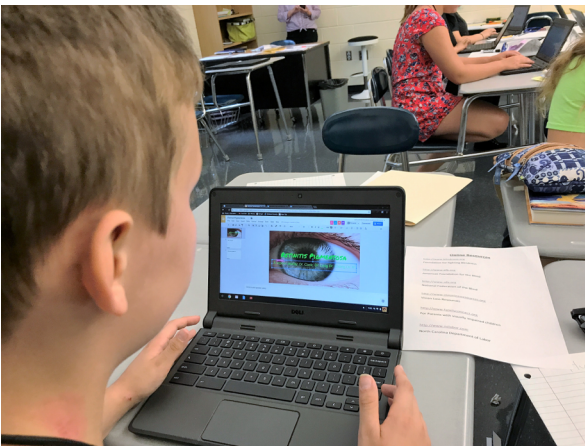


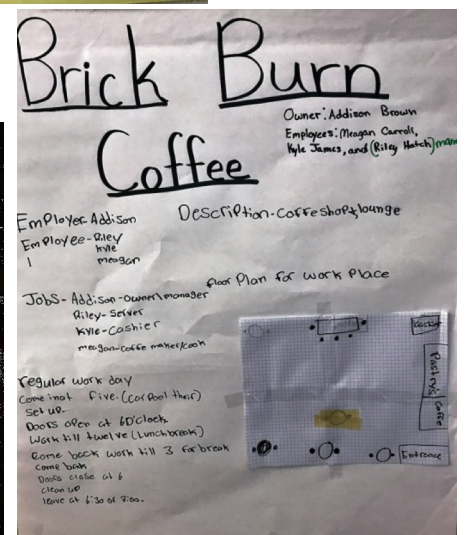
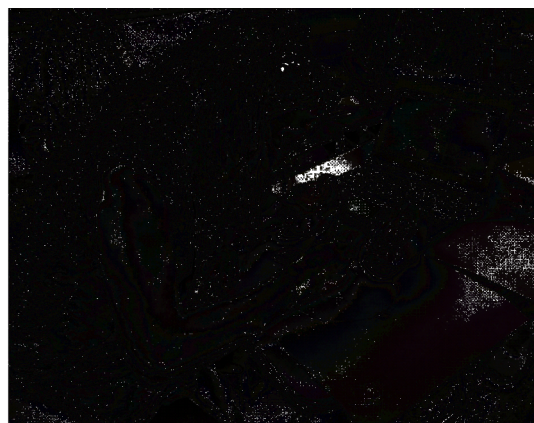
Gradual Transition into Darkness

Grade 7

July 17th to July 20th, 2017



Job Opportunities	
Suitable	Not suitable
priest	factory worker
artist	surgeon
author	pilot
Braille teacher	police officer
Cook	barber
architect	doctor
inventor	firefighter
judge	race car driver
musician	construction worker
model	power tools
bus boy	Uber driver
	welder
	electrician



Introduction

Change is inevitable and with it comes the necessity to adapt. It is not something we think about or spend much time pondering over but simply accept as a fact of life. We, as a society, adapt to change without much thought except when confronted with a life-changing circumstance that requires us to adapt or modify living in order to survive. This learning unit takes a closer look at the complexity of the concept of adaptation and inadvertently change leaving students to construct meaning from learned knowledge, apply as a way to solidify that knowledge being able to explain and connect to other concepts or ideas. Students should gain a better understanding on how individuals are impacted by sudden change, being able to take on multiple perspective on how and why change necessitates adaptation, as well as creating situations that require the application of their newly gained knowledge as a way to deepen and solidify their new understanding on the concepts.

This unit is student-centered as it leads students initially into problem based learning building their foundational knowledge and understanding of the concept. Students are then developing and actively engaging in a simulation which allows them to transfer their acquired knowledge to create new learning opportunities. Students are still seeing the concept through the same conceptual lens yet taking on a different perspective which will elicit empathy on their part and further deepen their through experience on why change necessitates adaptation. All aspects of this unit correlate closely with the seventh-grade science standards which expects students to demonstrate an understanding of the processes, structures, and functions of living organisms that enable them to survive, reproduce, and carry out basic functions in life (*7th Grade North Carolina Science Standard; 7.L.1*).

Gradual transition into Darkness, the unit title implies and adaptation being the conceptual lens of the lessons, students are taking an in-depth look at what causes loss of sight and the effects loss of sight has on an individual. *Common Core Language Arts Standard (R.I.7.3)* asks students to analyze interactions between individuals, events, and ideas. Integral to this unit is also the CCR (*College and Career Readiness in Reading Standards in ELA*) RST 6.8.9, in which student compare and contrast information gathered from experiments (in this case through problem based learning, evaluating multi-media sources and texts on same topic, and simulations. The *Speaking and Listening Standards (S.L.7.1)*, which is an integral part to this unit, focuses on students engaging effectively in collaborative discussions

with diverse partners on grade 7 topics, texts, issues to build on one another's ideas and being able to express or communicate their own clearly.

The concept of adaptation can be very complex and abstract so the approach engaging students in learning by taking a "real-life" approach through problem based learning and simulation helps in making the concept become more concrete. The overarching question throughout the unit and study, Why Does Change Necessitate Adaptation?, has students look at visual impairment and the impact it has on individuals from multiple perspectives.

As part of their learning experience, drawing a conclusive answer to the essential question, students start by taking an ill-structured problem (case), analyze it to attain useful information to help lead into and/or guide their research. Students, as a group, collaboratively develop, backed up by research and extensive study, a justifiable answer on how change necessitates adaptation. This is where students enter a self-regulated learning environment whereas they analyze the problem on hand, gain access to resources needed to guide their research, and or look/acquire any other supplementary information needed to support their study. Simulation, which built upon the problem based learning lessons (Day 1 and 2) as part of the unit, takes students' deepened understanding on the concept of adaptation and the impact visual impairment has on individuals further. It transfers what they have learned by creating and exploring the world of an individual with visual impairment first hand by again taking on the conceptual lens of adaptation.

Given that this unit is very complex and geared toward learners that are self-motivated and able to employ strong reasoning and thinking skills makes it well suited for gifted learners. Gifted students seek out opportunities to demonstrate their strong communication skills which are essential as it requires students to collaboratively analyze and evaluate research data and information for its relevance to the study. Their curiosity to learn and ability to self-direct makes them also think more productively as they work toward their learning objective or learning goal.

The first part of this learning unit, problem based learning stage, has students take on the role of medical professional reviewing and diagnosing a medical case. The medical team is led by a lead physician who leads his team of medical professionals.



Taking on specific roles empowered students, who participated, as it served as a motivator bringing out their skills and talents while working together solving the problem. Students became so immersed in the learning experience that they didn't refer to each other by first name but as "Dr. L.." or "Dr. C.." Some students who are possibly more introverted than others might need more support or direction from the team to become and be involved. But again, providing students with a purpose will help empower and motivate even reluctant,

yet gifted learners, in applying their skills and talents toward successfully meeting their learning goals.

Gifted students are for the most part very much aware of their academic, intellectual, and creative talents and working in groups provides for a great platform to put their strengths and abilities on display. Providing students with a purpose (problem) and identity (their role) made the learning experience more relevant and meaningful during all parts of this unit. Students switched roles during the simulation part of the learning unit whereas they became employer and employee. Students quickly switched into their respective roles as they immersed into the simulation experience.

This unit is further more suited for gifted learners as they are more self-motivated and able to focus on a study over longer and extended periods of time. Being able and demonstrating strong high-level thinking and reasoning skills also makes advanced content more accessible and as such allows them to explore more complex concepts through problem based learning experiences.

This unit in particular looks for learners to ascend rapidly utilizing acquired knowledge and content to see the big idea and its implications and transfer that knowledge by applying it to new situations. As stated above, being self-motivated to learn and acquire knowledge more easily asks for students to be able to work independently. Strong communication skills are also necessary to effectively communicate as students need to be able to rely on each other to complete their expected tasks, and come together critically analyzing and reasoning information and data for its validity or usefulness toward their study. This is further critical as students take their evolving understanding of a concept or concepts and see it transferred into creating real-life situations in form of the

simulation. Students ability to think abstract takes on new dimension as they transform that thinking collaboratively and make it more concrete.

Students imagination and creativity throughout this unit is key as the learning or acquisition of new content and knowledge is primarily led by the student. Gifted students, compared to students in the mainstream classroom, are more inclined and motivated to take on complex learning experiences that challenge their thinking due to their innate enjoyment and desire to learn. The teacher's role throughout this unit is to facilitate learning, making resources essential to the study accessible, and keep students focused on their learning goals.

The unit is fluid and fast moving as students move through the problem based learning stages. After analyzing the problem. Students quickly move into their roles based on their expertise or strength, which are the contributing factors in collaboratively coming up with a solution to the problem. As stated, students in this case identify for one the cause that will lead to a young child's eventual loss of sight, and then find or develop effective strategies adapting to the gradual loss of sight. Students engage in research gathering information from medical journals, texts, and online resources, which they then collaboratively evaluate and create a product which can be a google slide, or other means, demonstrating what they have learned.

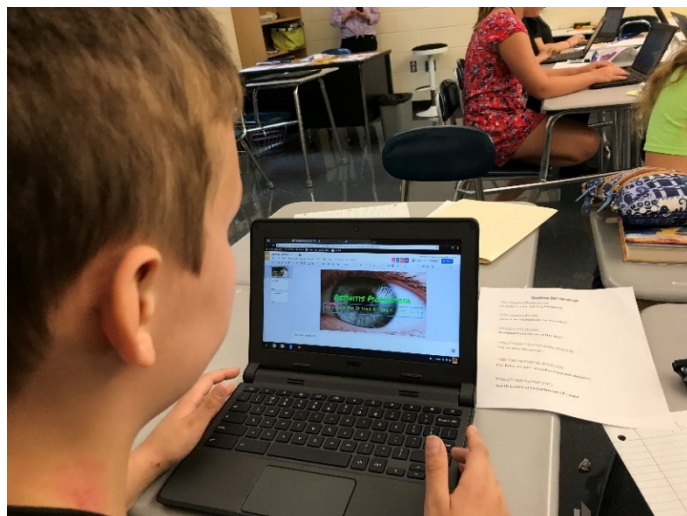
Pacing, as mentioned above will be essential as students move through the study pursuing the concept in search for the essential understanding. Their process skills, as stated are closely tied to students' skills and talents.

This student uses her creative skills drawing a diagram of an eye which was later used to give the "parents", consulting with the medical team, and alternate way, aside from the google slide presentation, to understand their son's deteriorating eye condition. This was in essence part of the performance tasks demonstrating students understanding of the essential question.



