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## **Final Project: Literacy Case Study**

### **Student Background**

The subject of this case study is a student named Javon. I first met Javon three years ago when he was transferred into the Alternative Education Program in the 6<sup>th</sup> grade. Javon was the brother of one of our high school students and his mother requested that he be transferred to Alternative Ed because she was worried that Javon was struggling at the regular middle school in the district. He is an African-American student whom I have had in class for the past two years in my online Science classes and Computer Literacy classes. He is now a ninth grader in my online Biology course. Though the class is online, students are physically present in the classroom and I provide academic support as needed.

I would describe Javon is a rare and unique student in the Alternative Education Program. He is technically one grade behind and has been diagnosed with ADHD. Though Javon took medication for his ADHD in the past, he has not been taking medication since the summer. When I say that he is rare kind of student, it is because despite everything, he is happy to be in school, has a positive attitude, and does not get disrespectful like so many of his classmates around him. Although he struggles in all of his classes, he has a strong desire to try and complete all of his assignments correctly.(Standard III) If he is not sure of something, he immediately asks for help. He also eagerly volunteers for everything, even when he does not know the answer to something.

While Javon always sought out help, I have noticed that he often asks for help on reading comprehension questions with increasing frequency now that he is in ninth grade. The ninth grade Biology book is a much more difficult text than the middle school science books were the

year before. Javon also likes attention and constantly seeks it from staff members throughout the day. His need for literacy interventions and desire for one on one attention made him an excellent candidate for this case study, as I knew he would not question the one on one sessions and the additional work. I also feel that taking time out to work with Javon independently will reinforce the idea that I would like him to continue to feel comfortable seeking out help from his teachers, while at the same time, feel comfortable trying different strategies to help himself on his own.(Standard IV) Giving Javon extra support will also give him added motivation to continue to try and make an effort to truly understand the reading material and the content matter in all of his classes.

It is also clear that if Javon is struggling with reading comprehension in my class, he is probably struggling in his other classes. His English Language Arts and Social Studies teachers confirmed this to be true and expressed that they believed the additional literacy instruction would help him in other content areas.(Standard II) His ELA teacher noted that he had some issues with reading fluency, as well as the reading comprehension difficulties that I had also noticed.

### **Overview of the Case Study**

As Steven Stahl noted, “Vocabulary knowledge is strongly correlated to reading comprehension, so closely correlated that some researchers use the two almost synonymously.”(Stahl, S.A., 2003, p.241) Vocabulary and reading comprehension go hand in hand. You cannot comprehend what you are reading without understanding the words used in the text. Therefore, because I was concerned about Javon’s reading comprehension in Biology, a

vocabulary heavy subject area, I decided to teach Javon a series of lessons to help him improve in both the areas of vocabulary and reading comprehension.

Prior to beginning any lessons, I administered three pre-assessments to Javon. The first pre-assessment was actually just a short pre-test for a chapter on biomes.(Appendix, page 22) It is a simple, ten question pre-test that I use to assess what students already know about the content. It is not a literacy pre-assessment, but simply one that I use to quickly check student understanding before and at the end of the chapter to look for progress and for gaps in understanding. Students should know at least some of the content on this pre-test, such as the locations of rainforests, and this is meant to provide me with an understanding of whether students have met prior science standards as well as activate prior knowledge.(Standard II)

After administering the initial pre-test, I then used two additional sessions with Javon to administer a MAZE assessment (Appendix, pages 1-4) and an Oral Assessment of Comprehension Thinking Strategies (Appendix, pages 11-19). Although I had originally planned to give each pre-assessment prior to its matching literacy lesson (MAZE assessment before the vocabulary lessons and the Oral Assessment of Comprehension Thinking Strategies before the reading comprehension lessons), I ultimately decided that I wanted to make sure that truly had a base score prior to any instruction, as vocabulary and reading comprehension are so closely related. In fact, though our course modules indicate MAZE assessments for use with vocabulary instruction, a study by John T. Guthrie, Mary Seifert, Nancy A. Burnham and Ronald Caplan indicates its use to “measure and monitor comprehension in reading”. (Guthrie et. al., 1974, p.163) Thus, I ultimately decided to administer both pre-assessments prior to all instruction to help gauge growth in vocabulary and reading comprehension as a result of the literacy lessons.(Standards I, V, and VI)

All lessons and assessments were given during regular class time while other students were working on their online learning modules. I was hesitant to do the lessons with all my other students in the room, but Javon could neither come early to school, nor stay late after school due to transportation issues within his family. He does not actually reside in the district as he was originally accepted as a School of Choice student, thus making walking out of the question, as well. Though I worried, I also knew Javon would do fine with the one on one lessons during class, as he often chooses to sit at or in front of my desk in order to get assistance from me throughout the class period.

