together and discussed the

results. It was evident that she had very weak reasons when it came to why she hated certain things about herself; it became a lot easier to list the things she loved! She told me that she thought she would never be able to come up with three things she loved daily including a reason, but that her list of things she hated could be much longer, however when she actually went to sit down and write out why she hated certain traits she was at a loss for any explanation that did not include someone else, which was not allowed. For example she listed that she hated that she was slightly overweight her reasoning was health related, however her doctor says that she is quite healthy she just needs to keep up her current levels of activity, her 'real' reason as to hating it is because she recently split up with a boy who mentioned her weight often in a negative light. I believe by giving Jane a outlet for her emotions and a safe space to discuss her feeling I was able to get the ball rolling on her rebuilding her confidence. We discussed the plan of continuing the diary as a way to reflect and continue to build her confidence. I also feel as though by discussing the importance of literacy confidence, researching respectable intelligent, successful black females, and looking at the importance of literacy we were able to start chipping away at her confidence issues when it came to her love of reading. It is evident that this was effective when looking at the scores of her posttest included in the appendix section. (Appendix D) This lesson would have a hard one to teach again as it was less of a lesson and more of an interaction. I felt as though it was important for Jane to get a lesson not just in literacy but also in confidence building. I know that I will teach this lesson again, or something similar to it but each one would have to be tailored towards the

individual I was dealing with; as each adolescent that enters my room has different reasons for their lack of literacy confidence.

## Lesson TWO

My second lesson focused on Jane's reading and comprehension issues. As part of my pre/post tests I had Jane read two articles and then answer some questions about it. Her responses on the first article are very basic and it is evident that she lacked focus when reading the first article. The lesson again began with a conversation. Jane admitted to the fact that distractions have kept her from comprehending texts, especially when those texts are not on topics that interest her terribly. Comprehension is the focus, or should be the focus of adolescent literacy instruction. When talking to Jane about her literacy background earlier in my research I really noticed that in her past instruction she hadn't had the type of ELA instruction that is suggested for comprehension skills; she had mainly had phonics lessons as far as decoding texts. According to The Best Practices in Comprehension Instruction authors Almasi and Hart, these decoding skills are important and critical to reading however more recent research suggests that the idea of ONLY placing emphasis on decoding alone or even as a majority does not lead to comprehension skills. (Almasi & Hart, 2011) It is frightening to me how littler most secondary teachers seem to know about proper instruction in comprehension. Jane and I began talking about how to deal with the comprehension issues. I had Jane read the article twice; once how she normally would and then a second time out loud. Reading aloud is something that I have used in order to assist my memory and is also something that can help combat distractions. According to brainscape.com reading aloud, while



perhaps making you look silly in the library while studying can actually help your brain remember things and categorize them better. (Brainscape, 2015) Reading aloud cannot only assist with memory, but also with the fluency of the text. Often times there are difficult to understand words in more technical reading and it has been shown that reading aloud increases fluency, which is tied directly to comprehension. (Fautsch-Patridge, McMaster, & Hupp, 2011) Jane could very easily tell me much more about the article after she read the article the second time aloud. I knew that I needed to add more to her toolbox for comprehension at that point. I began to talk to her about graphic organizers and note taking. She is not a very good note taker, she says that it is difficult for her to take notes on books she reads so I begin to teach her several strategies in order to assist her with her future note taking needs. Jane was hesitant to try graphic organizers insisting that she was not a visual learner that she would rather just read and jot down notes. I had her practice with several graphic organizers because ‘Transforming a piece of text into a graphic and visual form requires that students reread and engage in critical thinking about what they read.’ (Fisher & Frey, 2011). After working with Jane on several different graphic organizers I then allowed her to pick her own. We read several other articles and used the graphic organizer. I could tell that although she was originally hesitant to try the graphic organizer she was thrilled to use them by the close of the lesson. She had taken something that seemed to be too overwhelming and time consuming and turned it into something that only took her a bit more time to use and added immensely to her comprehension ability.