Creating a visual aid for the upcoming meeting with the "patient's" parents.

Students worked in groups, whereas they consulted with each other. The lead physician in the group worked closely with his group which created a very positive climate within the group making sure all members of the team were valued for their expertise and knowledge contributing to the study.



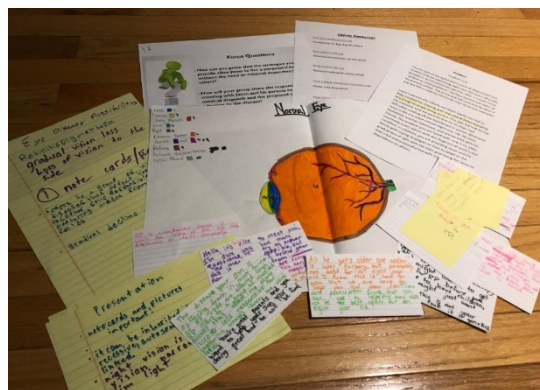
Creating Google Slides

Facilitation by the teacher was primarily left to ensure students were working toward their learning goals, inquiring progress through focus questions (during the lesson questions) which were also given to the lead physicians (handout) as to keep the group focused on the learning targets set.

Ensuring a positive outcome was attained by creating an environment conducive to

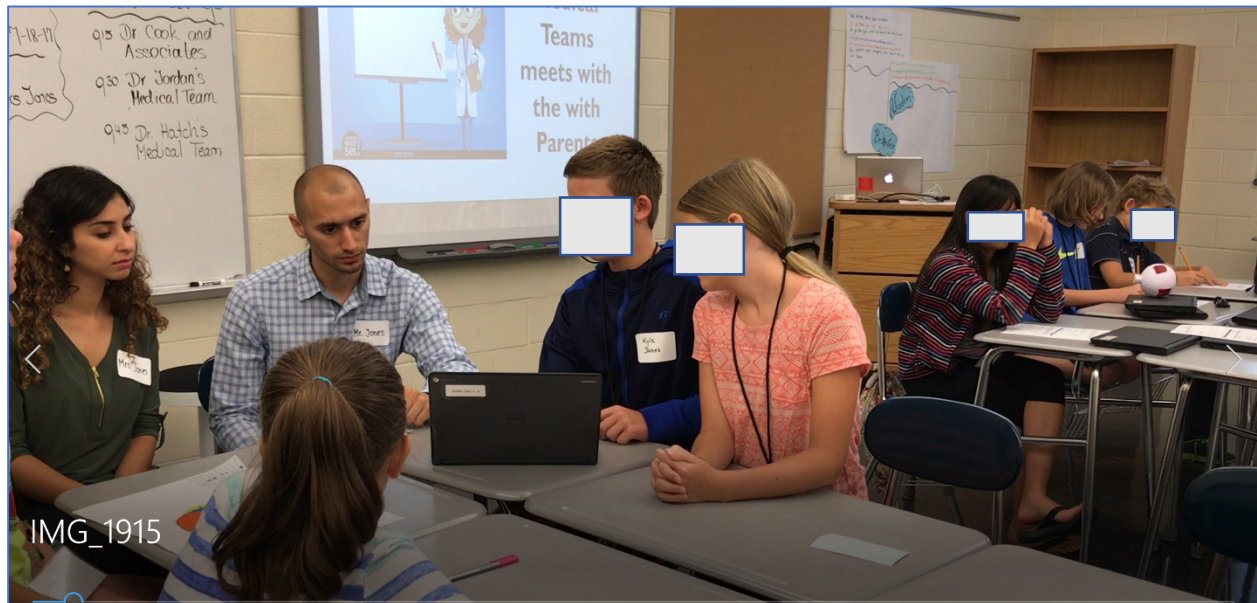
learning where all learners felt valued as being contributing members within their learning community. Making this a real-life problem elicited empathy from the students making learning and the purpose for learning more genuine. Students developed a strong sense of self and being valued which was demonstrated by the way they worked with each other, the level of mutual respect given, along with support building and working toward their common learning goal. Working in a group setting as such allowed students to bring their skills to the table yet elicit support from peers as needed. Roles within the team were developed by students keeping with their needs, skills, and talents.

Knowing the student dynamic and socio-economic background of students in the classroom will be an important factor to consider when planning this unit. There were nine female and seven male students in this group of which two were of Asian descent. I think students were predominantly from middle class background displaying a broad and open perspective and world view based on age and experience.



Collaborative Group Work Samples

Being not familiar with students prior to teaching this unit prompted me to ensure supplemental resources were on hand in order to frontload or differentiate as a mean to facilitate learning and ensure students are able to meet the learning objectives set for the unit. Students might demonstrate an understanding of the concepts in isolation but deriving an essential understanding on the concept of adaptation and how it interrelates with change might be challenging to communicate for students if a foundational knowledge and skill set in acquiring that knowledge is not present. However, this proved unnecessary for the students. Despite not knowing each other prior to coming together for this camp and participating in this learning experience, students demonstrated and executed attributes expected from gifted learners and as such excelled meeting the learning goals set for them.



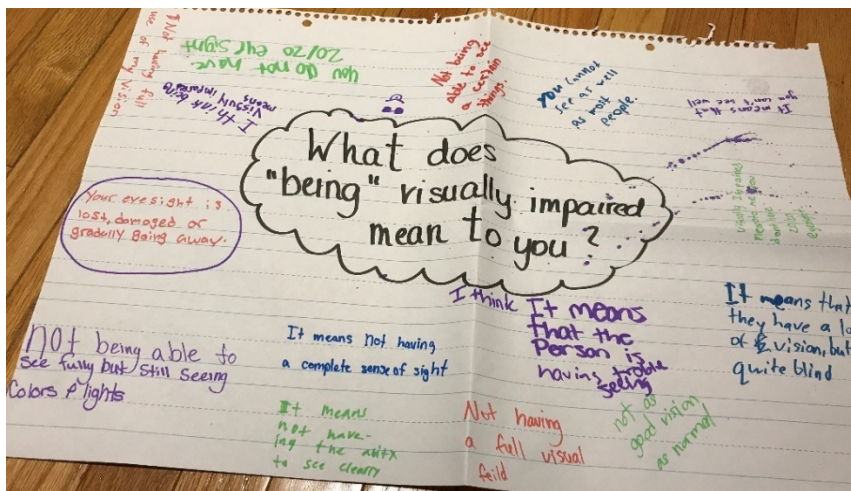
Meeting with the "Parents"

Goals and Outcome

Content Goal and Outcome

Students will acquire an understanding on how visual impairments impacts individuals and how to adapt without giving up independence or quality of life.

- Students will be able to communicate clearly and effectively why change necessitates adaptation. With the focus being on the concept of adaptation students start out with acquiring or developing a basic understanding on being visually impaired and/or blind.
- Through their study and research students will understand the difference between genetic and non-genetic causes for visual impairment. Further research and collaboration (during the process stage) will lead students to deepen their understanding and as a result determine or draw a diagnosis based on given symptoms of visual impairment which they will then focus on based on the problem (case) given.
- Students will know the cause, symptoms, and effects of Retinitis Pigmentosa (RP).
- Students will know how to access and provide strategies that will help individuals suffering from RP adapting to leading a life with limited or no dependency on others.
- Students understand dependency vs. the need for independence.
- Student know how visually impairment impacts every-day life particularly in the workplace.
- Students will know what employment opportunities are available, how employers ensure the rights and needs of visually impaired individuals, and how to create/modify a working environment suitable for visually impaired individuals.



Process Goals and Outcome

Students will develop research, problem-solving, and apply skills through the application of primarily language arts as well as science.

- Students will be able to take an ill presented problem, analyze, and identify key elements and draw a solution.
- Students will, based on what they learned be able to devise action plans to make adequate changes to the life on an individual suffering from a progressive degenerative eye disease.
- Students will use their reasoning and problem-solving skills, evaluating existing employment opportunities for visually impaired individuals as well as critically evaluate, assess employment possibilities for suitability.
- Students will immerse themselves into experiencing life as a visually impaired individual as to empathize and feel the impact visual impairment has on an individual.
- Students reflect upon the impact visual impairment has on individuals from different perspectives.

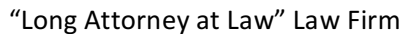


"Brick Burn Coffee Shop" Simulation

Concept Goals and Outcomes

- Students will be able to effectively communicate how change necessitates adaptation based on their extensive research study and real-life simulation experience emulating change and adaptation.
- Approaching the concept of change from multiple perspectives students are able to demonstrate a strong understanding and

- Students will be able to justify the need for adaptation due to change using explicit examples through experiences and/or exposure through this unit and comprised by research studies past and projected toward the future.
- Students demonstrate and reflect on change and the necessity for adaptation through real-life situations being immersed in the learning experience.



Assessment Plan

This four-day unit includes two formative assessments tasks which assesses students' progress in meeting students learning goals over the course of learning unit. The first assessment task cumulates the first part, problem based learning, and the second part assessing students post simulation. As stated in the *Problem-Based Learning Task*, students demonstrate their acquisition of knowledge and essential understanding of the concept by meeting as a group with the "parents". Based on the performance task and rubric, students should clearly and without difficulty demonstrate how change (in this case, Jason's deteriorating eye sight) necessitates adaptation. Students should, based on their research, provide accurate and insightful information on the disease and its progression over time, what to expect, as well as strategies on adapting to a life without sight. The rubric assesses students' performance based on being able to clearly access and acquire content knowledge and further derive the essential understanding of concept. It also looks at how well students are able to work together collaboratively solving the problem and then finally, their effectiveness applying problem solving skills.

Performance Task

You are part of an optometrist team that has been tasked to diagnose a young boy who has been referred to you by his school nurse. Your task will be to study this particular case and come up with a clear diagnosis of the child's condition given the facts you were provided and studies your team conducted. You will be asked to communicate your findings in a clear and concise matter to the child's parents along with strategies coping with the illness/condition. The challenge will be to not solely rely on parent information but conduct your own thorough study of this case using your professional knowledge as optometrists, along with current research and other patients' experience with this illness/condition to derive a diagnosis and effective strategies that will help Jason successfully adapt to the changes in his life as he matures in age. The diagnosis and strategies you provide in Jason's case must be clearly communicated to Jason's parents. Your success will rely on the parents being able to walk away confident and well informed about their son's medical condition. They should feel confident that they were given the best medical service available by a highly competent medical staff.

