Reflection Paper

Subject: Module Two: Science **Grade:** Kindergarten

Module 2: Planning for Active Learning : Teacher implements instruction in order to engage students in rigorous and relevant learning and to promote their curiosity about the world at large by:

Selected Indicator: Including strategies for teaching and supporting content area literacy skills, and when appropriate, numeracy skills (across the curriculum). L- Literacy N- Numeracy

Goal:

I will learn about and apply strategies for developing and organizing coherent and relevant non-fiction units, lessons, and learning tasks, that target students' prior knowledge and learning interests, and as a result, students will remain engaged in the content area.

Initial Summary:

As I reflect on my current practices in planning as an educator within a kindergarten classroom, I find myself struggling in ensuring that students receive authentic learning experiences that foster a sense of both independence and interdependence. While completing the independent portion of a Science based lesson, students often times will interrupt to ask questions that may have been answered by a peer. Although classroom routines and procedures are established and practiced daily across all areas of the curriculum, I am still finding that students are relying heavily on my guidance and support. I currently utilize KWL charts to activate students' prior knowledge and interests. In addition, I examine student data to plan units and lessons that align with students' skills and academic capabilities. With these methods, I still feel as though students are not actively engaged and may benefit from an increase in inquiry based learning and real-world connections.

Reflection:

In reviewing the current practices within my classroom, I noticed that I was struggling in ensuring students' engagement throughout the Science Curriculum. As a result, students required numerous redirections, for they often interrupted to ask questions that may have been answered by one of their peers. As my mentor and I reviewed the Continuum of Effective Teaching, I began to realize that using this Continuum as a guide in

altering my current practices in planning could potentially have a positive effect on student achievement and overall engagement. I was currently developing science lessons and units aligned with the district curriculum that built upon students' skills and interests, but noticed that I rarely planned to provide students with opportunities to solve problems interdependently. At the beginning of the year, I used an interest survey to assess student learning interests within the classroom through utilizing a conferencing model. While this information was useful in designing lessons and units which appeal to the learners within my classroom, the students' engagement still seemed to be lacking. Through deep reflection and discussion with my mentor, I decided to embrace this professional growth experience in designing a coherent unit exploring the life cycle of butterflies through incorporating integration across curriculum areas.

As my mentor and I had reviewed instructional strategies to benefit my current practices in developing and organizing comprehensive relevant units, we decided that I should begin through researching inquiry-based learning. In reading the text entitled Instruction: A Models Approach by Mary Alice Gunter, Thomas H. Estes, and Susan L. Mintz, the authors examine a study constructed by Jerome Bruner discussing the benefits of inquiry-based learning. In explaining Bruner and his findings, the authors state that "...the process of inquiry involves learning how to pose a problem in such a form that it can be worked on and solved...only by practice and by being involved in the process of inquiry can one learn how best to go about solving problems" (126). As I read this text and continued to reflect on my current planning practices within the classroom, I began to realize the potential for an increase in student interest with the implementation of such strategies. In planning to incorporate inquiry-based learning I decided that an initial approach to engage students and informally assess understanding may be to activate background knowledge. This activity will entail brainstorming facts students' already know about butterflies and/or the life cycle of butterflies. In following the Suchman Inquiry Model that the authors discuss in the text, I decided that I would need to plan to allow students an opportunity to first select a problem and conduct research. While remaining true to the inquiry model and keeping in mind the kindergarteners' readiness levels, I decided a way to achieve this would be by allowing students to record questions and hypotheses in regards to their observances of the larvae samples which will be present in the classroom. Students' thoughts and questions will be recorded on a chart for all to see. This will provide the opportunity for students to feel more connected to their learning experience, and I expect that student engagement will be enhanced.

While I continued to meet with my mentor and discuss effective methods in planning relevant units pertaining to science and the life cycle of butterflies, my mentor had ensured me that integrating the unit with the Language Arts Curriculum would provide students opportunities to deepen their understandings and comprehend the interdisciplinary connectedness between both areas of study. While applying this new learning, I decided to plan an activity allowing students the opportunity to evaluate their hypotheses and solidify their questions of inquiry through exploring a wide variety of non-fiction texts. As I reviewed the district's Language Arts Curriculum and the Common Core document, I realized that this integration across the areas of the curriculum were supported through the standards identifying the need for students to participate in shared research and writing projects at the kindergarten level. With this knowledge and the need to provide differentiation in mind, I plan to provide students with opportunities to independently examine the provided leveled texts. I will also utilize the read-aloud strategy to support the struggling readers within the classroom.

Although I had begun to develop new learning and deepen my understanding of effective planning through incorporating inquiry and integration, I still felt as though I needed further assistance in preparing activities which foster a sense of independence and interdependence. In

discussing this concern with my mentor, she suggested that I seek out resources on this topic by Carol Ann Tomlinson. As I read about establishing peer networks for learning within her text Fulfilling the Promise of the Differentiated Classroom:Strategies and Tools for Responsive Teaching, I discovered a variety of methods in which I would be able to apply while structuring a lesson and preparing for authentic learning tasks throughout my science unit. A teaching strategy that I anticipate would decrease the student interruptions and increase the sense of both independence and interdependence among students, is a strategy called Think-Pair-Share. Within this model, students are presented with an open-ended question and think about a plausible answer. Once the teacher has provided ample time in allowing students to formulate their own thoughts, the students then collaborate with a partner prior to sharing their thoughts with the class as a whole. Tomlinson discusses that "such strategies involve many more students in thoughtful class participation and in learning from one another...Think-Pair-Share strategies also promote shared learning" (Tomlinson 85). In reading about this strategy and relating this new learning to the students within my classroom, I determined that I would need to plan a lesson entailing appropriate modeling of the Think-Pair-Share strategy as students revisit their inquiry-based questions and resources (non-fiction leveled texts about butterflies) to further explore and examine possible explanations this time through a different model. Once students demonstrate understanding of the Think-Pair-Share strategy as they review the leveled non-fiction texts, I feel as though it may be appropriate to plan an additional lesson incorporating this strategy with the introduction of the components of the butterfly lifecycle.