### **VIII. Recommendations**

Dear Mr. and Mrs. Jane's Parents,

I am writing this letter after an extensive literacy research/tutoring with your daughter Jane. Through my Masters program I was asked to take a closer look at the literacy needs of one of my students. Jane is the student that I selected for this task. First off my I start off on commending you both on such a wonderful job exposing your child to reading from a young age. It is apparent that Jane came from a home that has a love of reading. I am impressed at how often I see her reading, and what wonderful reading skills she has. That being said I have identified two issues that together we can work to assist Jane with in the coming months as she prepares for college. One is Jane's self-confidence, it is apparent that she is concerned that there is certain stigma attached to her reading. I suggest that you continue to expose Jane to your love of reading, let her see you and other adults she admires reading often and reading a variety of materials. The other issue that we encountered is Jane's comprehension issues; Jane tends not to grasp all the important concepts in her reading, especially when reading scientific texts. My recommendation to you is talk to Jane about what she is reading; perhaps go to a local library and pick out two copies of the same text, perhaps some non-fiction; read them together and then engage in conversation with Jane about what it is that she is grasping from the text. We worked extensively with graphic organizers, encourage her to keep utilizing that as a tool and to share those with you.

These are just a few suggestions that I think could help Jane grow as a reading, writer, student, and young lady! Please do not hesitate to contact me with any further comments or questions.

Educationally,

Caitlin Anderson

Dear Teacher of Jane,

I am writing this letter after several weeks of research involving Jane and her literacy ability. Jane is a high achieving student with no learning disabilities. It is strange to think about her struggles as a literacy learner since she is such a smart young lady. However as I am sure you know literacy is a struggle even with out top performing students. Jane's main two issues are confidence in her reading and how others perceive her, as well as reading and comprehension, especially with content specific technical texts. It is my recommendation that she is encouraged to read as often as possible. Try assigning additional supplemental reading with incentive to allow her to break away from her self-conscious feelings. Also strongly encourage her to keep graphic organizers as she reads more technical texts. When you assess her on the texts that she reads in class try to ask more critical thinking questions that push her to synthesize the material as opposed to simply recall it. Thank you so much for your time and consideration of my suggestions,

LLA Jane- Anderson

20

should you have any further questions, comments, or concerns do not hesitate to contact me.

Educationally,

Caitlin Anderson

## **XI. Appendices**

**Pre-Test**

**Figure 6**  
**MRP reading survey scoring sheet**

Student name: \_\_\_\_\_

Grade: 12 Teacher: Anderson

Administration date: 6/3/15

Recoding scale

1=4  
2=3  
3=2  
4=1

Self-concept as a reader	Value of reading
*recode 1. <u>4</u>	2. <u>4</u>
3. <u>4</u>	*recode 4. <u>2</u>
*recode 5. <u>2</u>	6. <u>3</u>
*recode 7. <u>3</u>	*recode 8. <u>3</u>
9. <u>3</u>	*recode 10. <u>2</u>
11. <u>3</u>	12. <u>3</u>
13. <u>3</u>	14. <u>3</u>
*recode 15. <u>3</u>	16. <u>3</u>
17. <u>2</u>	*recode 18. <u>1</u>
19. <u>3</u>	*recode 20. <u>3</u>
SC raw score: <u>30</u> /40	VR raw score: <u>27</u> /40
Full survey raw score (Self-concept & Value): <u>57</u> /80	
Percentage scores	Self-concept <u>75%</u>
	Value <u>68%</u>
	Full survey <u>71%</u>
Comments: <u>Student thinks she's an ok reader</u> <u>but lacks self confidence</u>	

Note: Reproduced with permission from the International Reading Profile (Gardner, Palmer, Goding, & Mazzoni, 1996)

## Appendix A MRP Reading Survey Pre-test

## Article 1

SCIENTIFIC  
AMERICAN™

Permanent Address: <http://www.scientificamerican.com/article/preemptive-genetics-girds-farmers-for-climate-extremes-and-disease/>  
Energy & Sustainability News

## Preemptive Genetics Girds Farmers for Climate Extremes and Disease

High-tech breeding to bolster cattle and crops against potential outbreaks is becoming increasingly urgent as diseases continue to march across the continent.

By Natasha Gilbert | June 19, 2015 |

Animal diseases cost cash-strapped African farmers about \$300 billion a year in lost income and veterinary bills. Now scientists are proactively breeding livestock with defenses against these pests before they strike.