It should be evident meeting with "parents" that students have a strong essential understanding of the concept and why change necessitates adaptation. One formal assessment is conducted using a rubric while students are also conducting a peer observation. This serves a dual purpose as it for one assesses students' performance from the student's point of view but also has them reflect by being the expert evaluating their peer experts in the field.

I think providing students with the opportunity to take ownership not just in their own learning but calling upon them, being the experts in the field (having moved up from novice) gives them a sense of empowerment as they are now critically analyzing and evaluating information from their point of view, using their expertise and knowledge on the subject. Even though the essential question was not directly stated on the observation form it was explicitly implied through the questions and students' interaction with parents.

Parent / Medical Team Meeting	
Questions	Rating
How would you rate the medical team's knowledge on retinitis pigmentosa / RP and their preparedness meeting with Jason's parents?	5
How effective was the team presenting the parents with strategies to help their son dealing with retinitis pigmentosa / RP?	3
How effective was the medical team in responding to questions from Jason's parents?	5
How would you rate Jason's parents' confidence in the medical team?	4
Were there some strengths observed by the medical team?	4

Dr. Jordan and his Medical Team
Dr. Cook and Associates
Dr. Hatch and his Medical Team
(Check which Medical Team is observed)

Comments
They shared on a video model and a video which showed they were prepared.

The Parent asked few questions and they were all answered.

They were very clear in their presentation.

Dr. Jordan and his Medical Team
Dr. Cook and Associates
Dr. Hatch and his Medical Team
(Check which Medical Team is observed)

Comments

Did not hope

How effective was the team presenting the strategies to help their son dealing with retinitis pigmentosa / RP?

How effective was the medical team in responding to questions from Jason's parents?

How would you rate Jason's parents' confidence in the medical team?

What were some strengths observed by the medical team?

Dr. Jordan and his Medical Team
Dr. Cook and Associates
Dr. Hatch and his Medical Team
(Check which Medical Team is observed)

Comments

above

on

poor

scale: 5 (Superior)

Dr. N

Parent / Medical Team Meeting

☒ Dr. Jordan and his Medical Team
☐ Dr. Cook and Associates
☐ Dr. Hatch and his Medical Team
 (Check which Medical Team is observed)

Questions	Rating	Comments
How would you rate the medical team's knowledge on retinitis pigmentosa / RP and their preparedness meeting with Jason's parents?	3	Knew your facts, but a little too much doctor words. Had to read off of slide
How effective was the team presenting the parents with strategies to help their son dealing with retinitis pigmentosa /RP?	5	Telling them many ways too help
How effective was the medical team in responding to questions from Jason's parents?	3	Seem almost caught off guard. Stuttered at first, but always answered in the end
How would you rate Jason's parents' confidence in the medical team?	3	Got the answers they needed.
What were some strengths observed by the medical team?	4	Knew many antics of RP. Knew subject well

Parent / Medical Team Meeting

☐ Dr. Jordan and his Medical Team
☐ Dr. Cook and Associates
☒ Dr. Hatch and his Medical Team
 (Check which Medical Team is observed)

Questions	Rating	Comments
How would you rate the medical team's knowledge on retinitis pigmentosa / RP and their preparedness meeting with Jason's parents?	2	Looking down at cards, very little to no eye contact.
How effective was the team presenting the parents with strategies to help their son dealing with retinitis pigmentosa /RP?	2	Just said "We are here for you"; gave very few strategies to help
How effective was the medical team in responding to questions from Jason's parents?	3	Didn't know the subject, constantly referring to computer
How would you rate Jason's parents' confidence in the medical team?	2	Parents didn't get much info, the Dr.'s basically saying there's no hope.
What were some strengths observed by the medical team?	2	Gave solutions, said they were there for them.

Rating Scale: 5 (Superior) 4 (Strong) 3 (Good) 2 (Acceptable) 1 (Weak)

Gradual Transition into Darkness Rubric	Performance Indicator	Performance Level			
		Developing 1	Proficient 2	Expert 3	Comments and Score
	Content Knowledge and Process Skills Weight X 2	Limited content knowledge, requiring support accessing and manipulating content to broaden knowledge and deepen understanding.	Basic content knowledge, limited use of tools accessing and manipulating content to broaden knowledge and understanding.	In-depth content knowledge, skillful acquisition and manipulation of content driven by a need to deepen and broaden content knowledge and understanding.	
	Collaboration Weight X 2	Students are struggling defining roles within the groups to maximize effort and time researching, gathering, analyzing, and evaluating information.	Students are working in groups, groups and roles within groups are mostly defined and need only require minor adjustments to maximize effort and time researching, gathering, analyzing, and evaluating information.	Students are creating a positive working environment for the group with clearly defined roles enhancing their productivity, researching, gathering, analyzing, and evaluating information to maximize effort and time.	
	Problem-Solving Weight X 3	Students are having difficulty, and <u>need</u> <u>support</u> identifying the problem, devising a plan and solving it.	Students are able to identify the problem and develop a plan and strategies solving it.	Students are able to clearly state and identify the problem as well as addressing underlying issues, develop a concise plan along with strategies to help solve the problem.	
	Understanding of Concept Weight X 3	Students are developing an understanding of the concept and its relevance to the content.	Student are able to demonstrate an understanding of the concept and essential understanding and able to communicate it within the content.	Explicitly demonstrate and communicate an understanding of the concept and essential understanding; <u>and</u> students are able to relate or connect it to other concepts and/or disciplines.	
	Presentation Weight X 2				
	Score Total 18				

Lesson Plans

The following pages are detailed lesson plans in sequential order over the course of four days. Following the lesson plans are support materials to, either pulled out from the lesson plan, or in addition to enhance the lessons.

TEACHER NAME		Lesson #
D'Souza		1
MODEL	CONTENT AREA	GRADE LEVEL
Problem Based Learning PBL		7
CONCEPTUAL LENS		LESSON TOPIC
Adaptation		Gradual transition into darkness
LEARNING OBJECTIVES (from State/Local Curriculum)		
7.L.1. Understand the processes, structures, and functions of living organisms that enable them to survive, reproduce, and carry out the basic functions of life. R.I.7.3. Analyze the interactions between individuals, events, and ideas in a text (e.ge. how ideas influence individuals or events, or how individuals influence ideas or events.) S.L. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.RST.6.8.9. Compare and contrast the information gained from experiments, simulations, videos, or multimedia sources with that gained from reading a text on the same topic.		
THE ESSENTIAL UNDERSTANDING		THE ESSENTIAL QUESTION
(What is the overarching idea students will understand as a result of this lesson?)		(What question will be asked to lead students to "uncover" the (Essential Understanding)
Change necessitates Adaptation		Why does change necessitate adaptation?
CONTENT KNOWLEDGE		PROCESS SKILLS
(What factual information will students learn in this lesson?)		(What will students be able to do as a result of this lesson?)
- Students will learn to know the difference between being visually impaired and blind. - Students will know how many people worldwide are either visually impaired, blind, and have low vision. - Students will be knowledgeable about causes (genetic and non-genetic) of visual impairments and blindness. - Students will know the cause of the disease, retinitis pigmentosa. - Students will know how retinitis pigmentosa impacts an individual's life, affected by the disease. - Students will know how to adapt living with RP without giving up independence or quality of due to the illness/disease. -		- Students will be able to take on an ill-structured problem analyze it and identify significant key elements in order to come up with a solution to the problem. - Students will collaborate as a group and discuss possible resources to help solve the problem. - Students will designate tasks and responsibilities onto group members, set and meet deadlines to measure progress. - Students will make predictions and generalizations on eye-diseases and conduct preliminary research to build a foundational understanding on illnesses that can affect sight either causing individuals being visually impaired, living with low vision, or blindness. - Students will, based on the problem use their research skills to learn about inherited eye-diseases that can cause blindness using credible sources. - Students will analyze the information and collaborate on action plans to communicate the illness to non-informed individuals in a meaningful and concise way. - Students will, based on what they learn and how it impacts a person suffering from RP, devise an action plan that will help individuals with retinitis pigmentosa make adequate changes with the least impact on the quality of life.

GUIDING QUESTIONS			
What questions will be asked to support instruction?			
Include both "lesson plan level" questions as well as questions designed to guide students to the essential understanding			
Pre-Lesson Questions:	During Lesson Questions:	Post Lesson Questions:	
- What might have caused me to have you enter the classroom with the lights off? - What is the difference between visual impairment and blindness? - How can visual function be defined? - Who is at risk or what are some of the risk factors of becoming visually impaired or blind? - What are some inherited diseases that can cause blindness? - How does being visually impaired or blind affect individuals that are affected by it? - How does the community respond to individuals with visual impairment or blindness?	- How could you and your group restate this problem in your own words? - What are some facts that you can use from this problem that will help you find a solution to the problem? - What might be some "Need to Know" that need to be shared/confirmed by the teacher before moving on (this will only come into play if students are not able to identify "Retinitis Pigmentosa" as the inherited disease by providing it (envelope)? - Given the fact that you have two days to work on this problem how will you approach it? - What will most likely be the greatest challenge for you and your group as you dealing with this problem? - How will you know that your sources, of which you base your information off, are accurate, factual, and reliable? - How will you share/analyze your information throughout the research phase with your group members? - How can you prove that the strategies you provide allow Jason to live a purposeful live without the need or minimal dependency on others?	- What proved to be the greatest challenge solving this problem? - How did you approach and ultimately bring this problem to a close. - Based on the outcome how did you come up with the most effective way sharing your findings and possible strategies to deal with the disease with Jason's family? - Given the fact that you had to deal with such a devastating disease how difficult was it for you to keep your emotions in check, especially since you had to communicate the findings to Jason's parents. - Understanding that Jason's life will eventually change and he is forced to adapt to a life in darkness how will you foresee his future based on some of the strategies you provided for him to live a purposeful life with out the need or minimal dependency on others?	
DIFFERENTIATION			
(Describe how the planned learning experience has been modified to meet the needs of gifted learners. Note: Modifications may be in one or more of the areas below. Only provide details for the area(s) that have been differentiated for this lesson.			
Content	Process	Product	Learning Environment
Students are reading and evaluating a variety of resources and materials (not limited to medical journals, books, etc) to determine if these will prove valuable for their research.	Students work in groups whereas each group member has a specific role/task to fulfill in order to meet the group goal. Students/Groups manage time and resources to pursue topic to greater depth in order to gain the anticipated outcome. Students/Groups will evaluate progress and adjust/modify pacing accordingly.		

PLANNED LEARNING EXPERIENCES	
<i>(What will the teacher input? What will the students be asked to do? For clarity, please provide detailed instructions)</i>	

First Day Lesson (with Ice Breaker) of Two Day PBL Lesson (Note this PBL Lesson will extend over the course of two days).