### **The Pre-Assessments**

Prior to beginning the pre-assessments and lessons, I explained to Javon that what I was going to teach him were strategies that he could use to help improve his vocabulary and his reading overall. I also explained to him that while I wanted him to try to do his very best on the pre-assessments (which I called pre-tests with him) but I did not want him to worry about his scores. I explained that while it was important for him to do his best and answer honestly, I also did not want him to worry about his grades and reassured him that his scores on the pre-tests would not affect his grades. I explained that I wanted Javon to be as honest as possible so that I could help him and that I wanted him to feel that it was ok to make mistakes. I could immediately see Javon relax and he smiled.(Standard IV)

First, I administered the “Biomes Pre-Test” that was originally designed years ago as a pre-test to gauge prior understanding and also activate prior knowledge. Javon scored only a 30% on this, but I was happy that he knew a few basic concepts, including climate and prairie, prior to instruction.(Appendix page 22)

I administered the MAZE assessment in our second session. I created the MAZE using articles on biomes. Every fifth word was given three alternatives to choose from. Javon scored 37 correct responses out of 47 attempts on the first section. On the second section he scored 10 correct responses out of 16 attempts. The number of correct responses were then averaged to find a MAZE raw score of 23.5. As noted by the Florida Center for Reading Research, “The number that is included under maze raw score is simply the average number of correct responses for the two passages. The risk levels are general indicators of the chances that a student will be considered to be making adequate progress toward grade level expectations.”(Florida Center for Reading Research, 2006a) With an MAZE raw score of 23.5, the Florida Center for Reading Research indicates that Javon is at a moderate risk level, performing moderately below grade level and is in need of substantial intervention.(Florida Center for Reading Research, 2006b) Javon’s MAZE assessment can be view in the Appendix on pages 1-4.

I administered the Oral Assessment of Comprehension Thinking Strategies was a much longer pre-assessment and had to be broken up into two sessions. Thus, I administered it in the third and fourth sessions with Javon. In this pre-assessment, Javon and I read a passage about biomes and then asked him several questions about his thinking during the reading. Sometimes I would read it out loud as he followed along. Other times, if time permitted, I asked him to read. Due to the length of the assessment we had to split it into two sessions in order to finish it. When I read to Javon he indicated that he did not think much about the text because he was trying to listen to me read, but later on said that he wondered if global warming would change the biomes. (Appendix p.11 and p.14) This implies that Javon is not truly aware of his thinking or that perhaps he had thought about global warming after the reading and felt he needed to have some kind of answer to the questions.

Javon also indicated that he did not feel he had any life experiences with biomes (or perhaps other biomes) and compared biomes to exhibits at the zoo.(Appendix p.12) I also noticed that Javon could pronounce words from the sections I read to him, such as “deciduous”, but struggled pronouncing words from the sections that he read, for example, “coniferous”. (Appendix p.13) Javon did seem to have some inferring skills, as he was able to indicate that the author had to have left some animals out when describing the biomes and that he could “list a bunch” that were left out.(Appendix p.13) He also expressed that he knew to look for bold and italicized words and that he often forgot things he read. Javon said in those cases he would go back and reread it if he forgot.(Appendix p.15) Javon also admitted to having a hard time with big words and not knowing all of the words. He also believed that he should listen harder if he didn’t know all of the words and felt that knowing all of the words meant that he understood the reading.(Appendix p.17)

From all of the assessments described above it is clear that Javon has only a small understanding of concepts related to biomes. His answers in the Oral Assessment of Comprehension Thinking Strategies suggest that he struggles with vocabulary and recognizes this as a problem. It is also clear that Javon’s ideas of what to do when he doesn’t understand something are simplistic and that teaching him new strategies for learning vocabulary and monitoring comprehension would be helpful.

