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Move, Interact, and Connect Personally

Barter Theatre's Project REAL Pedagogy Gets Implicit In Order To Learn

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A thesis

presented to

the faculty of Graduate Studies

East Tennessee State University

In partial fulfillment

of the requirements for the degree

Master of Arts in Liberal Studies

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by

Megan Atkinson

May 2015

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Dr. Virginia Foley

Dr. Joseph Baker

Mr. Bobby Funk

Dr. Marie Tedesco

Key Words: Theatre, Theatre for education, Educational Psychology, Implicit Learning, Movement, Social interaction, Self-Reflection, Embodiment

## ABSTRACT

Move, Interact, and Connect Personally

Barter Theatre's Project REAL Gets Implicit In Order To Learn

by

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Body movement, hands-on activity, embodiment, social interaction, emotions, and self-reflection allow teaching artists of Barter's Theatre's Project REAL to conduct a lesson with an implicit learning experience as the focus. Barter Theatre's Project REAL exists as a theatre for education program that collaborates with regular classroom teachers on delivering the curriculum through specific theatre exercises in order to connect the material personally to the students' lives. Theatre tools provide a human experience that enhances learning for the student by use of kinesthetic movement, social learning, emotions and interpersonal skills. To understand the effects of Barter Theatre's Project REAL, the director and teaching artists collected interviews with teachers, administrators, and students. Teaching artists also conducted pre and post assessments and end of the semester surveys with classes. This study aims to give insight to the results of Project REAL's pedagogy as well as the strengths and weaknesses of the program.

## ACKNOWLEDGMENTS

I would first like to thank Richard Rose and Barter Theatre for taking a risk on a new theatre-for -education program. Without Barter's support, Project REAL would not exist. Also, a special thanks goes to all of the participating schools of Project REAL for their collaboration and willingness for us to serve their students with a different perspective. To Dr. Virginia Foley, Dr. Joseph Baker, Dr. Marie Tedesco, and Bobby Funk, thank you for your guidance through this extensive process. Thank you to my loved ones who have been patient through this process as well because you kept me sane. I owe you all.

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## CHAPTER 1

### INTRODUCTION

Creating successful citizens who contribute to society starts with a child's education. The goal of education is to focus on educating each child to prepare him or her for the "next level." Phillip C. Schlechty states, "The teacher's job is then to ensure that the students' performances optimize the prospect that they will learn what they need in order to participate effectively in American culture, economic, and civic life."<sup>1</sup> According to the former principal of Abingdon High School in Abingdon, Virginia, Barter Theatre's Project REAL helps prepare students to participate effectively as American citizens. Administrator One says, "This is another one of those programs that helps keep those students sometimes that don't stay engaged, engaged. And ultimately, we graduate more kids prepared and ready to move on to the next level."<sup>2</sup>

Project REAL stands for Reinforcing Education through Artistic Learning. Basically, REAL is a way of saying the teaching artists use specific theatre techniques to teach any discipline by helping the students make a physical, personal, and/or emotional connection to the material they need to learn. Even though this theatre for education program succeeds in helping students move on to the next level in their academics and as functioning citizens, the program's use of theatre techniques to teach any discipline might hinder students who want to learn more details of any given discipline through that discipline's proper discourse. Despite this particular limitation, Barter Theatre's Project REAL serves as a brain-based pedagogy that focuses on implicit learning, which means students learn the curriculum through everyday life, hands- on

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<sup>1</sup> Phillip C. Schlechty, *Engaging Students The Next Level of Working on the Work* (San Francisco, CA: Jossey-Bass, 2011), 4.

<sup>2</sup> Administrator 1, *Project REAL*, DVD, Barter Theatre (Abingdon, VA; October 8, 2012), 2:50-3:00.

activities, as well as social interaction, movement, and self-reflection as ways to tap into the students' emotional lives to make the material personal to them<sup>3</sup>.

As I examined the characteristics and connections between implicit learning and theatre, I asked the following research questions: What constitutes brain-based pedagogy? How do humans learn? What helps one's brain to learn? What does it mean to learn implicitly? What makes an implicit learning experience? Does the education system in the United States use techniques to teach based on how the brain learns and retains material? Do all brains learn in the same? What are the important characteristics of creating theatre? Can theatre techniques apply to brain-based teaching? Are the practices of theatre for education valuable tools for educators to use in their classrooms? Is there a strong correlation between theatre tools and learning? How does Barter Theatre's Project REAL help students learn? These are questions that keep coming up in the endeavor to prove why Project REAL, a theatre for education program, aids in a student's learning and success in moving on to the next level as a functioning citizen.

To answer all of these important questions, I found it necessary to use sources written by scholars in different disciplines as well as theatre assists my specific argument. Allen F. Repko states, "The primary focus of the second part of the research process is to utilize the contributions of the disciplines to create common ground between these insights, integrate them, produce a new understanding, and test it."<sup>4</sup> To explain the main argument, the perspectives and common grounds among theatre, education, and educational psychology need to be examined.

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<sup>3</sup> Megan Atkinson. Barter Theatre. <http://www.bartertheatre.com> (accessed March 1<sup>st</sup>, 2014).

<sup>4</sup> Allen F. Repko, *Interdisciplinary Research: Process and Theory* (Thousand Oaks, CA: Sage, 2008), 39.

Through interdisciplinary research, one can understand why Barter Theatre's Project REAL's educational experience transforms and assists a student's learning process.

Not only does scientific evidence in neuroscience and educational psychology provide an understanding of how Project REAL works, but also qualitative as well as quantitative data collected from the program's participants gives insight to how it provides students an implicit learning experience. The interviews conducted with participants in the program provide complicating evidence that shows the weaknesses of the program, too. Each interview focuses on providing an assessment of Project REAL. Through feedback, Project REAL can identify strengths and weaknesses of the project and assist in making changes with the appropriate administration to create a more effective program for teachers and students. To analyze the data, I took a grounded theory approach. David Silverman explains, "Grounded theory is a method of theory construction in which researchers systematically develop a theory from the collected data."<sup>5</sup> The coding focuses on actions instead of descriptions using themes.<sup>6</sup> The grounded theory approach aided in analysis of the qualitative data and not the quantitative data. This study involves quantitative data collected from pre and post assessments, as well as student evaluations of the program. Pre and post assessments took place in each high school class that a Project REAL teaching artists visited from August 2012 till December 2012. The Project REAL teaching artists graded the assessments. The first three questions focused on the learning objectives for the lesson. A three out of three marked the highest a student could score. The last question, which centered on the students' opinion of the lesson will not be used for this study. Before analyzing the both quantitative and qualitative data, the IRB verified that this study did not meet the

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<sup>5</sup> David Silverman, *Qualitative Research* (London: Sage, 2011), 291.