Ice Breaker Activity:

“Move on Over”

(The “I have never” or “My favorite thing to ...” Game)

Students arrange seats in a large circle with some space between each seat so students can easily get in and out of their seats. Next, a student volunteer will move to the center of the circle with all other students seated (one seat less than the number of students).

The student will then introduce himself/herself by first name, draw a card that has a sentence starter on it to the effect of: "I have never". or "My favorite thing to" Next, the student will then complete the sentence. Now, all students to whom this statement applies as well quickly get out of their seats and change their seats at least two seats over to the right. The student in the center is now trying to claim one of the chairs while the change of seats is going on.

The last student standing (without a seat) will now go to the center and share his statement of "I have never" or "My favorite" .
(Examples: I have never ridden a bicycle.; My favorite sport to play is football.; I have never put my big toe into the Pacific Ocean.; I have never dipped my French Fries into honey.; My favorite TV Show is the "Big Bang Theory.; etc) Students play this ice breaker game for several rounds.

(Adapted from “Where the Wind Blows” Ice Breaker Game)

Engage and Connect - This phase focuses on piquing students' interest and helping them access prior knowledge. This is the introduction to the lesson that motivates or hooks the students.

Students are asked to exit the classroom to reenter the room minutes later with the lights off trying to find their original seats. The teacher will ask students to watch their steps as they enter the room (precaution as well as to raise anticipation). As students enter the teacher will observe students reentering and listen in on some of the comments made by students as they relocate their seats. Students will later, when working in groups or during discussion time) relate their experience to Jason (Subject in our PBL Lesson) as he was bumping into things.

Note: If the classroom does not get dark enough students will wear shades that will impact their vision to some degree but not entirely (that will be left for a later time during this camp).

Once seated, the teacher will initiate some responses inquiring why they (students)

were to enter the classroom with the lights off? Students are invited to share responses before introducing and discussing the problem below.

Just before sharing the problem students are divided into two groups of five and two groups of six (based on 22 participants) and then given the problem (based on the problem, students will take on the role of medical professionals at the Mooresfield Eye Hospital). Students are told that “they” have just had Jason and his parents visit “their” hospital, Mooresfield Eye Hospital, and are now left to return to the parents to discuss the outcome of the patient visit. Students are given the problem to read.

Problem

Gradual Loss

You are part of the optometrist team at Mooresville Eye Hospital and are examining eight-year old Jason who was brought in by his concerned parents, after a school nurse “picked up some problems” during a routine eye exam at his primary school. The nurse was not sure exactly what it was but felt a need for him to be seen by an eye specialist. Jason’s parents did initially not seem overly worried as they credited his tripping over toys and at times bumping into things to simply being clumsy. You also learned during the interview with his parents that he at times had difficulties reading off the blackboard in school. Otherwise Jason is like any other normal eight-year old. He loves basketball, watches television, and spends time with his friends. The problem you are faced with now is to, after examining Jason, return with the diagnosis of Jason’s eye condition. In addition, you are providing Jason and his family with coping strategies on how to adapt to the gradual loss of sight with the main goal being for Jason to lead a full and purposeful live with minimal or no dependency on others.

They will then reread problem statement and closely analyze it for “Facts” (What I know) and “Need to Know”. They will use chart paper and generate a list (graphic organizer) of “What I Know” on one side and “Need to Know” on the opposite side. Once each group generated their charts the groups come together sharing their “What I know” through the room; each group sharing at least one fact until “Facts’s” or “What I know” have been called.

Students will next finalize their “Need to Know” part on the chart (**See Note:* if they have not completed it yet or need to add something more after sharing the facts) in groups once more and come back to share those as well, calling on each group one at a time until all students have been called for their “Need to Knows”. The teacher will either provide needed information (if needed for students to proceed) or instruct students that those “Need to Knows” are part of the information they have to gather as they conduct their research.

**Note:* Students are given the freedom to choose on dividing their small group up into two smaller groups each tackling one of the two tasks (“What I know” and “What I need to know”) as to keep all students engaged during this first initial stage of analyzing the problem.

The teacher will draw students’ attention to the pre-lesson questions which are posted in the room as an additional resource keeping students centered and on task. It will also help students to remain focused and on task. Their first task will be to find answers to those questions to be then shared as a whole group by come back together for a brief discussion on what they have learned thus far. (It should not take students more than 30 to 45 minutes to answer those questions before coming back to share as a whole group. Any “Need to knows” that are answered during this preliminary study will be added to the chart they previously created and/or checked off. Students will utilize medical literature, articles, and online resources for their research.

Note: This will be a way to informally assess what students have learned as it leads into the next stage solving the problem and coming up with a solution. This will also be the time students should feel comfortable working together whereas they are now drawing on each other’s strengths designating roles within the group such as the researcher, recorder, designer, or whatever role they deem fit to help them solve or come up with the solution. One students will take on the role of the group leader that ensures that the time is utilized well and all group members are focused and on task working toward the common goal of coming up with an acceptable/approved solution to the problem by all group members.

Explore - *In this phase, the students have experiences with the concepts and ideas of the lesson. Students are encouraged to work together without direct instruction from the teacher. The teacher acts as a facilitator. Students observe, question, and investigate the concepts to develop fundamental awareness of the nature of the materials and ideas.*

Students are now working in groups/each member taking on a role within to help solve the problem. Taking what they know each will research and gather information based off what is on their “Need to Know” list. The teacher will facilitate groups and monitor the progress of their research asking questions (during the lesson questions) as students work on the problem. Furthermore, the teacher will, once students feel they know what Jason’s disease is, deliver an envelope with some more relevant information/facts about the disease to support their study/research.. The group leader will monitor/work closely with his group to ensure each member is on task, updated, and given opportunities to clarify or get the support needed within the group. They will restate the problem, analyze what they have learned thus far and how it will help them come up with a most likely solution to the problem. The group members will if necessary modify adjust tasks and responsibilities within the group as their goal is to collaboratively work together finding a solution to their given problem.

Explain - *Students communicate what they have learned so far and figure out what it means. This phase also provides an opportunity for teachers to directly introduce a concept, process, or skill to guide students toward a deeper understanding.*

Students will be able to communicate their understanding and growing knowledge about the issue by being able to directly relating it to Jason, as he is their primary focus of their study. Students must keep in mind that Jason’s problem progresses over time to which the solution has to adapt. As students work toward solving the problem they have to be able to communicate the limitations Jason faces over time yet how those can be overcome or compensated with the strategies provided by the group. Their study should provide Jason with strategies that will help him live a purposeful and productive live without or minimal limitations. Students on their part should also be able to communicate how they, as part of a group, collaborated and how their collaborative research produced reasonable solutions to the problem.

Elaborate —*Allow students to use their new knowledge and continue to explore its implications. At this stage students expand on the concepts they have learned, make connections to other related concepts, and apply their understandings to the world around them in new ways*

As the first day of the PBL lesson draws to a close, students will now come together and devise a plan on how they plan to meet and introduce Jason and his parents of their findings but and strategies on how to adapt to a life with the gradual loss of sight. Students should explicitly state in their proposal on how they will meet with to discuss their son’s diagnosis, how they will introduce/present effective strategies to Jason and his parents, state resources used, and how (pamphlet, chart, video, PowerPoint, modeled, use of aids,) it will be presented to Jason and his parents and be prepared responding to “their questions”. Students will also generate a list of materials/resources needed to present (to be fulfilled if possible). It will be essential that students keep their focus on being able to demonstrate how change necessitates adaptation (this should be evident not only on the final product but outline/plan after the first day’s lesson as well).

Students will come together and debrief discussing what new insight they have gained from this study and share their proposed plan on how they intend to meet with parents tomorrow (day 2). As students leave for the day they will write a reflective thought on what it be like to meet with Jason and his parents tomorrow sharing their findings.

Evaluate: *This phase assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.*

The students and teacher come together and reflect on what they have learned through the process solving this problem. The post lesson questions are primarily for students to reflect on challenges they encountered working on the problem today. As a teacher I have to consider also that there might be a student or students' that have personal connections to this problem and it may affected them or the way they approached the research. Students should reflect on what they learned from this case study thus far or where they might take it from here. The reflections should be based on what they have learned from their research today yet also lead to extend their thinking from the present research available to where it might head in the future. This debriefing session (informal assessment) should demonstrate students understanding how change necessitates adaptation and further prompt students to extend their understanding on the concept. Students will also address how they, as a group, anticipate the meeting with "Jason's parents" will go and what challenges they foresee sharing the news tomorrow in person.

This debriefing will be part of the first day and second day's lesson with the exception asking the post lesson questions on day 1 (unless the questions prove relevant).

TEACHER NAME		Lesson #
D'Souza		2
MODEL	CONTENT AREA	GRADE LEVEL
Problem Based Learning PBL		7
CONCEPTUAL LENS		LESSON TOPIC
Adaptation		Gradual transition into darkness
LEARNING OBJECTIVES (from State/Local Curriculum)		
7.L.1. Understand the processes, structures, and functions of living organisms that enable them to survive, reproduce, and carry out the basic functions of life. R.I.7.3. Analyze the interactions between individuals, events, and ideas in a text (e.ge. how ideas influence individuals or events, or how individuals influence ideas or events.) S.L. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, issues, building on others' ideas and expressing their own clearly. CCSS.ELA-Literacy.RST.6.8.9. Compare and contrast the information gained from experiments, simulations, videos, or multimedia sources with that gained from reading a text on the same topic.		
THE ESSENTIAL UNDERSTANDING (What is the overarching idea students will understand as a result of this lesson?)		THE ESSENTIAL QUESTION (What question will be asked to lead students to "uncover" the (Essential Understanding)
Change necessitates Adaptation		Why does change necessitate adaptation?
CONTENT KNOWLEDGE (What factual information will students learn in this lesson?)		PROCESS SKILLS (What will students be able to do as a result of this lesson?)
- Students will learn to know the difference between being visually impaired and blind. - Students will know how many people worldwide are either visually impaired, blind, and have low vision. - Students will be knowledgeable about causes (genetic and non-genetic) of visual impairments and blindness. - Students will know the cause of the disease, retinitis pigmentosa. - Students will know how retinitis pigmentosa impacts an individual's life, affected by the disease. - Students will know how to adapt living with RP without giving up independence or quality of due to the illness/disease. - Students will know effective strategies that work for individual with RP.		- Students will be able to take on an ill-structured problem analyze it and identify significant key elements in order to come up with a solution to the problem. - Students will collaborate as a group and discuss possible resources to help solve the problem. - Students will designate tasks and responsibilities onto group members, set and meet deadlines to measure progress. - Students will make predictions and generalizations on eye-diseases and conduct preliminary research to build a foundational understanding on illnesses that can affect sight either causing individuals being visually impaired, living with low vision, or blindness. - Students will, based on the problem use their research skills to learn about inherited eye-diseases that can cause blindness using credible sources. - Students will analyze the information and collaborate on action plans to communicate the illness to non-informed individuals in a meaningful and concise way. - Students will, based on what they learn and how it impacts a person suffering from RP, devise an action plan that will help individuals with retinitis pigmentosa make adequate changes with the least impact on the quality of life.