### **Vocabulary Instruction**

I began this lesson by recalling the last session in which Javon completed the Oral Assessment of Comprehension Thinking Strategies. I asked Javon to recall what he had said about knowing all of the words. He remembered that he did not know all of the words in the

reading. I then explained to him that I was going to teach him two different strategies that he could use to help learn new and unfamiliar words. I explained that it was important to really understand the words and not just reread them and then move on. I also explained that the strategies I was going to teach him (Four Square Concept Development and Object Description) could be used in any reading and in any of his classes. I also explained that being honest with himself about not understanding a word or a reading as a whole was very important and that I would always be willing to help him whenever he needed assistance.

From there I explained to Javon that we were going to use a graphic organizer called Four-Square Concept Development. I had Javon open his biology book to the section on biomes and had him read two paragraphs to me. I had already picked out four vocabulary words from the section (grassland, tundra, desert, and rainforest) and told Javon that we would focus on those four words during the session. I asked if he knew what all of the words meant and he replied, “Kinda.” I then explained to Javon that if he didn’t understand a word, the first thing he should do is look for clues. I explained that sometimes you can find clues in pictures and captions on the page. I also explained how he could look for clues in the sentences that the words were in, as well as the sentences before and after the words. I then explained that another option would be to look at the definition in the book’s glossary or to use online resources like [www.dictionary.com](http://www.dictionary.com) and [www.thesaurus.com](http://www.thesaurus.com).

I then modeled for Javon how to complete the Four-Square Concept Development graphic organizer. I explained to Javon that listing synonyms and antonyms can help us understand a word better by knowing what it is like and what it is not like. I also explained that if he could not think of synonyms and antonyms on his own, that using a thesaurus was a great resource. He expressed that he was worried that was cheating and I explained to him that

sometimes we can learn what a word means by looking at words that have a similar meaning that we might already know. I used the word “blissful” as an example. Javon was not confident that he knew the word, so I had him look it up on [www.thesaurus.com](http://www.thesaurus.com). As he looked at the entry, he immediately said, “Oh, it’s like being happy!” We then put in “grassland”, the first word on his graphic organizer, and he recognized that he knew what a field was. I then explained that he could also use the thesaurus to find antonyms and where they would be listed on the entry. From there, I explained to Javon that once you know the synonyms and antonyms, you can then think of examples and non-examples. He decided to list a prairie as the example and a suburb as a non-example. I then explained that the box labeled “Sentence Context” simply meant that he should use the word in a sentence. Without even waiting for me to direct him to, he wrote a sentence using the word and underlined it.

Finally, I explained to Javon how to break the word down into parts. In this case, the word had two simple parts: “grass” and “land”. I then explained how some words can take on many different forms by adding on prefixes and/or suffixes or by changing the ending. I used the word “understand” as an example and then listed “understands”, “understandable”, and “understanding”. I also showed Javon that if he couldn’t think of other forms of the word, a dictionary entry might also list different forms of the word. He easily came up with the only other form of the word, “grasslands”, and we then double-checked ourselves using [www.dictionary.com](http://www.dictionary.com). Javon seemed confident in using the graphic organizer and I asked him to complete the remaining words on his own.

In our next session, I explained to Javon that there are many different ways to think about new words in order to understand them better. I then told him that I was going to show him how to use Object Description. I had created a graphic organizer for Object Description using Excel



and I gave him a copy of it, which had squares for four different words. I told him I would model how to do the first one. I began by modeling the word “grassland”, our first word from the previous session. I had only gotten as far as the fourth question (What does it look like?) before Javon began interjecting and filling in the remaining responses without my help. He smiled and said, “I like this one. It’s easy.” Feeling confident that he understood the strategy, I asked him to finish the graphic organizer on his own, using the words that we had used in the last session. He told me proudly when he had finished that, “I get these now.” I asked him how he knew that. He replied, “Because I can explain all of ‘em.”