<sup>6</sup> *Ibid.*, 303.

organization's definition of research involving human subjects due to its anonymity involving the participants as well as the fact that I collected this data before starting graduate school; therefore, East Tennessee State University IRB did not need to approve this study and investigation.

The study and investigation of secondary sources from scholars in each field plays an important role in this study. *Drama and Intelligence: A Cognitive Theory* by Richard Courtney provides an important secondary source from the theatre arts discipline that specifically applies ways of learning, cognitive skills, and intelligent skills to the process of play-creation in theatre.<sup>7</sup> *Teaching with the Brain in Mind* by Eric Jensen provides a vital component from the field of education.<sup>8</sup> "Implicit Learning" from the journal *Current Directions in Psychological Science* written by Peter Frensch and Dennis Runger provides information on the benefits and characteristics of implicit learning.<sup>9</sup> Establishing the connections between brain-based teaching and theatre for education provides a platform for a cohesive structure of Project REAL's lesson plans.

Barter Theatre's Project REAL lesson plans use theatre tools to teach other disciplines. Theatre recreates the human experience. Theatre artists perceive life for an audience.<sup>10</sup> Theatre helps one understand life. One needs space, time, a human body, and imagination to create acts of theatre. Peter Brook, a director of theatre, proclaims, "I can take any empty space and call it a bare stage. A man walks across this empty space whilst someone else is watching him, and this is

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<sup>7</sup> (Quebec: McGill-Queen's University Press, 1990).

<sup>8</sup> (Alexandria, VA: Association for Supervision and Curriculum Development, 2005).

<sup>9</sup> 12, no. 1 (Feb. 2004): 13-18, <http://www.jstor.org.ezproxy.etsu.edu> (accessed March 4, 2014).

<sup>10</sup> Courtney, *Drama and Intelligence: A Cognitive Theory*, 4.

all that is needed for an act of theatre to be engaged. Yet when we talk about theatre this is not what we mean.”<sup>11</sup> Brook means that there is more to theatre than a man walking across the empty space. At the core of theatre, imagination flourishes in the process of recreating the human experience. According to renowned theatre artist Constantin Stanislavski, “Art is the product of the imagination. . . . In this process imagination plays by far the greatest part.”<sup>12</sup> The emotions and movement of a human body in a given space help express the imagination.

The expression of the imagination in theatre involves the mind, body, and spirit. Theatre by nature thus is holistic because it reflects life through acting out different human experiences. In regard to the craft of theatre, director Ann Bogart writes, “To study, you enter into a situation with your whole being, you listen and then begin to move around inside it with your imagination. You can study every situation you are in. You can learn to read life while life is happening. . . . I regard the theatre as an art form because I believe in its transformative power.”<sup>13</sup> Theatre has the power to teach and to allow humans to engage with their minds, bodies, and spirits in order to learn. Learning occurs through the creative, imaginative process of the participant. The imagination allows one to find possible solutions to the problems he or she may face in the world. In his book *Drama and Intelligence: A Cognitive Theory*, Richard Courtney suggested, “imagining the possibilities for action-if we doubt its possibility we do not move it into action, but if we think it is likely we do; and trying out the dramatic action- if it works it becomes part of

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<sup>11</sup> *The Empty Space* (New York, New York: Touchstone, 1968), 9.

<sup>12</sup> *An Actor Prepares* (New York, New York: Routledge, 1989), 59.

<sup>13</sup> *A Director Prepares: Seven Essays on Art and Theatre* (Abingdon, Oxon: Routledge, 2001), 1-2.

our knowing, but if it does not we reject it.”<sup>14</sup> The theatre artist learns and solves problems by experimenting with the imagined possible solutions and eventually performs them to see whether or not they work.

Solving problems and thinking critically play an important part in a child’s education. For a student to graduate and move on to the next level, one would assume that he or she has developed those skills sufficiently enough to become a contributing member of society. Teresa Carlgren says, ”High school students are hindered in their learning of communication, critical thinking, and problem solving.”<sup>15</sup> Carlgren claims that the primary challenge for students to communicate, think critically, and solve problems involves the western education system.<sup>16</sup> The current structure of the United States education system results from the standards- based education reform movement. Fair Test: The National Center for Fair and Open Testing states, ”federal policies, such as Race to the Top and the NCLB, have pressured schools to use tests to measure student learning, achievement gaps, and teacher and school quality, and to impose sanctions based on test scores.”<sup>17</sup> Ken Robinson asserts in his TEDTALK recording that, “Education under the No Child Left Behind is based not on diversity, but conformity.”<sup>18</sup>

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<sup>14</sup> Courtney, *Drama and Intelligence: A Cognitive Theory*, 25.

<sup>15</sup> Teresa Carlgren, “Communication, Critical Thinking, Problem Solving: A suggested Course for all High School Students in the 21<sup>st</sup> Century,” *Interchange* 44, no. ½ (December 2013): 63, <https://www.proquest.com> accessed April 5, 2014).

<sup>16</sup> Ibid.

<sup>17</sup> Fair Test: The National Center for Fair and Open Testing, “How Standardized Testing Damages Education,” <http://fairtest.org/how-standardized-testing-damages-education-pdf> (accessed April 5, 2014).

<sup>18</sup> Ken Robinson, “How to Escape Education’s Death valley,” TED: 4:26 accessed March 26, 2014,

Today's public education system by and large offers to teach each child in the same standard way even though all children are different and diverse. Everyone has different ways in which he or she best learns.

Robinson's accusation against the No Child Left Behind Act responds to the standards-based education reform. Unfortunately, the standards-based education reform left arts programs struggling for existence. Measuring the quality of a school by testing standards encourages the teaching –to- the- test mentality. Mark Levina's thesis "The Common Core State Standards Initiative: An Event History Analysis of State Adoption of Common K-12 Academic Standards," points out that in 1983 *A Nation at Risk* report changed the education of America by stating most students fell behind in comparison to the rest of the world.<sup>19</sup> Eighteen years later, *A Nation at Risk* influenced the 2001 No Child Left Behind (NCLB) Act, which marked the peak of the teaching- to- the- test mentality. Educator One speaks on NCLB:

That's when the teach and test, teach and test mentality really hit. Because states were required to have assessments that measured their state curriculum and then they had to publish how they did on those assessments...The value of a school was determined by how their students performed on a test...People started focusing on drilling and killing so that everybody would at least meet minimal standards...Instead of students being able to understand with empathy and application and synthesis, students know how to bubble in answers on a multiple choice test.<sup>20</sup>

Educators have used multiple choice standardized tests many for many years. Gavin T. Brown and John Hattie argue, "Ideally, standardized assessments help inform students how good

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[http://www.ted.com/talks/ken\\_robinson\\_how\\_to\\_escape\\_education\\_s\\_death\\_valley/transcript#t-256993](http://www.ted.com/talks/ken_robinson_how_to_escape_education_s_death_valley/transcript#t-256993) .