GUIDING QUESTIONS			
What questions will be asked to support instruction?			
Include both "lesson plan level" questions as well as questions designed to guide students to the essential understanding			
Pre-Lesson Questions:	During Lesson Questions:	Post Lesson Questions:	
- How has your understanding of being visually impaired vs. being blind changed or deepened since yesterday's study? - Based on what you have learned thus far, what implications does retinitis pigmentosa have on an individual? - How confident were you that your sources, of which you based your information off, were accurate, factual, and reliable? - What challenges did you encounter during yesterday's research on diagnosing Jason's eye disease and/ or working toward a solution for it; furthermore, how did you tackle those to keep moving forward?	- What are going to be some imminent or down the line changes in the life of Jason due to RP? - How will these changes affect him? - How will you demonstrate through your solution to the problem that change necessitates adaptation? - What criteria did you put in place to ensure to effectively communicate your "diagnosis and strategies dealing with RP with Jason's parents? - What were some of the changes you made after reviewing and evaluating your initial action plan from yesterday and why did you think those changes were necessary? - How can you prove that the strategies you provide allow Jason to live a purposeful live without the need or minimal dependency on others? - How will your group share the responsibility meeting with Jason and his parents to go over his medical diagnosis and the proposed strategies adapting to the disease?	- Based on this case why does change necessitate adaptation? - How would you rate your effectiveness communicating your study and coping strategies with Jason's parents? - What were some of questions asked by "Jason's parents and how were you able to respond to those? - How will you foresee Jason's future based on some of the strategies you provided for in order to live a purposeful and meaningful life without the need or minimal dependency on others? - What are you taking away from the learning experience over the last two days?	
DIFFERENTIATION			
(Describe how the planned learning experience has been modified to meet the needs of gifted learners. Note: Modifications may be in one or more of the areas below. Only provide details for the area(s) that have been differentiated for this lesson.			
Content	Process	Product	Learning Environment
Students are drawing from a variety of resources, and materials to generate the desired outcome for their study. Students will evaluate resources used (online resources, scholarly articles, pamphlets, and others) for their credibility, relevance and authenticity.	Students work in groups whereas each group member has a specific role/task to fulfill in order to meet the group goal. Students/Groups manage time and resources to pursue topic to greater depth in order to gain the anticipated outcome. Students/Groups will evaluate progress and adjust/modify pacing accordingly.	Students will demonstrate their understanding by disclosing Jason's debilitating eye disease to him and his parents along with strategies on how to make the necessary changes to adapt to this disease.	

PLANNED LEARNING EXPERIENCES

(What will the teacher input? What will the students be asked to do? For clarity, please provide detailed instructions)

Second Day of Two Day PBL Lesson (Note this PBL Lesson will extend over the course of two days).

Engage and Connect - *This phase focuses on piquing students' interest and helping them access prior knowledge. This is the introduction to the lesson that motivates or hooks the students.*

As student settle into their groups for their second day of class they will each find a poster with the question, "How has your understanding of being visually impaired vs. being blind changed or deepened since yesterday's study?", on it plus markers. Each student will use a different marker and write their response/s down. Give students a few minutes to do so and then call on students to share aloud. As students share, those that have the same responses on their posters check those off. This entire "engage" activity should take ten minutes at the most.

Next, students take a moment to reflect on the following questions as the will guide as a lead-in to getting back into their group study for the second day (culmination) of their PBL.

Questions to be asked eliciting student responses:

- Based on what you have learned thus far, what implications does retinitis pigmentosa have on an individual?
- How confident were you that your sources, of which you based your information off, were accurate, factual, and reliable?
- What challenges did you encounter during yesterday's research on diagnosing Jason's eye disease and/ or working toward a solution for it; furthermore, how did you tackle those to keep moving forward?

NOTE: Before moving on, the teacher will draw students' attention to a schedule on when they will meet with Jason's parents (posted on the board). The teacher will inform students that the meeting with Parents should not last no longer than 10 minutes the most. This will allow students to communicate with parents and parents asking questions if needed.

Next, students are rereading the problem and closely evaluating, their notes, their plan of action on how they will demonstrate their understanding in communicating the diagnosis of Jason's eye disease (retinitis pigmentosa) and find effective strategies adapting to the progressive nature of this disease.

Problem

Gradual Loss

You are part of the optometrist team at Mooresville Eye Hospital and are examining eight-year old Jason who was brought in by his concerned parents, after a school nurse "picked up some problems" during a routine eye exam at his primary school. The nurse was not sure exactly what it was but felt a need for him to be seen by an eye specialist. Jason's parents did initially not seem overly worried as they credited his tripping over toys and at times bumping into things to simply being clumsy. You also learned during the interview with his parents that he at times had difficulties reading off the blackboard in school. Otherwise Jason is like any other normal eight-year old. He loves basketball, watches television, and spends time with his friends. The problem you are faced with now is to, after examining Jason, return with the diagnosis of Jason's eye condition. In addition, you are providing Jason and his family with coping strategies on how to adapt to the gradual loss of sight with the main goal being for Jason to lead a full and purposeful live with minimal or no dependency on others.

As students review their initial plan they will consider following questions (given as a handout to each group):

- What are going to be some imminent or down the line changes in the life of Jason due to RP?
- How will these changes affect him?
- How will you demonstrate through your solution to the problem that change necessitates adaptation?
- What criteria did you put in place to ensure to effectively communicate your "diagnosis and strategies dealing with RP with Jason's parents?
- What were some of the changes you made after reviewing and evaluating your initial action plan from yesterday and why did you think those changes were necessary?
- How can you prove that the strategies you provide allow Jason to live a purposeful live without the need or minimal dependency on others?
- How will your group share the responsibility meeting with Jason and his parents to go over his medical diagnosis and the proposed strategies adapting to the disease?

Students will collaborate as a team and take a close look to see if all criteria they set forth to successfully execute their task of meeting and communicating with Jason's parents their son's deteriorating eyesight. If needed students will at this time modify and adjust their plan if necessary. Students revising their plan should be conscientious about the time (* Scheduled Meeting with Parents) available until their study concludes.

Explore - *In this phase, the students have experiences with the concepts and ideas of the lesson. Students are encouraged to work together without direct instruction from the teacher. The teacher acts as a facilitator. Students observe, question, and investigate the concepts to develop fundamental awareness of the nature of the materials and ideas.*

Students are working now in their groups to come up with strategies on how to live a meaningful life without or minimal limitations due to retinitis pigmentosa. Students have learned through their research study the previous day on how retinitis pigmentosa progresses over time and how it affects individuals. They should, if they have not done so, look further on how individuals have coped and adapted to their life with this disease and devise a realistic plan with strategies to which Jason can adapt to as he grows older. Students should be clear in communicating how his disease will progress, what he will likely be able to expect over time, and finally come up with effective strategies on how to adapt to living with RP without compromising independence but rather leading a productive live with little or no limitations due to the disease.

Note: Students will have access to or use of graphic organizers (time line, T-Charts, computer (google doc to create tables, etc), and questions to keep them focused/on task and organized.

The teacher will facilitate during this stage in their learning experience and refer back to the questions to keep students focused or lead students toward reevaluating their work/findings and as such taking a look at it from a different perspective in order to refocus on their goal or objective.

It is critical at this stage that students communicate with each other as they need to evaluate the strategies they found and intend to use for their final product.

Explain - *Students communicate what they have learned so far and figure out what it means. This phase also provides an opportunity for teachers to directly introduce a concept, process, or skill to guide students toward a deeper understanding.*

The students within the group come together at this point and critically evaluate the strategies they found and agreed upon once more to be most effective in helping an individual (in this case Jason) adapt to living a productive live within his community and environment while dealing with a progressive eye disease such as retinitis pigmentosa. Students should consider if these strategies are applicable, realistic, functional, and if they help improve the quality of life rather than limiting it. Students will also decide how they will compile their strategies how it will be presented to the parents (PowerPoint, Poster, Pamphlet, tools, etc).

Elaborate —*Allow students to use their new knowledge and continue to explore its implications. At this stage students expand on the concepts they have learned, make connections to other related concepts, and apply their understandings to the world around them in new ways*

Students will meet with Jason's parents (adult volunteers) as a group (medical team) whereas each student takes on a role during the meeting presenting to the parents what they have learned and share effective strategies they will be able to take back with them to help their son adapt to living with retinitis pigmentosa. Students will be prepared to respond to parents' questions. Students will likely relate to other concepts such as acceptance whereas it will be crucial for Jason and his family to accept the outcome of their study and students will likely address it while "talking" to Jason's parents. Students will through their study also learn that individuals dealing with this debilitating disease suffer through many emotional stages and as they communicate with Jason's parents they will show empathy and consideration to the emotional state of the individual.

Students should be knowledgeable and confident while presenting to "Jason's parents" and effectively demonstrate the strategies they believe will help Jason adapt to living with RP. The strategies should be clearly explained and/or illustrated. "Jason's parents" should be able to leave the meeting satisfied with the outcome of the study and have all their questions answered.

Process of the Scheduled Parent Meeting: Two groups at the time will meet with parents while others look on taking notes. It will be necessary to have two groups going at the same time due to the large number students (22) while the opposite groups observe. Ideally there will be two sets of "parents" however if not possible, the lesson will be modified whereas only one parent will be able to meet with the groups.

Directions:

One group at a time will meet with "Jason's parents" (based on the schedule, posted on the board) as the other groups look on and take notes on what they thought worked well and offer suggestions for improvement (Alpha/Delta). Students will use their observational notes during the debriefing/evaluating stage of the lesson.

Evaluate: *This phase assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.*

As the lesson has come to a close, students will respond back to the essential question based on what they have learned or observed during this two day lesson, "Why does change necessitate adaptation?" This experience also offers students with a wonderful opportunity to expand their understanding of this concept answering the essential question by drawing on other examples and on how it connects to other concepts within their environment or world.

Students share their responses by either responding based on the learning experience over the course of the last two days or extend it to new knowledge and how it applies to other concepts.