### **SQ3R Instruction**

In our next session, I explained to Javon that I was going to show him a strategy to use before he reads and after he reads to help get him prepared to read and to help him review after he reads. I explained to him that just like an athlete warms up and stretches before exercising or a game, a reader must also warm up before reading. I also explained that thinking about what you already know about a subject and previewing the text can help you have a better understanding about what you read in the end. I then told him that one way to “warm up” and preview a text is by using the SQ3R. I then explained what each letter in the title stands for: Survey, Question, Read, Recite, Review. I also mentioned that he might see this in another class, but sometimes there might only be two “R’s” – Retell and Review, but the general strategy is to preview the text, think of questions about the text, read it, and then express what you learned from the text and if applicable, answer the questions you created.

Then I gave Javon an SQ3R sheet and an article on biomes. I explained that the very first step is to determine the source of the article, its title, and the topic of the article. I asked Javon

that if the title is “A Variety of Biomes on Earth”, how we might sum up the topic with one word. He correctly responded, “Biomes”. I then explained that the next step is to survey the article. We looked at section headings, pictures, captions, bold or italicized words, etc. I explained that by doing this, we should then be able to list three things they already know about biomes or three things that they think they will learn about from the article. I told him that by looking at the headings we might be able to predict that we would learn about three types of biomes including hot and wet, dry and cold, and cold and colder. I explained that he could also write down things he already knew. He chose to write down just the headings. When I reviewed it, I explained that next time he might want to put down full sentences or at least phrases with more fleshed out ideas so that when he looked back over the sheet he would remember what he meant. He asked if he should erase them and start over. Since we were pressed for time, I told him not to worry about it but to make sure to do that the next time. I then asked Javon to think of three questions about biomes that he thought the article would answer for us. He thought of three questions without prompting or help.

Javon and I then took turns reading the article out loud. After reading the article, I explained to Javon that it helps to recite or retell facts that you learned. I also explained that this would be a good place to answer the questions that he created earlier. Javon began writing sentences directly from the text. I stopped him and explained that while he is being asked to retell what he learned, it is important to put it into his own words. I told him to pretend like he was explaining it to one of his friends. I also told him that if he could not put it into his own words that he didn't really understand what he had just read. I then explained that for the last step, he should look over everything he learned and look over the entire reading again and

summarize all of it. I modeled how to create the topic sentence and then asked him to do some independent practice and complete the rest of the summary on his own.

During the next session, I asked to see the SQ3R that Javon had been asked to complete on his own previously.(Appendix p.21) As I read over his summary at the very bottom, I was very impressed. Although he had a few grammatical errors, such as the phrase “you all ways going to be hot there”, he did a nice job explaining the three broad categories of biomes. For each he had explained what it would be like and how you might feel if you were really there. I particularly like the insight he showed about dry and hot biomes, stating “It doesn’t rain unless your [original spelling] lucky”.(Appendix p.21) I had half expected Javon to simply rewrite sentences from the reading and I was very happy to see that he had put some thought behind it and imagined himself in the biome. I told Javon that he had done a very nice job and he smiled proudly.

I then asked Javon to complete another SQ3R sheet using a different reading from a set of old textbooks that I keep in the room. I told Javon that this time, I wanted him to explain how to use the method and that I would only help him if he needed it. I told him that I wanted him to imagine that I was another student and to explain it to me as if I did not know anything about the SQ3R method. Javon expressed that he hoped he did well and proceeded to explain how to find the title. He wasn’t quite sure about explaining how to determine the topic, but was correct in saying that it was “Biomes”. I told him to remember it as trying to tell someone in one word what the article is about. “Oh yeah! Duh” was his response to my reminder. Javon finished modeling the steps of SQ3R without any hiccups or hesitations. I even praised him for the great topic sentence he wrote for the summary: “Biomes are determined by the different kind [original spelling] of climate.”(Appendix p.21) I told him that a good topic sentence like that helps to

summarize everything he learned and it showed that he understood the main idea of the article. He was very proud and told me that he felt he knew it better because he was thinking about it as he went along.

### **Post Assessments**

After completing the lessons on Four Square Concept Development, Object Description, and SQ3R, I then re-administered the MAZE assessment and the Oral Comprehension Thinking Strategies assessment. I also had Javon complete the original biomes pre-test again to see if his score improved.

On the MAZE post assessment, Javon scored a MAZE raw score of 27.5. This score is an improvement over pre-assessment score, but according to the Florida for Reading Research still leaves him in the moderate risk category.(Florida for Reading Research, 2006b) I am not surprised or disheartened by this at all. I think it would be unrealistic to expect that a student would improve from “below grade level” to “at grade level” after just a few sessions of literacy intervention. Seeing any improvement at all is encouraging.