<sup>19</sup> Mark Levina, "The Common Core State Standards Initiative: An Event History Analysis of State Adoption of Common K-12 Academic Standards" (master's thesis, Florida State University, 2010), 1.

<sup>20</sup> Educator one, interview by Megan Atkinson, Johnson City, TN, April 9, 2015: 2:40-4.

they are, what they may still need to learn, and such tests should aim to motivate students to great effort.”<sup>21</sup> With the validation and encouragement from A Nation at Risk report and the 2001 NCLB, the standards-based education reform encouraged the use of standardized tests to prove the work of a school. As a result, the tests did not aid the students’ diverse learning needs. Ken Robinson states, “There are three principles on which human life flourishes, and they are contradicted by the culture of the education under which most teachers have to labor and most students have to endure. The first is this, that human beings are naturally different and diverse.”<sup>22</sup>

Brain-based teaching encourages diversity. Fortunately today, neuroscientists have published new discoveries on how humans learn, in such journals as *Journal of Neuroscience*, *Learning and Memory*, *Brain and Cognition*, *Brain Research*, *Nature Neuroscience*, *Brain and Behavior* and *Journal of Cognitive Neuroscience*.<sup>23</sup> These discoveries are so new that the public education system falls behind in fully implementing each discovery to benefit the students. As Eric Jensen writes in *Teaching with the Brain in Mind*, “In addition, many schools of education do not offer programs that connect neurobiology, teaching, and classroom behaviors.”<sup>24</sup> Jensen’s book was published in 2005. Nine years ago, resources on the diverse ways of brain-base teaching became the latest fad in the education world. Despite the increase in awareness, there is little evidence that shows the public education system making important changes to focus on providing specific instructions and structure in the schools to address the diverse learning needs

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<sup>21</sup> Gavin Brown, “The Benefits of Regular Standardized Assessment in Childhood Education,” *Academia*, [www.academia.edu](http://www.academia.edu) (accessed May 3, 2014).

<sup>22</sup> Robinson, “How to Escape Education’s Death Valley,” TED, 3:22.

<sup>23</sup> Jensen, *Teaching with the Brain in Mind*, ix.

<sup>24</sup> *Ibid.*, viii.

of students. Some schools already may have made changes to address the diverse learning needs of students; however, the evidence does not show a major change in the structure of the public education system. Even if a child may learn better through verbal, auditory, visual, or kinesthetic instructions, all learning involves the brain.<sup>25</sup> Barter Theatre's Project REAL addresses these diverse learning styles. To support the assertion that Barter Theatre's Project REAL addresses diverse learning styles by focusing on implicit learning and connecting the material personally to the students, the study must provide evidence from multiple disciplines. Table 1 below outlines the main disciplines that provide support for this study. Understanding the lens through which these disciplines look at the world allows one to develop a better foundation for reading this thesis.

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<sup>25</sup> Jensen, *Teaching with the Brain in Mind*, 6.

Table 1: Identification of Disciplinary Perspectives

Most Relevant Disciplines	Perspective on questions
Theatre	Theatre’s ability to create a human experience using space, time, movement, and imagination encourages a transformative learning process. Theatre is engaging and approaches learning from a holistic approach with the mind, body, and spirit as one. The imagination encompasses the whole being as a way to problem solve and learn.
Education	Communication, critical thinking, and problems solving skills are imperative for students to learn and be able to move on to the next level. Based on the standards- based education reform, students are taught conformity. Teaching students the same standards for a test implies that all students learn problem solving and critical thinking skills the same way.
Educational Psychology	There are two types of learning. They are called explicit and implicit learning. Explicit Learning involves the traditional teaching method through lectures and the students taking notes. Implicit is more hands- on, generates meaning, and also involves reflection. Implicit learning is a very important component of the learning process. When a person is allowed to reflect, then he or she is able to create meaning. Creating meaning allows humans to learn. How one creates meaning is different for everyone. There is not one specific way to create meaning and learn; therefore, there are multiple ways in which one can learn.

Through interdisciplinary research, I argue that Barter Theatre’s Project REAL creates a transformative educational experience. This theatre for education program involves not only the art of theatre, but also components of educational psychology and education. My discoveries lead me to believe that Project REAL provides and implements a powerful brain-based teaching

pedagogy that focuses on providing an implicit learning experience. In this study, I use information collected from theatre, educational psychology, and education, as well as the quantitative and qualitative data collected on Project REAL to support the argument. Not only does the research explain Project REAL's ability to provide an implicit learning experience through hands- on activities, movement, social interaction, and emotional connections, but the research also supports the success of the program. Analyzing and understanding the strengths, weaknesses, and characteristics of this theatre for education program also help the future endeavors and new implementations of Barter Theatre's Project REAL.

## CHAPTER 2

### THE PUBLIC EDUCATION SYSTEM

The need and urgency to provide a program focused on the diverse ways of brain-based learning responds to the “teach to the test” mentality developed out of the standards-based education reform. The actions of the federal government led the United States’ education system to a standards-based education reform. Joel Spring explains, “It was during the Reagan years from 1980 to 1988 that American schools were committed to the goal of improving the nation’s ability to compete in the world markets by educating a globally competitive workforce.”<sup>1</sup> The need to compete with other countries influenced the choices made by the National Commission of Excellence committee created during the Reagan era. Emphasis on standardized tests started with the idea that students in the United States showed signs of poor performance and lacked competitiveness with students in other countries. Levina points out that “in 1983 a study changed the education of America by stating that our students were falling behind compared to the rest of the world. This study was the beginning of the standards-based education reform.”<sup>2</sup> The study *A Nation at Risk* put the blame on the public education system for the lack of American competitiveness shown toward other countries especially in certain areas of math and science.<sup>3</sup> *A Nation at Risk* inspired and initiated the standards-based education reform. The nation appeared to be at risk of failing; therefore, to aid the country’s weak areas of education, the government implemented certain measures and passed specific education laws.

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<sup>1</sup> *The American School* (New York: McGraw Hill, 2011), 433.