While I typically plan whole group science based lessons, I was beginning to realize that I could potentially impact students' engagement and improve the authenticity of the learning experience through creating opportunities to implement Tomlinson's strategies. In reading, I began to think about which differentiated strategies would best suit my classroom and address the current issues I am experiencing with students lacking a sense of educational independence. As I continued to read Tomlinson's text, I learned a plethora of teaching techniques which aim to enhance student engagement and independence through appealing to a variety of learners within the classroom. Tomlinson suggests utilizing the choice method in providing students with the ability to select their own provided task directly linked to the standards, and states "there are many ways to give students choices of work while still ensuring they work to master essential knowledge, understanding, and skill...such choice is often highly motivating" (72-73). With this new understanding in mind, I decided to ponder ways in which I would be able to plan in incorporating this choice method into my science unit while still keeping in mind the learners capabilities within my classroom.

As I began planning a lesson incorporating the choice model, I wanted to ensure that I provided students with rigorous and relevant tasks which would appeal to various learning styles. Once I had determined the conceptual objective in that students would be able to identify the four stages of the butterfly life cycle, I began referencing Norman Webb's Depth of Knowledge along with Bloom's Taxonomy. Prior to planning any activities aligned with the conceptual objective, I decided that I needed to evaluate an appropriate number of options that I would provide students with throughout the lesson. While keeping in mind the learners within my classroom and the kindergarten mindset, I wanted to ensure that students would be provided with enough opportunity for choice, yet did not want to overwhelm students at the same time. With this in mind, I decided to start out in planning three activities for students to choose from after participating in a whole group mini-lesson pertaining to the life cycle components of butterflies. In planning the first choice activity, I aimed to provide students with a rigorous task requiring students to create their own visual representation of the life cycle of the butterfly. The higher level learners would be encouraged to then label each stage utilizing sound-spelling strategies. For the second choice activity, I aimed to appeal to the linguistic learners within the classroom and planned a task requiring students to explain and share the life cycle of a butterfly through written expression using sound-spelling and a pre-made graphic

organizer to guide students through the thinking process. Lastly, I decided to create a task which would require students to observe an assortment of real-life images of butterflies in the four stages of the life cycle. Students would be required to paste each photo in the appropriate location on a life cycle template which would be provided. After completing this task, students would be required to then label each stage appropriately using their sound-spelling strategies. Based on the reading and the implementation of the choice strategy, I anticipate that students within my classroom will see this personalized attempt as a way to gain independence through their learning. I also anticipate that student engagement will be enhanced, as students will be able to select their own learning task that appeals to them as a learner.

Prior to formally assessing students' understanding of the learning tasks pertaining to the butterfly life cycle, I decided through my readings, that inserting check-in points may benefit my understanding of the learning taking place within the classroom, and provide insight as to the re-teaching that may be needed. Authors Jon Saphier, Mary Ann Haley-Speca, and Robert Grower explore such ideas within the text The Skillful Teacher: Building Your Teaching Skills. In discussing the various decisions a teacher must make when partaking in the planning process, the authors state "another potential decision is to plan how and when to check for understanding. Acknowledging that this is often done on the fly, it may be helpful to flag a check-in point during planning to make sure we stop and get some data from all the students about how clear we are" (407). In reading this and in reviewing the Continuum of Effective Teaching, I realized the importance of anticipating student misconceptions in regards to the content, and feel as though this method may be helpful in providing the teacher with informal student data regarding such issues. With this in mind, I decided to review all lesson plans created thus far regarding the Butterfly Science Unit. In attempting to achieve optimal results from students and continue to decrease student interruptions, I decided to flag these check-in points slightly before explaining the independent portion of each lesson and slightly after students would be completing tasks independently. With this in place, I expect to see a decrease in the number of interruptions during a lesson, and plan to use the information provided from students in driving my instruction through the duration of each lesson. If a group of students seem to be struggling with a specific component regarding the life cycle of butterflies, it may be beneficial and more efficient to work in a small group environment addressing these issues rather than helping each student independently with the same or similar issues.

Through reflecting on the various planning strategies and reevaluating my place on the Continuum of Effective Teaching, I realized that I truly underestimated the importance of examining the planning process. While I used student data and was aware of student interests in planning lessons prior to this learning experience, I never realized the depth to which I could potentially target students through differentiated, student-focused models. As I began to plan in implementing inquiry based learning, I determined that I could aid my students in developing their critical thinking skills through posing open-ended questions and encouraging students to gather information to support their thinking. While I continued researching additional methods in improving the overall quality of instruction and student engagement, I was surprised at how simple it was to plan a lesson targeting the various learners within my classroom through utilizing the choice model. After experiencing planning with this technique, I realized that this may be implemented across all areas of the curriculum and may benefit the overall quality of instruction. Through this and incorporating the Think-Pair-Share strategy, I expect that students' independence as well as interdependence will increase. I also anticipate that the number of student interruptions will decrease as a result of the planned check-in points infused within each lesson. As students are provided with planned opportunities to collaborate with one another in the evaluative process of developing critical thinking skills within real world situations, I presume students skills will continue to develop. As I continue seeking professional growth, I wish to continue furthering my knowledge

in developing and organizing coherent units across the curriculum which challenge students and promote rigor and relevance.