According to his Oral Comprehension Thinking Strategies post assessment, Javon also had slight improvements with his metacognition and the way he thinks about a text as he is reading it. Javon expressed that he thought about the text more and pictured the different biomes as I read the text to him. He also indicated that because it was a textbook we were reading from that he knew that he could look at the images, bold words, headings, and even the glossary if he needed help understanding something.(Appendix, p.24) When asked when he might read a similar text, Javon responded with “in Science or Social Studies” (Appendix, p. 28), whereas previously he had answered that he wouldn’t read something similar. He also indicated that he

would use context clues and the glossary along with a vocabulary strategy if he had problems with the text.(Appendix, p.29)

I was also proud of Javon's response when asked in the Oral Comprehension assessment how images help him understand what he read. He responded saying, "Well, if you think about it, if you can't imagine it you prolly [original use – meant 'probably'] don't understand it. So if you can't, you know you need to do something about it."(Appendix p.30) This statement indicates that he has made a connection between creating images and understanding even though he and I had never discussed picturing the text as you read it. I had told Javon that if he couldn't explain it to someone else, that was a sign that he didn't truly understand it, but never mentioned picturing or imagining the text. He came to that conclusion on his own. Of course, one might argue that the order of the questions will logically lead a student to think that, but I was proud nonetheless.

Finally, on the biomes quiz, Javon scored an 80%, a huge improvement over his previous 30%. He even correctly answered the Bonus Question, "What is the word that means more than one cactus?". The answer, cacti, was in one of the readings Javon and I used for the SQ3R instruction. Of course, I would like to add the disclaimer that I know that a simple ten question multiple choice and true-false quiz is not really the most reliable assessment. In fact, when I had regular general ed classes in which I was able to teach in more traditional methods (without relying on computer based video instruction software), I rarely used such assessments. However, it should be noted that I used this type of assessment/quiz because that is the format that the online software uses. Typically, following his video instruction on the software program, Javon generally scores anywhere from 35% to 60%. So naturally, I was happy to see him do so well and he of course was ecstatic too.

## **Reflections**

I think overall, the literacy sessions with Javon had a positive impact on his reading. As noted earlier, there were positive improvements on his post assessments. He himself expressed that he felt that he understood the material. I would not go so far to say that these strategies would solve all of Javon's problems, but I think these strategies were helpful because while he was working with me one on one, he was forced to slow down and think things through, something he rarely does as a result of his ADHD. By modeling the methods and using think aloud strategies, I gave Javon a good example of how he should think before, during and after reading. I also think my strategy of evaluating his performance immediately and verbally was also particularly helpful to Javon. He was obviously happy to hear good feedback and I actually overheard him bragging about it to his friends. The strategy fed into his strong desire for attention and reinforced the importance of using the literacy strategies to help him with comprehension.

Overall, I feel the literacy lessons were not only helpful for Javon's overall vocabulary and reading comprehension skills, but also for the goals I had set for him as his Biology teacher. These lessons were designed to help Javon acquire an understanding of background knowledge and key vocabulary before beginning a larger unit on ecosystems, populations, and communities. I was happy to have used these lessons on vocabulary and reading comprehension strategies in a cross-curriculum way. It also confirms that teaching reading strategies outside of English class is so important. Too often teachers fall into the rut of allowing themselves to believe that it is the English teacher's responsibility to teach reading and writing skills.( Newell, Koukis, and Boster, 2007, p.76)

If I were given the chance to teach these lessons again, there are several changes that I would make. First of all, I would like to teach the lessons to all students in class. I actually felt guilty that I had spent so much time with Javon during class while at the same time supplementing only his reading skills. All of my students could benefit from this instruction and I will begin to incorporate these strategies into the online format of the class. Just because my students use an online program for their curriculum and instruction does not mean that I cannot provide instructions on general, overlapping reading and writing strategies that would help them in any class.

Secondly, if I were to teach the lessons in a one on one or small setting like this again, I would allow more time for reading the articles and completing the SQ3R sheet. Javon also reads (out loud) and writes very slowly. That is why I read the text for the Oral Comprehension Thinking Strategies assessment to him out loud. Since Javon could not meet before or after school and he and I both had so many attendance issues in March, I felt pressed for time and rushed Javon through some of the strategies in order to complete them. Javon really could have benefitted from reading everything out loud himself.