<sup>2</sup> Levina, “The Common Core State Standards Initiative,” 1.

<sup>3</sup> Spring, *The American School*, 433.

With the effort to save the education system with new regulations on schools T. H. Bell spearheaded an investigation that resulted in *The Nation at Risk* report. He worked as the Secretary of Education under Ronald Reagan and created the National Commission on Excellence in Education to observe and document America's education system. The commission's purpose focused on producing a report to inform the nation of the condition of the public education system. America's education showing signs of utter weakness influenced the commission.<sup>4</sup> Bell's reported observations on the education system supported the concern as well. The report demanded that the states respond quickly to the newfound risky position of the education system<sup>5</sup>. With the inability to compete, the nation lived in a dangerous state according to *A Nation at Risk*. Apparently, the United States fell behind in commerce, industry, science, and technology, compared to other nations throughout the world, and the nation was at risk of losing the fair chance of creating and using their powers successfully.<sup>6</sup> This assessment sent policy makers on a vigorous pursuit to standardize all curriculums taught to students. The earliest responses to the report included California's mathematics content frameworks, as well as the National Council of Teachers of Mathematics Curriculum and Evaluation Standards for School Mathematics in the 1980s, both of which were used as models for content standards.<sup>7</sup> Once educational organizations started to respond to the report, the standards- based education reform movement started to pick up rapidly.

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<sup>4</sup> Spring, *The American School*, 433.

<sup>5</sup> Levina, "The Common Core State Standards Initiative," 1.

<sup>6</sup> National Commission on Excellence in Education, *A Nation at Risk*, 9.

<sup>7</sup> Levina, "The Common Core State Standards Initiative," 1-2.

## Results of Standards-Based Education Reform

With the rapid pace of the standards-based education reform movement, testing became a priority for teachers. The movement developed stricter requirements for testing students' reading and mathematics proficiency skills.<sup>8</sup> Through the reform, administrators and teachers abided by certain standards and assessed those standards on students through standardized testing. Before implementation of these requirements, the state governments possessed less power over its education, but because the Reagan Administration linked the issues of the public education system to the problems involving national trade, the government justified stepping in and reclaiming more power with its involvement in educational reform. Not only did this mean choices were to be made by the federal government, but also monetary support would be given to schools by the federal government. Before publication of this report, federal legislation allowed states to exercise preponderant power over the state's educational; however, once the report became public, the Republicans made it a point to keep the problem of the public education system a national issue. The power began to shift back and forth between the governments. Eventually, the state governments' power over local school boards decreased leaving the states with less say so in their schools.<sup>9</sup> At that time the report was publicized, the federal government pointed fingers in another direction and relied more on businesses. The report even states, "We believe especially that businesses, in their role as employers, should be much more deeply involved in the process of setting goals for education in America and in helping our schools to

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<sup>8</sup> Levina, "The Common Core State Standards Initiative,"1-2.

<sup>9</sup> Spring, *The American School*, 434.

reach those goals.”<sup>10</sup> The National Commission on Excellence in Education thought this would create more competitiveness toward other countries in the global economy.

### Goals 2000

The emphasis on businesses aiding the United States’ economy did not stop with the Reagan Administration, but was taken even further when George H. W. Bush came into office starting in 1989. The testing industry started to shift toward standards-based high stakes assessment as a necessary part of the standards-based education reform movement.<sup>11</sup> The tests became a way for the policy makers to assess and make decisions on the students’ progress in school. James Gerard Callier writes, “States that offered high-stakes testing in high school—meaning that students have to pass the test to graduate are allowed to take the test several times to pass.”<sup>12</sup> At least the students who struggle to pass are still allowed multiple times to take the tests. This type of testing emphasizes on test taking skills and puts pressure on students, as well as teachers. Even though the urgency to use assessments became more noticeable after the publication *A Nation at Risk*, assessments had been used for years in the education system. The standardized tests were used as a way to discover where a student’s strengths and weaknesses lie. Gavin T. Brown and John Hattie argue, “Ideally, standardized assessments help inform students how they are, what they still need to learn, and such tests should aim to motivate students to

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<sup>10</sup> Spring, *The American School*, 434.

<sup>11</sup> Levina, “The Common Core State Standards Initiative,” 3.

<sup>12</sup> James Gerard Callier, “The No Child Left Behind Act: Are States on Target to Make Their Goals?,” *The Journal of Negro Education* 76, no. 4 (Fall, 2007): 585, <http://www.jstor.org/stable/40037229> (accessed August 6, 2014).

great effort.”<sup>13</sup> Using the assessments to help a student understand where he or she does well or needs to do better provides an appropriate tool for teachers to use in their classrooms: however, the report started to change this. When George H.W. Bush became president, the administration took the tests to another level by putting more importance on them so that a student’s progression to the next grade level was affected by such scores

After students started to experience high stakes tests, the George H. W. Bush Administration made a decision that supported more emphasis on such testing. The administrators revealed a plan in 1991 called Goals 2000 which required public schools to accomplish certain goals by the year 2000.<sup>14</sup> Again, these goals focused on improving the United States’ competitiveness in the global market. To help a child early on, the Bush Administration created voluntary “American Achievement Tests” for those students in fourth, eighth, and twelfth grades with the help of Congress, National Governors Association, and the newfound National Council on Education Standards and Testing (NCEST).<sup>15</sup> After George H. W. Bush left office, Bill Clinton stepped into his position. Clinton continued to support Bush’s Goals 2000 Educate America Act in his own way by working to improve the skills of the general workforce, and by giving those who were underprivileged more of an opportunity to continue their education.<sup>16</sup> The common thread running through the administration of Reagan, George H.W. Bush, and Clinton

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<sup>13</sup> The Benefits of Regular Standardized Assessment in Childhood Education,” *Academia*. [www.academia.edu](http://www.academia.edu) (accessed May 3, 2014).

<sup>14</sup> Spring, *The American School*, 435.

<sup>15</sup> Spring, *The American School*, 435.

<sup>16</sup> *Ibid.*

focused on the connection between businesses and the public education schools in America in hopes of strengthening the United States' competitiveness in the global economy.