Scientists from the Consultative Group on International Agricultural Research (CGIAR) consortium are setting up a "preemptive breeding" program to develop livestock with resistance to potential widespread outbreaks of currently localized diseases to help reduce some of the losses that would occur.

Most of the world's 38 billion livestock are kept in Africa where they face threats from diseases, reduced grazing land and a lack of vaccines. Livestock in Europe or the U.S., by contrast, are rarely lacking in food and medicine, says Okoyo Mwai, a livestock geneticist at the International Livestock Research Institute (ILRI) in Kenya. "Most of the problems are in Africa where the costs of treating diseases are huge. As climate change makes diseases spread to new areas, that figure will rise astronomically," Mwai says.



The scientists are studying N'Dama cattle from west Africa, which have a natural resistance to the disease trypanosomiasis.

ILRI/Wikipedia

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As j  
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get the livestock," Mwai says.

strategy and new evidence of the United Nations Framework Convention on Climate Change on June 4.

are too slow to respond to disease outbreaks and climate challenges, the CGIAR level of losses can be reduced if we proactively breed animals that are

researchers are drawing up a map of African livestock that are resilient to pests of climatic changes and disease threats to focus their search for these. Scientists will be able to easily locate resistant animals and then quickly breed them with varieties that are local to the areas at risk. "We need to be proactive. If those future cases arise, we will know where to go to



6/10/2015

Preemptive Genetics Cudds Farmers for Climate Extremes and Disease - Scientific American

For example, the Maasai tribe in Kenya have over many years bred sheep that are resistant to a deadly parasitic worm. The scientists are now working with these farmers to help introduce this breed to new areas that are suffering with high levels of the parasite.

Resistant livestock should not be introduced into areas that are disease-free because they still carry the pest and could cause an outbreak, Mwai says. He suggests that resistant breeds be brought in when predictions indicate the imminent arrival of an infection.

SEE ALSO:

Evolution: Parrot Feces Makes Beautiful Beaches | Health: The Conflicted History of Alcohol in Western Civilization | Mind & Brain: Is Food Addiction Making Us Fat? | Space: Dark Matter Particles Interact with Themselves | Technology: Timeline: The Amazing Multimillion-Year History of Processed Food | More Science: The Flavor Connection

The scientists also hope to use new high-tech tools to develop tougher livestock. They are planning a research program that will use genome editing to take genetic material from resistant breeds and paste it into susceptible ones. This technology will allow a much more "precise" approach to creating animals with desirable traits.

In contrast, traditional breeding methods "mix and match" genes by mating individuals "in the hope" of producing individuals beneficial traits, Mwai says. But sexual reproduction offers no guarantees that offspring will exhibit the desired traits of the parents. "We need precision, not shotgun breeding," he says.

The CGIAR team hopes to use genome editing to breed new populations of cattle that are resistant to trypanosomiasis. The scientists are studying N'Dama cattle from west Africa, which have a natural resistance to the disease, and have located the genetic material responsible for the breed's protection. Next they will put that material into populations with other desirable traits such as increased milk and meat production.

#### **Toughening agriculture for a worsening climate**

Preventative breeding is becoming increasingly urgent as livestock diseases continue to march across Africa, the CGIAR researchers say. New research they presented to the science advisory body shows that 44 percent of all major livestock diseases they studied are increasing in prevalence continent-wide. The researchers also found that farmers will lose up to half of suitable grazing land over the next century, placing livestock under further pressure from already limited feed supplies.

The CGIAR scientists also want to use breeding to develop tougher crops. "We find that for many staple crops in the regions, climatically suitable areas are projected to decrease in countries that are most dependent on them," says Julian Ramirez-Villegas, who studies climate impacts on agriculture at the University of Leeds in England.

The International Center for Tropical Agriculture (CIAT) in Colombia has already begun work to develop heat tolerant beans that it hopes to roll out to areas that might need them now and in future.