One way that I could have saved time and provided even more support to Javon would have been to use the same readings in both the vocabulary lessons and in the SQ3R lessons. Repeated readings are a great way to allow struggling readers to build up fluency. According to Ivey 2002, "For struggling readers, one of the by-products of reading the same text repeatedly is that eventually they can read it fluently and accurately, allowing them to consider the meaning of the passage without the burden of decoding."(Ivey, 2002, p.239) This would have served to help improve Javon's fluency and also allowed me a time saving practice within the lessons.

Lastly, I would not use the Oral Comprehension Thinking Strategies Assessment again. While there is value in the assessment, I found it to be very time consuming. I also felt that some of the questions felt redundant. Javon made similar comments as we worked through it. He also expressed that he thought it was too long even though we split it up over sessions. Activities that cause students to lose interest are no longer helpful, despite their best intentions.

### **Conclusion**

Though this process seemed to be a long and arduous task there were enormous benefits all around. Javon learned new vocabulary and reading comprehension strategies and was given positive feedback when using them. This will serve to reinforce Javon's willingness to keep trying in class, despite some of the negative influences around him in the Alternative Ed program. As a teacher, I learned three new strategies to teach to all of my students and had practice in implementing them. I now see how beneficial that they can be and in reflecting on them, I can see the value in presenting them to the entire class. I can no longer fall back on the attitude that they should be learning these skills in English and now that I have the awareness and knowledge of these strategies (as well as all the other strategies I learned but did not have time to teach), I can use them to make a positive impact on the reading and writing skills of all of my students.



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## Literacy Lesson #1 – Vocabulary Strategies

**Lesson:** Using Vocabulary Graphic Organisms to for Biomes and Ecosystems Unit

**Subject:** Alternative Ed Science –Biology

**Grade Level:** 9<sup>th</sup> Grade (can also be used with 7<sup>th</sup> grade Life Science)

**Duration:** Four 15-20 minute sessions plus 10-15 minute pre- and post-assessments

**Lesson Objectives:** In this lesson students will learn how to use glossaries, dictionaries, and online resources to learn new vocabulary through the completion of Four Square Concept Development and Object Description graphic organizers.

### **GLCE's:**

- **B3.L3.p1A:** Provide examples of a population, community, biome and ecosystem.
- **CE 1.2.1:** Write, speak, and use images and graphs to understand and discover complex ideas.
- **CE 2.1.3:** Determine the meaning of unfamiliar words, specialized vocabulary, figurative language, idiomatic expressions, and technical meanings of terms through context clues, word roots and affixes, and the use of appropriate resource materials such as print and electronic dictionaries.

**Materials:** MAZE assessment, Vocabulary word list, Four Square Concept Development graphic organizer, Object Description graphic organizer, Biology textbook, computer with internet access

**Resources:** [www.dictionary.com](http://www.dictionary.com), [www.thesaurus.com](http://www.thesaurus.com), glossary of Biology textbook

**Rationale/ Background:** Students will learn how to construct vocabulary meaning through the use of glossary, dictionary, thesaurus entries along with textbook readings and discussion. Students will complete Four Square Concept Development and Object Description graphic organizers to help strengthen vocabulary acquisition. While this lesson will focus on vocabulary words based related to biomes, the strategies themselves can be used by students in any subject matter to bolster vocabulary and reading comprehension.

**Pre-Assessment:** The student is asked to complete a MAZE assessment prior to the first lesson. This will be used to help to determine a student's risk level and need for intervention. Students with high risk need more interventions to be considered at grade level. This assessment will be used to help determine growth after all lessons are given.(Appendix pages 1-4)

**Part One:** The teacher explains that learning new vocabulary words is essential to both understanding the content material and to improving reading skills. The teacher also explains that there are strategies that they can use to help develop an in depth understanding of unfamiliar words. The teacher also explains that the strategies that she/he will be teaching them can be used in all subject matters and with any new or unfamiliar word. The teacher then explains how using two different graphic organizers in combination with their textbook and online resources, they can develop a better understanding of new vocabulary words.