The next questions are part of the groups (all students come together) for a debriefing (closing) discussion which also serves as an informal assessment. Students are welcome during this time to share their notes as they tie in with all of the "post lesson questions".

- Based on this case why does change necessitate adaptation?
- How would you rate your effectiveness communicating your study and coping strategies with Jason's parents?
- What were some of questions asked by "Jason's parents and how were you able to respond to those?
- How will you foresee Jason's future based on some of the strategies you provided for in order to live a purposeful and meaningful life without the need or minimal dependency on others?
- What are you taking away from the learning experience over the last two days?

Assessment:

*As an assessment, taken from a different perspective, will be a letter from Jason's parents to Jason and their wishes for his future. The letter should **demonstrate** the parents understanding of their son's disease and what they see for his future based on the strategies they were given for helping Jason adapting to a life in darkness yet with the goal of being able to maintain his independence rather than being dependent on others.*

The assessment should demonstrate students understanding and acquisition of knowledge, communicating what they have learned and lastly demonstrating their essential understanding that change necessities adaptation.

Considering that time is of essence today, the emphasis will be on students moving through the stages reviewing/revising their initial plan from the previous day rather quickly and devote their time preparing for and meeting with parents. The parent meetings should be no longer than 7 to 10 minutes each (with two groups going at the same time). That would allot 20 minutes for the parent meetings with all four groups leaving the and remaining time for students to work on their study and debriefing afterward.

Performance Task:

You are part of an optometrist team that has been tasked to diagnose a young boy who has been referred to you by his school nurse. Your task will be to study this particular case and come up with a clear diagnosis of the child's condition given the facts you were provided and studies your team conducted. You will be asked to communicate your findings in a clear and concise matter to the child's parents along with strategies coping with the illness/condition. The challenge will be to not solely rely on parent information but conduct your own thorough study of this case using your professional knowledge as optometrists, along with current research and other patients' experience with this illness/condition to derive a diagnosis and effective strategies that will help Jason successfully adapt to the changes in his life as he matures in age. The diagnosis and strategies you provide in Jason's case must be clearly communicated to Jason's parents. Your success will rely on the parents being able to walk away confident and well informed about their son's medical condition. They should feel confident that they were given the best medical service available by a highly competent medical staff.

TEACHER NAME		Lesson #
D'Souza		3
MODEL	CONTENT AREA	GRADE LEVEL
Simulation	ELA	7
CONCEPTUAL LENS		LESSON TOPIC
Adaptation		Gradual transition into darkness
LEARNING OBJECTIVES (from State/Local Curriculum)		
R.I. 7. 3. Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events). S.L. 7.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. CCSS.ELA-LITERACY.RST.6-8.9 Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.		
THE ESSENTIAL UNDERSTANDING (What is the overarching idea students will understand as a result of this lesson?)		THE ESSENTIAL QUESTION (What question will be asked to lead students to "uncover" the Essential Understanding)
Change necessitates Adaptation		Why does change necessitate adaptation?
CONTENT KNOWLEDGE (What factual information will students learn in this lesson?)		PROCESS SKILLS (What will students be able to do as a result of this lesson?)
- Students will be knowledgeable about and know what life will be like suffering from retinitis pigmentosa. - Students will know what it feels like to move within an environment while being "visually impaired". - Students know to differentiate between dependence and independence. - Students will know what services and resources are available for individuals with visual impairment. - Students will know what employment opportunities are presently available for individuals with visual impairment. - Students know the difference between empathy and pity.		Students will be able to: - Students will use their deep understanding and respect for individuals with disabilities to learn how it impacts their lives. - Students will increase their awareness to empathize with individuals with disabilities and also empathize with their need for independence. - Students will be able to, based on the employment opportunities available for visually impaired individuals, evaluate the extent in which these opportunities promote independence for the individual seeking that position. - Students will be able to use their problem solving and reasoning skills to create a working environment suitable for visually impaired individuals that challenges and enriches the individuals intellectually and most importantly promotes independence.

GUIDING QUESTIONS

What questions will be asked to support instruction?

Include both "lesson plan level" questions as well as questions designed to guide students to the essential understanding

Pre-Lesson Questions:	During Lesson Questions:	Post Lesson Questions:
- What does visually impaired mean? - What might be some challenges a visually impaired person deals with on a day to day basis? - What is your first reaction when you come into close proximity of a visually impaired individual? - What kind of support is available for visually impaired individuals? - What will your list of jobs look like that you see a visually impaired person being able to do and jobs that they can't? - How does the law protect individuals with visual or other impairments?	- Based on the list (jobs that students believe a visually impaired person can't do) why do you think these jobs are not attainable for visually impaired individuals? - How can you modify these jobs to make them suitable for visually impaired individuals? - What are some challenges you are encountering while creating a working environment for a visually impaired person? - What are some revelations or insight that you are gaining from this experience? - What are some precaution that you need to consider in order to ensure the safety of visually impaired "employees". - What are some safety measures that you need to consider for the guests/customers? - What are the employer's responsibilities toward employees with disabilities?	- What was your greatest challenge creating a working environment for visually impaired individuals? - How did this real life experience increase your understanding on how change necessitates adaptation? - How did this experience as a "visually impaired individual" change your perception on their abilities performing in the workplace? - How could you realize/translate this simulation into the real world? - What were some of the challenges ensuring the safety of the "employees" and guests/customers? - How have you ensured that the individual's right within the workplace are ensured/protected?

DIFFERENTIATION			
(Describe how the planned learning experience has been modified to meet the needs of gifted learners. Note: Modifications may be in one or more of the areas below. Only provide details for the area(s) that have been differentiated for this lesson.			
Content	Process	Product	Learning Environment
	Students will need to apply their research, problem solving and collaborative skills to see how it would translate into real life situation. Students will need to understand and consider the implications it will have on individuals dealing with impairment.	Students will be actively involved designing/staging and enacting in a simulation that they created for themselves and their peers to participate in.	
PLANNED LEARNING EXPERIENCES			
(What will the teacher input? What will the students be asked to do? For clarity, please provide detailed instructions)			
This lesson will be over the course of two days. Day one (today) will be the Orientation and Training Phase. Day 2 will be the Operation and Debriefing phase. Engage and Connect - This phase focuses on piquing students' interest and helping them access prior knowledge. This is the introduction to the lesson that motivates or hooks the students. <i>"Fast forward, twelve years later, Jason is all grown up". As students enter the room they will see the image of a young man on the screen ("Jason", however, this will not be disclosed to students but rather serve to have students ponder who that person in the image might be.) Note: The image is a photo of my son Sean (attached to the end of this file).</i> Upon entering the room, students will each get an envelope (not to be opened) to take back into the room. As they enter the room they will see the image of a young man on the board and engage probably in some conversation trying to figure out who it is while at the same time settling into their seat. Once all have arrived students will open their envelope and find their matches (matching images – sets of four, this however depends on the number of students). Students will go and find their group members and get ready for what's next. <u>Orientation Phase</u> Next, each group will get a <i>question to ponder with, pre-lesson questions (first 4, see below). Students have about three to four minutes to interact with each other answering the question before responding. Each group will choose a "spokesperson to share their response with the whole group/class.</i> Students will restate the question and then go on and answer the questions. The teacher will provide all students the opportunity at the end to add any thoughts or responses (questions will be visible/posted on the board for students to see). <u>Questions:</u> - What does visually impaired mean? - What might be some challenges a visually impaired person deals with on a day to day basis? - What is your first reaction when you come into close proximity of a visually impaired individual? - What kind of support is available for visually impaired individuals? - Create a list with your group of jobs that you see a visually impaired person being able to do and jobs that they can't that are service oriented.			

The teacher will now bring students attention back to the picture from earlier (which purposely has been ignored until this moment) as it appears on the screen along with an update on Jason's progression of retinitis pigmentosa.

Update on Jason (PBL Lesson from the two previous days)

Time fast forward,

12 years later Jason is now twenty years old and lost 90 percent of his eye sight due to retinitis pigmentosa. He has a small studio at his parent's house but lives for the most part independent. Jason is socially very active with lots of friends. This past year however was especially difficult as his vision deteriorated rather rapidly. He knows it will be just a matter of time before he loses all of his sight. He just finished school and is looking for a job that is service oriented as he loves the interaction with people. His dream has always been to manage or work in a restaurant but he feels that is no longer attainable for him? What do you think? What would be a suitable job for him that would enrich him and also satisfy his need for independence?

Next, the groups are asked to brainstorm job (creating a list) that visually impaired individuals would be able to do compared to jobs that they believe are "unattainable" due to their disability. While collaborating on the list students refer back to the questions (pre-lesson questions). See below:

Task: Create a list with your group of jobs that you see a visually impaired person being able to do and jobs that they, based on your opinion, won't be able to perform. Next, partner up within your groups and engage in a brief research looking for current job opportunities available for visually impaired individuals.

Opportunities for Visually Impaired Individuals	
Jobs suitable for Employment Individuals with a Visual Impairment	Jobs <u>not</u> suitable for Individuals with a Visual Impairment

Once groups have created their list (five minutes the most) they will then engage in a brief research online looking at employment opportunities available for individuals with visual impairment. (Students will partner up for another ten minutes the most and then come back together for a brief whole class discussion sharing their notes / information).

Based on the list (jobs that students believe a visually impaired person can/can't do) why do you think these jobs are not attainable for visually impaired individuals? How could these jobs be modified in order to make them suitable for a visually impaired individual?

Next, the teacher/facilitator will now inform students that they need to re-evaluate their list and choose a job from the "**Job's not suitable**" side and modify it so it will become suitable for visually impaired individuals.

Explore - In this phase, the students have experiences with the concepts and ideas of the lesson. Students are encouraged to work together without direct instruction from the teacher. The teacher acts as a facilitator. Students observe, question, and investigate the concepts to develop fundamental awareness of the nature of the materials and ideas.

Training Phase

In this phase of the simulation, groups will take a job they initially thought not to be suited for visually impaired individuals and adapt it so it **WILL** become a suitable working environment for the visually impaired.

Note: Students will later engage Thursday in a simulation during the operational phase working in a service oriented working environment while being “visually impaired”.