Focusing agricultural research efforts on building resilience against future climatic and disease threats will help vulnerable farmers produce food even under the most difficult conditions, says Ramirez-Villegas, formerly of the CIAT. "Pushing the biophysical limits of the crop, we would be able to carry on cropping beans everywhere where beans are currently grown even under the most pessimistic climate scenarios by mid-century," he says. By the end of the century, only in the high-end warming scenarios heat-adapted beans would be affected.



Article ONE

1. What was the main point of the article?

The main point was that farmers lose money trying to keep livestock alive.

2. What was challenging about the reading of the article?

What was challenging was understanding the names and methods by which they protect them.

3. Read the article once more; what if anything did you pick up the second time that you did not pick up the first time?

I picked up that the current breeding strategies are inadequate.

4. How could Ms. A have assisted more in the reading and comprehension piece of this article?

She could've given me insight on some breeding methods before hand.

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Article 2

Permanent Address: <http://www.scientificamerican.com/article/climate-scientists-helped-create-a-spurious-pause-in-global-warming/>  
 Energy & Sustainability » ClimateWire

## Climate Scientists Helped Create a Spurious Pause in Global Warming

The Intergovernmental Panel on Climate Change may be responsible for confusion about recent global warming

ClimateWire

By Gayatri Vaidyanathan and ClimateWire | June 9, 2015 | 0

The Intergovernmental Panel on Climate Change was in a bind.

The world's premier scientific body on the climate had found, in a 2013 report, that it is extremely likely (95 percent confidence) that human activities are responsible for most of the observed warming of global temperatures since 1951. The panel was more certain than it had ever been in the past.

Yet the lay public did not seem to care. Polls have repeatedly shown that climate change is not a priority for most people.

So the IPCC scientists switched tacks. At a press conference on their report, they emphasized the record warmth the world had experienced in the past decade.

"More temperature records were broken than in any other previous decade," said Michel Jarraud, secretary-general of the World Meteorological Organization, of the 2000-to-2014 decade.

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This map of the Earth shows surface temperature trends between 1950 and 2014

NASA/GSFC/Earth Observing  
NASA/GISS/Wikipedia

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as Stocker, co-chairman of Working Group I, echoed Jarraud's message. It concept of climate change.

IPCC scientists may have unwittingly sowed the seeds of confusion, according

that people can more easily wrap their heads around. But they were also in our planet's climate, it has to last at least 30 years. Just one decade of

By referring to a decade of warming, the IPCC brought into play questionable claims made by climate deniers about a global warming

"pause," the study finds.

The "pause" refers to the idea that rate of warming has slowed since 1998, compared to the 1990s. The pause does not actually exist, since observations over 15 years are not significant enough to be called a climate trend.

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"Trends based on short records are very sensitive to the beginning and end dates and do not in general reflect long-term climate trends, the IPCC stated in its 2013 report (*ClimateWire*, June 5).

Journalists present at the press conference lobbied questions about the pause at the scientists, said Warren Pearce, a sociologist at the University of Nottingham and a co-author of the study, in a statement.

The scientists immediately dismissed the pause. Stocker of Working Group I pointed out that "periods of less than around 30 years ... are less relevant."

**A confusing dialogue**

The contradiction in the IPCC's reliance, on one hand, on decadelong high temperatures and, on the other hand, its dismissal of the pause struck a confusing note, the study finds.

"The fact that scientists go on to dismiss the journalists' concerns about the pause—when they themselves drew upon a similar short-term example—made their position inconsistent and led to confusion within the press conference," Pearce said in a statement.

One journalist at the conference asked Stocker, "you acknowledged that a 15-year period is less relevant from looking at a climate point of view and 30 years is what you would normally look at. If that's the case, why did you even mention a 15-year period?"

The question went unanswered.

To avoid similar confusion in the future, scientists should strive to communicate certainty, but also be open to discussing details that they are less certain about, Pearce said in a statement.

"These need to be embraced and acknowledged in order to make climate change meaningful," he said.

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Article TWO

1. What was the main point of the article?

The main point of this article was to show how scientist tried to make Global Climate change a big deal to the public but ended up causing confusion. They regarded and also disregarded the rising temperatures over 15 years.

2. What was challenging about the reading of the article?

What was challenging about reading this article was that it was a little boring and repetitive.