### No Child Left Behind Act 2001

To continue the close ties between businesses and public education, George W. Bush, who succeeded Bill Clinton as president, implemented an act that focused on holding even more accountability with the standards-based education reform. *No Child Left Behind* (NCLB) was signed into law in 2001 and became one of the most important acts in contemporary educational reform in the United States.<sup>17</sup> Joel Spring's review on *The Era of Education: The Presidents and the Schools 1965-2001* by Lawrence J. McAndrews explains, "The original 1965 Elementary and Secondary Education Act-No Child Left Behind is a reauthorization of this legislation targeted money for special programs to help 'disadvantaged' students."<sup>18</sup> According to Bush and Congress, any child was capable of learning and each school should be held responsible for that child's progress.<sup>19</sup> NCLB imposed additional stipulations for schools. The act mandated that the states must develop permanent academic standards to test all students.<sup>20</sup> Again, the standards-based education reform picked up more momentum. Each child needs to show a proficient level in both mathematics and reading tests in third through fifth grades, sixth through ninth grades, and tenth through twelfth grades. The goal for NCLB centers on reaching 100 percent

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<sup>17</sup> Callier, "The No Child Left Behind Act: Are States on Target to Make Their Goals?," 582.

<sup>18</sup> Joel Spring, "The Era of Education: *The Presidents and the Schools 1965-2001* by Lawrence J. McAndrews; *No Child Left Behind and the Transformation of Federal Education Policy, 1965-2005* by Patrick Je McGuinn; Review," *History of Education Quarterly* 47, no. 2 (May, 2007): 250, <http://www.jstor.org/stable/20462167> (accessed August 6, 2014).

<sup>19</sup> James Gerard Callier, "The No Child Left Behind Act," 582.

<sup>20</sup> Spring, "The Era of Education," 250.

proficiency by the year 2014, which means schools must measure using standardized tests, administering those tests, scoring each test, and publicizing the scores. Schools that do not comply, are subject to consequences and a possible restructuring of the school.<sup>21</sup> The accountability requiring schools regarding each child's improvement on test scores remained an important focus.

With the emphasis on a child's achievement as measured by test scores, the NCLB forced the focus of the child's education to center on the product of his or hers education versus the process of how a child learns. Spring claims, "the goal shifts from 'inputs' to 'outputs' and regulation."<sup>22</sup> This shift left many educators upset. The NCLB created an uproar due to a power shift from local state education services to the federal government that now decides the status and sustainability of the public schools.<sup>23</sup> Patrick J. McGuinn explains

I have grown increasingly skeptical about the motives and efficacy of the federal government in improving schools, and I am deeply concerned that the testing regime imposed by NCLB is actually a huge step backward in our struggle to create more flexible, creative, and responsive schools. I am not entirely alone in this view; as the consequences of NCLB are felt at the grassroots level, teachers, parents, and politicians are raising fundamental questions.<sup>24</sup>

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<sup>21</sup> Callier, "The No Child Left Behind Act: Are States on Target to Make Their Goals?," 582-583.

<sup>22</sup> Spring, "The Era of Education," 251.

<sup>23</sup> Callier, "The No Child Left Behind Act: Are States on Target to Make Their Goals?," 582.

<sup>24</sup> Patrick J. McGuinn, "No Child Left behind and the Transformation of Federal Education Policy," *Perspectives on Politics* 5, no. 2 (June, 2007): 370, <http://www.jstor.org/stable/20446454> (Accessed August 6, 2014).

To some, standards-based education abolishes any intellectual freedom or control within the schools because of the high stakes tests and standards set for the schools by the federal government.<sup>25</sup> This pressure refocused instructional time to test preparation.

For schools, many factors contribute to the success of meeting the requirements of the NCLB. One of those contributing factors revolves around funding. States' educators complained about not obtaining enough monetary support to improve the students' performance objectives and discovered that the actual costs outran the funding received from the federal government. The costs include implementing a statewide testing and evaluating system and ensuring the schools possess enough resources to comply under the NCLB.<sup>26</sup> The design of how and what the students will be tested on must be decided by the states' departments of education. Moreover, the states must send their plans to the U.S. Department of Education for approval; therefore, standards, assessments, and achievement proficiency levels vary from state to state.<sup>27</sup> The difference in standards led to a variance in what level of mastery seemed to suggest proficiency and caused an urgent need to set national standards for all states to abide by.<sup>28</sup> Regardless of national standards, NCLB intended to require that no state should have academic content or student achievement standards verified or certified by the federal government in order to receive funds under it.<sup>29</sup> Despite the efforts of the creators of the NCLB act, the standards were not well

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<sup>25</sup> Spring, "The Era of Education," 253.

<sup>26</sup> Callier, "The No Child Left Behind Act: Are States on Target to Make Their Goals?," 593,

<sup>27</sup> Callier, "The No Child Left Behind Act: Are States on Target to Make Their Goals?," 583.

<sup>28</sup> Levina, "The Common Core State Standards Initiative," 2.

<sup>29</sup> Ibid, 3.

received by most educators in the country; therefore, the next important initiative of the standards- based education reform movement revolved around voluntary national standards.

### Common Core State Standards

To this date, the national standards movement affects the majority, but not all, of the states. The National Governors Association Center (NGC) for Best Practices and the Council of Chief State School Officers (CCSSO) collaborated on the creation of sufficient academic standards in reading/language arts and math that could be used in the states across the nation called The Common Core State Standards Initiative in 2009.<sup>30</sup> The mission statement of the Common Core State Standards Initiative reads:

The Common Core State Standards provide a consistent, clear understanding of what students are expected to learn, so teachers and parents know what they need to do to help them. The standards are designed to be robust and relevant to the real world, reflecting the knowledge and skills that our young people need for success in college and careers. With American students fully prepared for the future, our communities will be best positioned to compete successfully in the global economy.<sup>31</sup>

The new standards aimed to help the nation to compete with the rest of the world. In 2009, state leaders, including governors and state commissioners of education began developing the common core standards for English Language Arts and Mathematics.<sup>32</sup> These two core subject areas took priority over the other core disciplines. English Language Arts and Mathematics were the first chosen in the standards because these two subjects incorporate the skills that create skill sets in all other subject areas. Language and math are the tools for

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<sup>30</sup> Levina, “The Common Core State Standards Initiative,” 3.

<sup>31</sup> *Common Core State Standards Initiative*. <http://www.corestandards.org> (Accessed June 6, 2013).

<sup>32</sup> Levina “The Common Core State Standards Initiative,” 3.

assessing.<sup>33</sup> By 2010, forty-one states and the District of Columbia adopted the standards.<sup>34</sup> As of 2014, there are forty-eight states, the District of Columbia, and two territories that took on the Common Core State Standards.<sup>35</sup> The standards became popular with most states' educators.