Students will

- choose a job and provide specific job descriptions
- craft and design a realistic service oriented workplace (for the specified job) (* detailed list of materials, resources needed for the simulation on Day 2)
- train “visually impaired individuals” for the job (which tasks students to learn and teach the skills necessary for the job to the “employee”
- create a list stating the safety measures in place to ensure the safety of the employee and customers
- state explicit expectations for the customer (members of the other groups).
- write as a group a brief synopsis describing and state their anticipated outcome for the simulation (which will be later followed up with a reflection after the simulation)

Students will work collaboratively in their groups creating a job, design and create a realistic work place/work environment. They will track their progress on a “Simulation Planning Sheet” to keep on course planning out the simulation. **Students’ focus throughout planning this simulation should be that adaptation shapes independence and that as such should be visible to the individuals taking on the role of the “visually impaired” as well as all others taking part in the simulation.**

Simulation Planning Sheet		
Task / Action/ Role	Rationale	Modification

Explain - Students communicate what they have learned so far and figure out what it means. This phase also provides an opportunity for teachers to directly introduce a concept, process, or skill to guide students toward a deeper understanding.

As this is a simulation students will now use their design/plan and create the working environment they envisioned for their simulation and practice. Once they created their set (workplace), group practice the role of the “visually impaired” as they have to learn how to maneuver and become familiar with their

“working environment as they train for the job”. Students will wear darkened glasses and/or eye masks to make the learning experience more realistic.

Students will have created a detailed list of materials, resources needed (within reason) for the simulation which must be turned in at the end of the lesson in order to have everything in place for the simulation on Thursday along with their synopsis about their simulation.

Elaborate —*Allow students to use their new knowledge and continue to explore its implications.*

While students create their set for the simulation and practice, they will experience the challenges and implications on being visually impaired. Students are encouraged to share their thoughts during this stage of the training phase.

Evaluate: *This phase assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.*

Students will create a detailed list of materials, resources needed (within reason) for the simulation which must be turned in at the end of the lesson in order to have everything in place for the simulation on Thursday along with their synopsis about their simulation.

An informal assessment for today’s lesson will be the synopsis allowing students to communicate what they have learned and how they applied their new learned knowledge through the design of the simulation. Another informal assessment will be the Simulation Planning Sheet which will further show how students use deeper understanding as they develop their simulation, rationalize, and make modification as necessary to ensure a positive learning experience that for all students included.

TEACHER NAME			Lesson #
D'Souza			4
MODEL	CONTENT AREA	GRADE LEVEL	
Simulation	ELA	7	
CONCEPTUAL LENS		LESSON TOPIC	
Adaptation		Gradual transition into darkness	
LEARNING OBJECTIVES (from State/Local Curriculum)			
R.I. 7. 3. Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events). S.L. 7.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 7 topics, texts, and issues, building on others' ideas and expressing their own clearly. <u>CCSS.ELA-LITERACY.RST.6-8.9</u> Compare and contrast the information gained from experiments, simulations, video, or multimedia sources with that gained from reading a text on the same topic.			
THE ESSENTIAL UNDERSTANDING (What is the overarching idea students will understand as a result of this lesson?)		THE ESSENTIAL QUESTION (What question will be asked to lead students to “uncover” the Essential Understanding)	
Change necessitates Adaptation		Why does change necessitate adaptation?	
CONTENT KNOWLEDGE (What factual information will students learn in this lesson?)		PROCESS SKILLS (What will students be able to do as a result of this lesson?)	
- Students will be knowledgeable about and know what life will be like suffering from retinitis pigmentosa or being visually impaired. - Students will know what it feels like to move within an environment while being “visually impaired”. - Students know the meaning of independence and dependency. - Students will know why it is essential to accommodate visually impaired (essentially individuals of all impairments) in public, working, and private environments. - Students will know how being visually impaired affects individuals in every-day life. - Students will be knowledgeable about the laws and rights of individuals with disabilities living in the State of North Carolina		Students will be able to: - Students will empathize with disabled individuals based on first-hand knowledge/experience on how a disability impacts lives. - Students will use their understanding and awareness of living with a disability to support those within their community so they can adapt to a life that fosters independence and self-reliance rather than being dependent on others. - Use their problem solving and reasoning skills to create an environment suitable for visually impaired individuals. - Students will be able to design/modify/ and evaluate environments as to make them suitable for visually impaired people to move within. - Students will know how to interact with and support visually impaired individuals.	

GUIDING QUESTIONS			
What questions will be asked to support instruction?			
Include both "lesson plan level" questions as well as questions designed to guide students to the essential understanding			
Pre-Lesson Questions:		During Lesson Questions:	Post Lesson Questions:
- What will be the greatest challenge for a visually impaired individual in the workplace? - What were some modifications you had to have in place to make sure your simulation will communicate a sound understanding on how change necessitates adaptation for visually impaired individuals? - What will most likely be your biggest challenge as you prepare to set up your simulation demonstrating how change necessitates adaptation? - What are some modifications in place in case you encounter problems during the simulation?		The questions during this phase will be during the simulation and will likely based be on observations and/or to clarify what is happening. Further, questions will also be directed on individuals during the simulation commenting or reflecting on the experience. - How prepared do you feel on demonstrating how change necessitates adaptation in your simulation? - How well are you being supported by your team (co-workers) performing your work? - How will "your customers" see that change necessitates adaption for a visually individual in the work place? - What do believe will be your greatest challenge in performing your work?	- What changes did you experience during this simulation taking on the role of a visually impaired individual compared to navigating without any visual impairment? - How do you think you adapted to those changes? - How well were you able to adapt to the changes in working and navigating in a workplace being "visually impaired?" - What impact did this experience of working in the world of a visually impaired individual have on you? - What adaptations did you feel were most critical to ensure success and which impacted you the most? - Based on what you learned over the course of these last few days along with the simulation, why does change necessitate adaptation?
DIFFERENTIATION			
(Describe how the planned learning experience has been modified to meet the needs of gifted learners. Note: Modifications may be in one or more of the areas below. Only provide details for the area(s) that have been differentiated for this lesson.			
Content	Process	Product	Learning Environment
	Students will use simulation as a tool to understand and relate how visual impairment impacts individuals and how they adapt to situations and settings.	Students will design/stage/and interact in an environment they created as part of a simulation to experience how individuals with a visual impairment adapt to their environment.	

PLANNED LEARNING EXPERIENCES

(What will the teacher input? What will the students be asked to do? For clarity, please provide detailed instructions)

This will be Day two or Part two of the Simulation Lesson which will conclude today as it leads into the Operation and Debriefing phase (Day One was the Orientation and Training Phase).

Engage and Connect - This phase focuses on piquing students' interest and helping them access prior knowledge. This is the introduction to the lesson that motivates or hooks the students.

The teacher will have chairs in a circle and invites students as they come in to join the informal discussion on challenges of impaired individuals in the workplace, considerations they have had to consider while developing/planning their simulation for later in the day, and possible challenges they might need to consider or might anticipate and how they plan/if/ for unforeseen situations. This discussion serves as a forum for students to come together share/exchange ideas before heading back into their groups and getting ready to set up the simulations.

Questions leading the informal discussion at the beginning of the lesson. These questions will be inside an envelope outside the classroom door. Each student will grab an envelope (directions are given that state to join the discussion circle/forum) after entering the room.

- **What will be the greatest challenge for a visually impaired individual in the workplace?**
- **What were some modifications you had to have in place to make sure your simulation will communicate a sound understanding on how chance necessitates adaptation for visually impaired individuals?**
- **What will most likely be your biggest challenge as you prepare to set up your simulation demonstrating how change necessitates adaptation?**
- **What are some modifications in place in case you encounter problems during the simulation?**

After the discussion (brief, no longer than ten minutes the most), students will take their chairs back to their groups and move into the operational stage of the lesson. The teacher will direct students to review/reflect, based on the earlier discussion, on their plan, make last minute revisions and start to execute their plan setting up the simulation. The working environment created by students for this simulation should clearly demonstrate modification made/and justifications for doing so as a mean to demonstrate its necessity to create a safe working environment for visually impaired individuals. It should further demonstrate how visually impaired individuals adapt to work/navigate within their working environment. Each group is given a time on when their simulation is taking place. There will be four groups and each will have fifteen minutes for their simulation.

Note: Schedule below will be modified based on the actual start time/end time of daily schedule)

Allotted Time	Group 1 (5 students)	Group 2 (five students)	Group 3 (six students)	Group 4 (six students)
10 minutes	Informal Discussion/Forum during arrival for 10 minutes			
20 minutes	Review and necessary revisions to Simulation (changes noted on the Simulation Planning Sheet)			
20 minutes	Setting the Room/ Area up for the Simulation			
Simulation Session 1 (15 minutes)	Employees	Customers	Employees	Customers
Transition 20 minutes	Employees (Group 1 and 3) clean up and reflect on their experience (written reflections) while Group 2 and 4 are setting up the room/area for their simulation			
Simulation Session 2 (15 minutes)	Customer	Employees	Customer	Employees
Transition 15 minutes	Employees (Group 2 and 4) clean up and reflect on their experience (written reflections) while group 1 and 3 reflect on the overall experience (comparing the experience being customer vs. employee)			
Approx. 30 minutes	Debriefing			

Explore - *In this phase, the students have experiences with the concepts and ideas of the lesson. Students are encouraged to work together without direct instruction from the teacher. The teacher acts as a facilitator. Students observe, question, and investigate the concepts to develop fundamental awareness of the nature of the materials and ideas.*

After the discussion (brief, no longer than ten minutes the most), students will take their chairs back to their groups and move into the operational stage of the lesson.

Students will review their plan, and based on earlier discussion as a whole group make last minute modification to their simulation design/plan. These changes must be noted on the Simulation Planning Sheet (which was turned in the previous day and returned to students today as they resumed their lesson).

Next, based on the schedule Groups 1 and 3 start to set up the room/area for their simulation. They will gather all the resources needed (as requested on the previous day) and be prepared to start at the designated time. Groups 2 and four will use this time to make sure they are prepared as well and ready to set up when their time comes.

Students' task, as outlined in their design, will be to create an authentic work environment that they will navigate in while interacting with customers. There will be two simulation sessions whereas group one will interact with group two taking on the role of employee and customer which they will then switch during the second session. The same will be true for group 3 and four. Students will adhere to the schedule posted at which each session will last 15 minutes with a 20 minutes transition time for cleaning up/reflecting/and setting up for session 2 (see schedule above).

Teachers will informally engage with students asking questions as to inquire on the progress of the simulation.

- **How prepared do you feel on demonstrating how change necessitates adaptation in your simulation?**
- **How well are you being supported by your team (co-workers) performing your work?**
- **How will "your customers" see that change necessitates adaption for a visually individual in the work place?**
- **What do believe will be your greatest challenge in performing your work?**

It will be important to keep this very low key and informal in appearance/approach as to not interfere with the simulation in progress. This is where students will have the opportunity to immerse into the experience and take an abstract concept and make it concrete being immersed into a simulated "real life" experience having to adapt to an environment that seems foreign due to "loss of sight". Student will gain first-hand experience how change (not being able to see) necessitates adaptation.