3. Read the article once more; what if anything did you pick up the second time that you did not pick up the first time?

I picked up that scientist acknowledged that they need to mentioned what they're certain and also uncertain about to the public to prevent confusion.

4. How could Ms. A have assisted more in the reading and comprehension piece of this article?

She taught me everything needed to comprehend this article



# Post Test

Figure 6  
MRP Reading survey scoring sheet

Student name \_\_\_\_\_

Grade 12

Teacher Anderson

Administration date 6/12/15

Recoding scale

1=4

2=3

3=2

4=1

Self-concept is important for

\*recode 1. A

3. A

\*recode 5. A

\*recode 7. A

9. A

11. A

13. A

\*recode 15. A

17. A

19. A

Number of reading

2. 4

\*recode 4. 3

6. 4

\*recode 8. 3

\*recode 10. 3

12. 4

14. 4

16. 4

\*recode 18. 1

\*recode 20. 3

SC raw score: 40 / 40

\*recode raw: 33 / 40

Full survey raw score (Self-concept is Variable) 73 / 80

Percent age scores

Self-concept 100

Math 83

Full survey 91

Comments:

After some motivational conversations and lessons Jane seems to have improved her score & confidence

Note: Any items with parentheses in the survey are to be coded (Gardner, Palmer, Collins, & Mazzoni, 1996)

Appendix D MRP Reading Survey Post-Test

<p><b>Lesson Plan</b> Date: 6.10.15 Objective(s) for today's lesson: SWBAT Assess motivation for learning SWBAT: push self to further their reading confidence and self confidence in general Rationale: without confidence in learning as well as in self students will block themselves from reaching their full potential Materials &amp; supplies needed: internet access; journal; Skype; several willing successful adults</p>
<p><b>Procedures and approximate time allocated for each event</b></p> <ul style="list-style-type: none"><li>• <b>Introduction to the lesson</b> Conversation with student about confidence; reasons why her confidence is important, and why her confidence may not be where it should be. Administer Pre-test (20 min)</li><li>• <b>OUTLINE of key events during the lesson</b> Continue discussion based off of pre-test results. Look at data supporting reading and how successful people read. Talk with several successful adults on how important reading is via Skype. Have students take notes and then synthesize interviews. Close main portion of lesson by wrapping up main points of all interviews. (40 min)</li><li>• <b>Closing summary for the lesson</b> Re-iterate the importance of caring for oneself; and the importance of self confidence not only in literacy skills but also in general how self confidence can get you far. I will then explain the journal assignment. (10 min)</li></ul>
<p><b>Assessment:</b> When we met next we will discuss the journal and how she has grown over the span of several days; as well as how she plans to continue the journal. Also she will take the MRP again and we will discuss the results.</p>

Appendix E Lesson Plan Day 1 Self-Confidence

<p><b>Outline for a Daily Lesson Plan</b> Date: 6/13/15 Objective(s) for today's lesson: SWBAT Read and comprehend a challenging scientific article SWBAT: develop reading strategies for future content texts Rationale Student has trouble with comprehension; it is important to assist student with strategies to make comprehension possible and not as time consuming as she thinks it is currently; as she is entering college soon and will be expected to read and comprehend a great deal of material in a very limited amount of time. Materials &amp; supplies needed: several articles of similar difficulty; graphic organizers</p>
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**Procedures and approximate time allocated for each event**

- **Introduction to the lesson** At the start of the lesson student will read article one and answer several questions on it. Student will then discuss with me what could have been done differently to make her comprehend the article more; and I will briefly discuss the importance of reading and comprehension. (20 min)
- **OUTLINE of key events during the lesson** Student will once again read the article this time reading aloud; she will also take notes the way she currently takes notes. We will then discuss her results some more. I will show her several types of graphic organizers and have her use them with other articles; we will then design a graphic organizer that would work the best for her and try it on an article. (40 min)
- **Closing summary for the lesson** We will discuss the 'new' graphic organizer and how it will be beneficial for her to use in the future. She will then do the posttest article making use of the strategies we had talked about and answer the questions.

**Assessment** I will look for further depth of understanding in Jane's responses to the second article.

**Appendix F Lesson Plan 2 Reading Comprehension**



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