The teacher then distributes the Four Square Concept Development graphic organizer tells the student(s) that the first word they are going to learn is “biome”. The student is directed to write “Biome” in the center of the organizer. The teacher then reminds students that the word “biome” was in their reading assignment from the previous day. The student is then asked if they are familiar with the word and asks them to make predictions of what the word means. The teacher then directs the student or students to open their Biology textbook to the correct page in the textbook and the student is asked to read the section that contains the bolded word “biome”, explaining that sometimes we can learn a word’s meaning from the passage that it is found in. The teacher then says, “Let’s pretend you still don’t understand the word.” This phrasing is intentional, as often the student does not want to openly admit that they do not understand something. The student is then told to go to the book’s glossary and find the first word, “biome”. The student(s) is then asked to read the definition out loud. The teacher then directs the student(s) to use his/her/their computer to go to [www.dictionary.com](http://www.dictionary.com). Students are asked to read the definition from that website out loud. The teacher then leads the student(s) in a discussion about the meaning of the word.

The teacher then asks the student to think of a synonym for biome, reminding the student that a synonym is word with a similar meaning. Regardless of whether or not the student can volunteer a synonym, the teacher then says, “Let’s say you couldn’t think of a synonym on your own. A great resource is a thesaurus. At the top of [www.dictionary.com](http://www.dictionary.com), you will see a link that says “Thesaurus”. Click that link.” The teacher then explains how students can find synonyms in a thesaurus and how learning the word’s synonyms will help give you more clues to its meaning. The teacher also explains how the word’s antonyms can also be found in the thesaurus and/or the dictionary. The student is then directed to list several synonyms and antonyms for biome on their Four Square Concept Development Map.

The teacher then leads a discussion of the word biome and has the student think of and list examples of a biome and non-examples of a biome on their Four Square Concept Development Map. The student is then asked to write a sentence that uses the word biome. The teacher explains that the sentence should show that the student understands what the word means. Finally, the teacher then explains to the student how to break down the word into parts and list its forms, which is the last square on the graphic organizer.

The student is then given a new Four Square Concept Development sheet with four new squares on it. The teacher asks the student to complete the first one using the word “grassland”. The student is asked to follow the same steps shown previously and is given assistance from the teacher as needed. The student is then asked to complete the Four Square Concept Development sheet with three more words: tundra, desert, and rainforest. (Appendix page 7)

**Part Two:** The teacher and student meet again in a short session to review the Four Square Concept Development strategy. The teacher reviews the steps to complete the graphic organizer and the student and teacher do guided practice to complete the graphic organizer for the word “biome”. The teacher then asks the student to explain how to use the strategy. The student is asked to explain how to fill out the graphic organizer using the word “climate”. If the student does not seem to need further explanations or interventions, the student is asked to complete the

remaining two squares on their own using the words “environment” and “vegetation”. (Appendix page 8)

**Part Three:** In the next session, the teacher explains to the student that another way to learn new vocabulary words is by using Object Description. The teacher explains that using Object Description is like checking your work in math and that if they are having a problem completing this activity, it might be a sign that they are confused about the word. The teacher models how to complete the Object Description graphic organizer using the word “grassland”. The teacher uses a Think Aloud method to complete the questions for “grassland” to demonstrate the strategy. The teacher then uses guided practice and has the student try to fill out the next Object Description graphic organizer using the word tundra. The student is then asked to complete the last two Object Description boxes using the words “rainforest” and “desert”. (Appendix page 5)

**Part Four:** The teacher and student meet again in a short session to review the Object Description strategy. The teacher reviews the steps to complete the graphic organizer and the student and teacher do guided practice to complete the graphic organizer for the word “biome”. The teacher then asks the student to explain how to use the strategy. The student is asked to explain how to fill out the graphic organizer using the word “climate”. If the student does not seem to need further explanations or interventions, the student is asked to complete the remaining two squares on their own using the words “environment” and “vegetation”. (Appendix page 6)

**Assessment:** After all four sessions are completed the teacher will give the MAZE post assessment to look for improvement. (Appendix pages 9-10)

## Literacy Lesson #2 – Reading Comprehension Strategies

**Lesson:** Using SQ3R to read about Biomes and Ecosystems

**Subject:** Alternative Ed Science –Biology

**Grade Level:** 9<sup>th</sup> Grade (can also be used with 7<sup>th</sup> grade Life Science)

**Duration:** Two 20-30 minute sessions plus 40-50 minute pre- and post-assessments

**Lesson Objectives:** In this lesson students will learn how to use the SQ3R method to preview a text and activate prior knowledge before reading.