Note: Students' reflections after the simulation will hopefully warrant some deep reflective thoughts, responses as they provide insight or new-found perspective on how life is altered due to the loss of sight yet how the body/mind finds ways to adapt.

As students end the first simulation, group 1 and 3 will quickly clean up their area and make room for group 2 and four to set up for their simulation. Meanwhile, after cleaning up, group 1 and 3 reflect on their experience onto poster board posted within the room. Students will each have a different marker and write reflective statements, observations, and thoughts they want to share. Group 2 and 4 will do the same after session 2. Students will prior to debriefing take a brief gallery walk reading each other's thoughts/reflective statements. These thoughts will lead into the debriefing afterward.

Explain - Students communicate what they have learned so far and figure out what it means. This phase also provides an opportunity for teachers to directly introduce a concept, process, or skill to guide students toward a deeper understanding.

Students are given time and opportunity to share their thinking and what they have learned from this experience.

How well were you able to adapt to a working environment for visually impaired individuals? Students will share their reflective notes/what they have posted on the posters or further even reflect on thoughts of others based on commonality or how their experience differed. Students want to reflect on how individuals with visual impairment adapting to change differs from their own experience today.

Elaborate —Allow students to use their new knowledge and continue to explore its implications.

After all groups have had an opportunity to lead a simulation it will be time to come back together and debrief. As mentioned above, students will come together after a brief gallery walk reading each other's thoughts and reflections on the simulation. Students are now responding to following questions (post lesson questions):

- What changes did you experience during this simulation taking on the role of a visually impaired individual compared to navigating without any visual impairment?
- How do you think you adapted to those changes?
- How well were you able to adapt to the changes in working and navigating in a workplace being "visually impaired"?
- What impact did this experience of working in the world of a visually impaired individual have on you?
- What adaptations did you feel were most critical to ensure success and which impacted you the most?
- Based on what you learned over the course of these last few days along with the simulation, why does change necessitate adaptation?

Evaluate: This phase assesses both learning and teaching and can use a wide variety of informal and formal assessment strategies.

Informal assessment is based on students' **Simulation Planning Sheet** outlining the details of the planned simulation, roles of students, expected/anticipated outcome of the simulation, revisions (recorded), and reflective responses post simulation. Students will as a group state their essential understanding from this learning experience. Each group will state and share their essential understanding post it onto the board to share.

Performance Task:

Your challenge is to create a real life setting to simulate how visually impaired individuals adapt to change or in other words demonstrate how change necessitates adaptation. You are stepping into the role of a visually impaired individual and simulate how to navigate and move in a visual world or working environment while being visually impaired. You will take on the role of an employee and demonstrate to your "customers/guests" that individuals with impairment (in this case visual impairment) will be able to adapt when given opportunities and support. The challenge of this task will be to successfully demonstrate how you adapted as an individual in the given situation during the simulation furthermore communicate what adaptations proved most challenging and/or successful. You will develop this simulation so that you can experience how change necessitates adaptation but also communicate it to others. The simulation will be used to evaluate your successful execution of the demonstrating how change necessitates adaptation and further demonstrate how change is met. through adaptation (during simulation and afterward during debriefing while reflecting on the experience).

Day 1 Ice Breaker Activity:

“Move on Over”

(The “I have never”. or “My favorite thing to ...” Game)

Students arrange seats in a large circle with some space between each seat so students can easily get in and out of their seats. Next, a student volunteer with move to the center of the circle with all other students seated (one seat less than the number of students).

The student will then introduce himself/herself by first name, draw a card that has a sentence starter on it to the effect of: “I have never ...”. or “My favorite thing to ...”. Next, the student will then complete the sentence. Now, all students to whom this statement applies as well quickly get out of their seats and change their seats at least two seats over to the right. The student in the center is now trying to claim one of the chairs while the change of seats is going on.

The last student standing (without a seat) will now go to the center and share his statement of “I have never ...” or “My favorite ...”. (Examples: I have never ridden a bicycle.; My favorite sport to play is football.; I have never put my big toe into the Pacific Ocean.; I have never dipped my French Fries into honey.; My favorite TV Show is the “Big Bang Theory.”; etc) Students play this ice breaker game for several rounds.

(Adapted from “Where the Wind Blows” Ice Breaker Game)

Problem

Gradual Loss

You are part of the optometrist team at Mooresville Eye Hospital and are examining eight-year old Jason who was brought in by his concerned parents, after a school nurse “picked up some problems” during a routine eye exam at his primary school. The nurse was not sure exactly what it was but felt a need for him to be seen by an eye specialist.

Jason’s parents did initially not seem overly worried as they credited his tripping over toys and at times bumping into things to simply being clumsy. You also learned during the interview with his parents that he at times had difficulties reading off the blackboard in school. Otherwise Jason is like any other normal eight-year old. He loves basketball, watches television, and spends time with his friends. The problem you are faced with now is to, after examining Jason, return with the diagnosis of Jason’s eye condition. In addition, you are providing Jason and his family with coping strategies on how to adapt to the gradual loss of sight with the main goal being for Jason to lead a full and purposeful live with minimal or no dependency on others.



Opportunities for Visually Impaired Individuals

Jobs suitable for Employment Individuals with a Visual Impairment

Jobs not suitable for Individuals with a Visual Impairment

[illegible]

Simulation Planning Sheet

[illegible]

Simulation Schedule Day 4

Allotted Time	Group 1 (5 students)	Group 2 (five students)	Group 3 (six students)	Group 4 (six students)
10 minutes	Informal Discussion/Forum during arrival for 10 minutes			
20 minutes	Review and necessary revisions to Simulation (changes noted on the Simulation Planning Sheet)			
20 minutes	Setting the Room/ Area up for the Simulation			
Simulation Session 1 (15 minutes)	Employees	Customers	Employees	Customers
Transition 20 minutes	Employees (Group 1 and 3) clean up and reflect on their experience (written reflections) while Group 2 and 4 are setting up the room/area for their simulation			
Simulation Session 2 (15 minutes)	Customer	Employees	Customer	Employees
Transition 15 minutes	Employees (Group 2 and 4) clean up and reflect on their experience (written reflections) while group 1 and 3 reflect on the overall experience (comparing the experience being customer vs. employee)			
Approx. 30 minutes	Debriefing			

Parent / Medical Team Meeting ___ Dr. ___ and his Medical Team ___ Dr. ___ and Associates ___ Dr. ___ and his Medical Team (Check which Medical Team is observed)		
Questions	Rating	Comments
How would you rate the medical team's knowledge on retinitis pigmentosa / RP and their preparedness meeting with Jason's parents?		
How effective was the team presenting the parents with strategies to help their son dealing with retinitis pigmentosa /RP?		
How effective was the medical team in responding to questions from Jason's parents?		
How would you rate Jason's parents' confidence in the medical team?		
What were some strengths observed by the medical team?		
Parent / Medical Team Meeting ___ Dr. ___ and his Medical Team ___ Dr. ___ and Associates ___ Dr. ___ and his Medical Team (Check which Medical Team is observed)		
Questions	Rating	Comments
How would you rate the medical team's knowledge on retinitis pigmentosa / RP and their preparedness meeting with Jason's parents?		
How effective was the team presenting the parents with strategies to help their son dealing with retinitis pigmentosa /RP?		
How effective was the medical team in responding to questions from Jason's parents?		
How would you rate Jason's parents' confidence in the medical team?		
What were some strengths observed by the medical team?		

Rating Scale: 5 (Superior) 4 (Strong) 3 (Good) 2 (Acceptable) 1 (Weak)

Reflection

Write a brief reflection on you experience being the customer of

Key points to address:

How was the customer service?

Who provided you with the service?

Does this business offer a safe working environment for visually impaired individuals?

Why does change necessitate adaptation? How does it relate to the working environment?

Write your response in the space below.

Online Resources

<http://www.blindness.org>

Foundation for fighting Blindness

This website is a wonderful resource leading into researching visual impairment providing links learning more about research in the field of vision impairment. It is further a great access point starting research into visual impairment and finding the appropriate support

<http://www.afb.org>

American Foundation for the Blind

This website proves a wonderful resource leading into advocacy and supporting visually impaired individuals as well as gaining insight and resources coping with it.

<http://www.nfb.org>

National Federation of the Blind

This site proves very helpful for students learning more about occupations held by visually impaired individual. This source is a great way to go to after students had time pondering with initial ideas on employment opportunities available for visually impaired individuals.

<http://www.visionlossresources.org>

Vision Loss Resources

This website provided students with access to learn more about individuals and their experience living with visual impairment. The site is a site offering visual impaired individuals with support and strategies coping with it. It was a site that student spent some time researching and reading to become more familiar with how individuals coped and also to draw inspiration (...coming from a student).

<http://www.familyconnect.org>

For Parents with visually impaired children

This site is especially helpful to students as it helps connect this disease to their case study and therefore making it more relevant. Valuable insight for students studying about eye disorder and diseases as well as adults coping with it.

<http://www.nclabor.com>

North Carolina Department of Labor

This website allowed students to access the North Carolina Department of Labor and learn about Equal Employment Opportunities, Employee's rights, wages, and more. Information for the site was also printed to make it accessible to students.

Books

Henry, J. (2012). Retinitis pigmentosa: causes, tests, and treatments.

Insight on the causes, tests, and treatments of retinitis pigmentosa. Also relates to other diseases related to RP along with sharing information on notable individuals suffering from RP.

Abel, R. (2004). The eye care revolution: prevent and reverse common vision problems. New York: Kensington Books.

Comprehensive resource on most eye-diseases listing symptoms, prevention and care. Very clinical but valuable resource to look up relevant information pertaining retinitis pigmentosa.

Barnes-Svarney, P., & Svarney, T.E. (2016). The handy anatomy answer book: includes physiology. Detroit, MI: Visible Ink Press.

Human anatomy with visual representation and description of the anatomy of the eye, relevant in content and offers visual support enhancing the study.

Shoemaker, W.T., & Swan, J.M. (1909). Retinitis pigmentosa, with an analysis of seventeen cases occurring in deaf-mutes. Philadelphia: Lippincott.

History, anatomy and pathological characteristics of retinitis pigmentosa. Very clinical yet informative looking at some very specific cases of retinitis pigmentosa.

Houston, R., smith, V., Temple, N., & Clifton, M. (2016). How the body works. NY, NY:DK Publishing

Human anatomy with lots of visual representation including the human eye, however limited in content. Yet, visual representation of the human eye with diagrams and detailed explanation provides a valuable resource for visual learners.