The popularity for national standards was influenced by the federal government as well. The same year that the CCSSO and NGC began developing the Common Core Standards President Barack Obama signed a new act, the American Recovery and Reinvestment Act, which allotted four and half billion dollars to the Race to the Top Program (RTTP).<sup>36</sup> According to the U.S. Department of Education, the Race to the Top program provided a grant to states with a reward for developing reform and innovation in education. This grant also assists states that plan on adopting standards to help students succeed in the workforce as well as college and ways to assess those standards. The program allows a total of five hundred points a school can earn in the *Race to the Top* program, and states that choose to adopt the Common Core Standards may earn fifty- five of those five hundred points.<sup>37</sup> This reward system seems to encourage the states to use Common Core Standards.

Even though the National Governors Association Center for Best Practices and the Council of Chief State School Officers did not create the Common Core Standards with the federal government in mind, the federal government now provides an incentive for the

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<sup>33</sup> *Common Core*. <http://www.corestandards.org>.

<sup>34</sup> Levina "The Common Core State Standards Initiative," 4.

<sup>35</sup> *Common Core*, <http://www.corestandards.org>.

<sup>36</sup> Levina, "The Common Core State Standards Initiative," 4.

<sup>37</sup> Race to the Top Fund," U.S. Department of Education. <http://www.ed.gov/cateogry/programs/racetothetop/index.html> (Accessed June 13, 2013).

implementation of the Common Core Standards. Levina states, “The federal tying of RTTT application scores to the adoption of common standards has been characterized by some as federal coercion.”<sup>38</sup> Representative Glenn Thompson (R-PA) argues that with the federal government allowing points for a state’s participation in the Common Core State Standards Initiative changes the state-based initiative to federal academic standards with federal tests instead of state standards and state tests.<sup>39</sup> Now that the Common Core State Standards are under attack, many politicians claim that the program does not fall under the authority of a federal project. Arne Duncan says in response to the attack, “It was voluntary- we didn’t mandate it- but we absolutely encouraged this state-led work because it is good for kids and good for the country.”<sup>40</sup>

Regardless of whether these states accepted the Common Core State Standards as a way to receive rewards from the federal government, the states now work on seeing that the schools enforce academic standards to ensure the success of the students. The new standards focus on results and not the means to get the results. The Common Core Standards emphasize the required achievements of the students. The initiative leaves room for teachers, state leaders, and curriculum developers to use whatever means they can in order to reach the goals set for them in the Common Core State Standards Initiative.<sup>41</sup> The findings from a *National Survey of Teacher Perspectives On The Common Core* (FNSTPCC) emphasize that, “one of the biggest challenges

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<sup>38</sup> Levina, “The Common Core State Standards Initiative,” 5.

<sup>39</sup> Ibid.

<sup>40</sup> U.S. Department of Education, “Race to the Top Fund.”

<sup>41</sup> *Common Core State Standards Initiative*. <http://www.corestandards.org>.

faced with the implementation of the Common Core Standards centers on the task of how to prepare the teachers to successfully execute the new academic standards.”<sup>42</sup>

### Input Versus Output

Teachers lack training on the process of teaching the new standards. Caitlin Tucker suggests that, “With the current status of the economy, schools have faced the reality of budget cuts; therefore, teachers did not have the proper professional development to support the changes from the Common Core State Standards.”<sup>43</sup> The federal government wants certain outcomes, but does not know how to provide support for teachers on how to get those outcomes. Professional development and training for teachers need to take priority. Even if the state adopts the core standards, teachers across America feel the pressure to raise test scores instead of the pressure to provide a successful learning process for each student. Barter Theatre’s Project REAL provides professional development and a means to deliver the Common Core State standards. Through this study, one will be able to look at the process of Project REAL and how teachers receive professional development by the nature of how the teaching artist works closely with them. Through this collaboration, the teachers reported they are able to gain new skills that they can implement in their classrooms. Chapter 4 specifically addresses how Project REAL focuses on process as well as the benefits teachers gain from it; however, to understand fully the results of this theatre for education program, one must first take a look at the certain characteristics that create the structure of Project REAL’s pedagogy.

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<sup>42</sup> EPE Research Center. “Findings from a National Survey of Teacher Perspectives On the Common Core,” [http://www.edweek.org/media/eperspectives\\_common\\_core\\_2013.pdf](http://www.edweek.org/media/eperspectives_common_core_2013.pdf) (Accessed June 5, 2013), 22.

<sup>43</sup> Caitlin Tucker, “Common Core Standards: Transforming Teaching with Collaborative Technology,” *Teacher Librarian* 40, no. 1 (Oct 2012): 30

## CHAPTER 3

### IMPLICIT LEARNING: HANDS-ON ACTIVITY, SOCIAL INTERACTION, EMOTIONAL CONNECTIONS, AND SELF-REFLECTION

Teachers want to help others learn. Think of a moment when you felt like you truly learned a lesson or something that was of value that you could apply to your own life. What happened in that particular moment? What were you doing? Were you interacting with someone else? What was your body doing? What type of emotions did it stir within you? Physical, hands-on activity and emotions play a pertinent role in how humans learn. Applying these characteristics to a pedagogy encompasses brain-based teaching.<sup>1</sup> These characteristics not only assist learning, but they also involve techniques theatre artists use to express the imagination. Imagination remains key to theatre artists exploring certain situations and the world in which they create their art.<sup>2</sup> Theatre for education shares common characteristics with brain-based teaching. Barter Theatre's Project REAL, a theatre for education program, implements the important characteristics of theatre to provide a transformative educational experience. Project REAL may not assist students in becoming experts in other disciplines taught through this pedagogy; however, as a powerful brain-based pedagogy, Project REAL's implicit learning process makes the curriculum come alive through hands-on physical activity, social interaction, and by generating meaning through emotions, all of which help students learn the curriculum.

The importance of comprehending the process of creating acts of theatre formulates an understanding of the educational experience of Project REAL. Theatre focuses on creating a human experience for an audience. Paul Woodruff says, "The art of theater makes it worthwhile

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<sup>1</sup> Viewpoints on brain-based pedagogy emerged from reading Eric Jensen's *Teaching with the Brain in Mind*, 1-15.

<sup>2</sup> Courtney, *Drama and Intelligence: A Cognitive Theory*, 19.

for people to watch other people—not images of other people. The art of theatre is practiced in real time, and allows for the watchers and the watched to influence each other.”<sup>3</sup> Whether that participation happens as an observer or as the creator of the art of theatre, the opportunity arises for each party involved to gain new insight to life. William Deresiewicz expresses in an interview, “a lot of life learning happens literally, happens peer to peer.”<sup>4</sup> The structure of theatre creates an easy access to peer learning through either an audience member or the artist him-or- herself. According to Amy Cook, “Theatre works on the body and mind of the spectator, changing minds and touching bodies at the deepest level.”<sup>5</sup> Theatre transforms.