### **GLCE's:**

- **B3.L3.p1A:** Provide examples of a population, community, biome and ecosystem.
- **CE 2.1.1:** Use a variety of pre-reading and previewing strategies (e.g., acknowledge own prior knowledge, make connections, generate questions, make predictions, scan a text for a particular purpose or audience, analyze text structure and features) to make conscious choices about how to approach the reading based on purpose, genre, level of difficulty, text demands and features.
- **CE 2.1:** Make supported inferences and draw conclusions based on informational print and multimedia features (e.g., prefaces, appendices, marginal notes, illustrations, bibliographies, author's pages, footnotes, diagrams, tables, charts, maps, timelines, graphs, and other visual and special effects) and explain how authors and speakers use them to infer the organization of text and enhance understanding, convey meaning, and inspire or mislead audiences.

**Materials:** Oral Assessment of Comprehension Thinking Strategies, SQ3R sheets, Life Science textbook, and "Variety of Biomes on Earth" article

**Rationale/ Background:** Students will learn how to use the SQ3R method to preview a text and activate prior knowledge before reading. Students will also practice summarizing a text in their own words to demonstrate understanding. It is important to activate students' prior knowledge prior to reading so that they can "match what they read to what they already know in order to construct meaning". (Ehren, 2005, p.311)

**Pre-Assessment:** The student is asked to complete an Oral Assessment of Comprehension Strategies prior to the first lesson. This will be used to help to determine which strategies the student already uses for comprehension. It will also give understanding as to whether or not a student uses metacognition when reading. (Appendix pages 11-19)

**Part One:** The teacher explains that just like an athlete warms up and stretches before exercising or a game, a reader must also warm up before reading. The teacher also explains that thinking about what you already know about a subject and previewing the text can help you have a better understanding about what you read in the end. The teacher then explains that one way to "warm up" and preview a text is by using the SQ3R. The teacher then quickly explains what each letter in the title stands for: Survey, Question, Read, Recite, Review. The teacher also explains that sometimes there might only be two "R's" – Retell and Review, but the general strategy is to

preview the text, think of questions about the text, read it, and then express what you learned from the text and if applicable, answer the questions you created.

The teacher then distributes an article and the SQ3R sheet. The teacher then explains that the very first step is to determine the source of the article, its title, and the topic of the article. The teacher explains that based on the title “A Variety of Biomes on Earth”, that the topic can be summed up with just the word “biomes”. The teacher then explains that the next step is to survey the article. The teacher explains that students should look at section headings, pictures, captions, bold or italicized words, etc. The teacher then explains that by doing this, the student should then be able to list three things they already know about biomes or three things that they think they will learn about from the article. Next the teacher asks the student to think of three questions about biomes that they think the article will answer for them. The teacher models the creation of the first question by using a think aloud strategy. The student is then asked to create two more questions. The student is then asked to read the article, while the teacher provides help for pronunciation as necessary.

After reading the article, the teacher then explains that it is helpful to recite or retell facts that you learned. The teacher also explains that this would be the place to answer the questions that they created earlier. The teacher should also emphasize that while that are being asked to retell what they learned, it is important to put it into their own words. Finally the teacher explains that on the review step, the student should look over everything they learned and look over the entire reading again and summarize all of it. The teacher then models how to do so using a think-aloud strategy in which the teacher creates a topic sentence that summarizes the entire article. The teacher also explains that it is also helpful to do the final step later on, sometimes the next day, so see what you have really learned and what you can remember. The review step should also be repeated each day and students should quiz themselves about the material to check for understanding.

**Part Two:** In the next session, the student is asked to complete the SQ3R method on their own, explaining each step out loud as they complete it. The teacher will provide support and assistance where needed, though the worksheet itself will be the most helpful in reminding students of the steps. If student does not show understanding, provide review for the student and perhaps additional sessions.

**Assessment:** Repeat the Oral Assessment of Comprehension Strategies to check for growth.