The theatre’s transformative power allows the participant to develop applicable life skills. Richard Courtney states, “a player’s transformation is 1) imagining the possibilities for action- if we doubt its possibility we do not move it into action, but if we think it is likely we do; and 2) trying out the dramatic action- if it works it becomes a part of our knowing, but if it does not we reject it.”<sup>6</sup> This process helps the theatre artist solve problems in the world he or she actively explores. Learning occurs through the creative, imaginative process that the participant experiences. In regard to Project REAL, Student Four says, “You help us figure it out by using

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<sup>3</sup> Paul Woodruff, “Lighting Up the Lizard Brain: The New Necessity of Theater.” *Topoi* 30, no. 2: 151, OmniFile Full Text Mega (H.W. Wilson), EBSCOhost (accessed March 5, 2014).

<sup>4</sup> Lauren Davis, “The Ivy League, Mental Illness, and the Meaning of Life,” *The Atlantic* (August 2014):1, [http://www.theatlantic.com/education/archive/2014/08/qa-the-miseducation-of-our-college-elite/377524/?single\\_page=true](http://www.theatlantic.com/education/archive/2014/08/qa-the-miseducation-of-our-college-elite/377524/?single_page=true) (accessed August 23, 2014).

<sup>5</sup> Amy Cook, “Interplay: The Method and Potential Cognitive Scientific Approach,” *Theatre Journal* 59, No.4 (December 2007): 579, <http://www.jstor.org> (accessed March 2, 2014).

<sup>6</sup> Courtney, *Drama and Intelligence: A Cognitive Theory*,25.

our very own imagination.”<sup>7</sup> Learning occurs through the transformation’s dynamic characteristics.<sup>8</sup> Project REAL provides tools that allow students to learn the curriculum.

Using theatre arts as a way to develop and teach curriculum in academia falls under arts integration. The idea of arts integration developed in Leon Winslow’s book titled *The Integrated School Arts Program in the 1930’s*. According to the Kennedy Center website, “Arts integration is an approach to teaching in which students construct and demonstrate understanding through an art form. Students engage in a creative process which connects the art form and another subject and meets evolving objectives in both.”<sup>9</sup> For Barter Theatre’s Project REAL, the utilization of theatre tools allows students to use and demonstrate any subject matter they must learn in primary and secondary education in the Appalachian region. In regard to Project REAL, Student Two expresses, “You use every part of what’s around you to teach us. . . We can actually see like, you think math is just you only see math in math class, but now you can go out in the real world and you can look at it and see it everywhere because you do physical activities with us. We’re not just doing book work.”<sup>10</sup>

### Implicit Learning

The characteristic of using hands- on physical activities to reinforce the application of the curriculum in the real world reflects a certain type of learning. Scientists have distinguished

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<sup>7</sup> Student Four. *Project REAL DVD*, Barter Theatre (Abingdon, VA: October 21, 2012), 1:00:00-1:16:00.

<sup>8</sup> Courtney, *Drama and Intelligence: A Cognitive Theory*, 25.

<sup>9</sup> “The Kennedy Center’s Definition for Arts Integration,” The Kennedy Center. [https://www.kennedy-center.org/education/ceta/arts\\_integration\\_definition.pdf](https://www.kennedy-center.org/education/ceta/arts_integration_definition.pdf) (accessed March 2, 2014).

<sup>10</sup> Student Two, *Project REAL, DVD*. Barter Theatre (Abingdon, VA: October 10, 2012), 1:20:00-1:22:00.

two general types of learning. They call those types explicit learning and implicit learning. Explicit learning involves the individual discovering through traditional reading and writing as well as discussing. Implicit learning involves “hands- on” learning through games, experience and actual activity.<sup>11</sup> Theatre for education, an arts integration pedagogy, falls under implicit learning. Student Three says Barter Theatre’s Project REAL is “hands -on, working with one another.”<sup>12</sup> The process involved with theatre requires active learning and verbal instruction, which represents integrative teaching.<sup>13</sup> Theatre for education uses traditional verbal instruction cues, but the instructions emphasize implicit learning for the students through hands -on activities.

Implicit learning works as a vital component in the process of learning. According to psychologists Peter A. Frensch and Dennis Runger, “Implicit learning appears to be a fundamental and ubiquitous process in cognition.”<sup>14</sup> People benefit from implicit learning in their everyday lives.<sup>15</sup> Theatre focuses on helping others understand the human experience in their everyday lives. This understanding sets the stages for learning. Project REAL does more than just reinforce the curriculum. Teacher One says, “You give them examples of where this

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<sup>11</sup> Jensen, *Teaching with the Brain in Mind*, 33-34.

<sup>12</sup> Student Three, *Project REAL DVD*. Barter Theatre (Abingdon, VA: October 8, 2012) 1:07.

<sup>13</sup> Bolton and Heathcote, *Drama for Learning*, vii.

<sup>14</sup> “Implicit Learning,” *Current Directions in Psychological Science* 12, no. 1 (Feb. 2004):13, <http://www.jstor.org.ezproxy.etsu.edu> (accessed March 4, 2014).

<sup>15</sup> Peter Frensch and Dennis Runger, “Implicit Learning,” 13.

stuff is used in the real world. You give them real life examples and different ways to look at them.”<sup>16</sup>

Whether a student learns implicitly with everyday life hands-on activity or explicitly through listening to lectures and taking notes, certain factors contribute to the actual process of learning. Engagement, repetition, capacity for information, prior knowledge, timing, error correction, and emotional states also influence a person’s learning experience.<sup>17</sup> The student’s engagement also refers to attention. Implicit learning requires attention that exists internally, rather than externally. The subconscious seems to take over and through internal attention students create personal meaning. The creative process of making theatrical plays starts within through self-reflection. A person must go within to imagine certain life situations to create expression through concrete entities. A person cannot give external attention and create meaning at the same time because meaning generates internally.<sup>18</sup> Richard Courtney states, “Dramatic Activity mostly produces a change in how we understand the deep rather than the surface level of meaning.”<sup>19</sup> Theatre helps generate meaning, and without meaning, learning will be hindered.

### Emotions

Theatre generates meaning through portraying a human experience or an emotional experience. Generating meaning and emotions both play a part of the internal process. Emotions simply represent a state of feeling sparked by a stimulus. Some educators disregard the role

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<sup>16</sup> Teacher One, *Project REAL*, DVD, Barter Theatre (Abingdon, VA: October 10, 2012), 1:02.

<sup>17</sup> Jensen, *Teaching with the Brain in Mind*, 34.

<sup>18</sup> *Ibid.*, 35-36.

<sup>19</sup> Courtney, *Drama and Intelligence: A Cognitive Theory*, 26.

emotions play in a student's ability to learn.<sup>20</sup> Western society still leans toward keeping the mind, body, and spirit separate from one another, but they are all integrated. Holistic learning connects the mind, body, and emotions. Neuroscientists' discoveries support the idea of the human's mind and emotions staying attached rather than detached; therefore, emotions need to be a variable in the learning process. Jensen states, "In fact, emotion turns out to be one of the most important regulators of learning and memory. The more intense the emotional state, the more likely we are to remember the event."<sup>21</sup> This occurrence using emotions to remember also falls under emotional intelligence. Peter Salovey and Daisey Grewal describe emotional intelligence as "The ability to monitor one's own and other's feelings, to discriminate among them, and to use this information to guide one's thinking and action."<sup>22</sup> Emotions remain present in everything that one sets out to do. To treat the mind, body, and spirit separately would mean asking a child to struggle with his or her learning process.

Emotions play a pertinent role in a student's learning experience. Project REAL's goal through the activities used in the classroom aims to help students make emotional connections to the material. Alice Y. Kolb and David A Kolb both also found that "Damasio, LeDoux, and others offer convincing research evidence that reason and emotion are inextricably related in their influence on learning and memory."<sup>23</sup> Emotions help define an experience. According to

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<sup>20</sup> Jensen, *Teaching with the Brain in Mind*, 68.

<sup>21</sup> *Ibid.*, 55-56

<sup>22</sup> Peter Salovey and Daisy Grewal, "The Science of Emotional Intelligence," *Current Directions in Psychological Science* 14, no. 6 (Dec. 2005): 28, <http://www.jstor.org/stable/20183048> (accessed September 15, 2014).

<sup>23</sup> Alice Y. Kolb and David A. Kolb, "Learning Styles and Learning Spaces: Enhancing Experiential Learning in Higher Education," *Academy of Management Learning and Education* 4, no. 2 (June 2005): 208, <http://www.jstor.org/stable/40214287> (accessed September 9, 2014).

the Kolbs, progressive educator John Dewey's theory of experimental learning revolves around creating an experience. Dewey explains, "Education must be conceived as a continuing reconstruction of experience."<sup>24</sup> Recreating human experiences that relate to the subject area, Project REAL connects the students personally to the material. Because experience plays an essential part in the craft of a theatre artist, understanding and utilizing the tool theatre supports the theory of experimental learning.<sup>25</sup> Project REAL draws from Gardner's work to create an emotional experience. Learning should be a holistic process and one that does not focus on the outcome, and students must live in the experience in order to reflect, think, and act upon the given subject manner.<sup>26</sup> The experience remains key to learning.

To ensure that each Project REAL lesson simulates an experience that incorporates reason and emotions, the teaching artists structure activities that depend heavily on the students' prior knowledge and experiences as human beings. In order for students to learn experientially, they must have an opportunity to value and own their life experiences.<sup>27</sup> Project REAL creates space for the students to explore those experiences and talk about those experiences as well. Open dialogue aids in making connections with the material. Humans generate meaning by conversing about their experiences.<sup>28</sup> As a venue for open dialogue, theatre plays a key role as a catalyst for discussions. Project REAL uses theatre to help students make emotional connections

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<sup>24</sup> Ibid.,194.

<sup>25</sup> Howard Gardner, *Frames of Mind: The Theory of Multiple Intelligences*,(New York: Basic Books, 2011), 240.

<sup>26</sup> Ibid.

<sup>27</sup> Alice Y. Kolb and David A. Kolb, "Learning Styles and Learning Spaces," 207.

<sup>28</sup> Ibid.

by exploring their experiences, which eventually leads to making connections to the curriculum. For example, in one session, a lesson on Beowulf turned into a discussion about homelessness; activities about topography became a debate on what makes an ideal community; student-created scenarios depicting dependent and independent variables discussed the impact of television watching on studying and grades.<sup>29</sup> Not only does the open dialogue help make the personal connections to the curriculum, but it also aids in teaching empathy to the students because the students share information about their lives students become aware that they go through similar experiences. Creating a safe space for each child to explore certain issues aids in engaging the students in the lesson.

### Embodiment

Project REAL's theatre exercises focus on engaging the whole child. To ensure the mind, body, and spirit of child emotionally connects to the material requires for the teaching artist to guide the students through the process of embodiment using specific theatre tools. Tom F. Price, Carly K. Peterson, and Eddie Harmon-Jones say that, "Embodiment in psychological research and theory often refers to the idea that the body plays a crucial role in emotive, motivational, and cognitive processes."<sup>30</sup> Through embodiment students find expression and comprehension of not only their personal view, but also to how that view relates to others as well as the material they study. Leung and Cohen explain, "Embodiment allows for one to understand his or her

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<sup>29</sup> Megan Atkinson. Barter Theatre. <http://www.bartertheatre.com> (accessed November, 2014).

<sup>30</sup> Tom F. Price, Carly K. Peterson, and Edie Harmon-Jones, "The emotive Neuroscience of Embodiment," *Motivation and Emotion* 36, no.1 (March, 2012): 27, <http://www.proquest.com> (accessed March 29, 2014).

relationship to the world around them and how one's physical body interacts with the world."<sup>31</sup> Student Four claims, "It actually helps me to relate it to life and actually try to use it."<sup>32</sup> Theatre becomes the perfect tool to allow students to connect classroom lessons to their real world experiences because of the mission to tell stories of the human experience. Using the students' bodies in a given space to explore human emotions, which make up one's life as a means to learn, represents embodied cognition.<sup>33</sup>

Through embodied cognition, one can understand the language of the body through created symbols. Humans understand the world through the use of symbols. Howard Gardner states, "Much of human representation and communication of knowledge takes place via symbol systems- culturally contrived systems of meaning that capture important forms of information. Language, picturing, and mathematics are but three of the symbol systems that have become important to the world over for human survival and human productivity."<sup>34</sup> Project REAL not only uses the language system, but also the students' own bodies to create picture symbols as tools pertinent to learning. Because symbols can portray a certain feeling, mood, or tone, body language occurs among a community.<sup>35</sup> Weisburg confirms, "The original language was one of total body talk. . . children and primitive ages, see the world through a bodily perspective, that is

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<sup>31</sup> Angela K.-y Leung and Dov Cohen, "The Soft Embodiment of Culture: Camera Angles and Motion through Time and Space," *Psychological Science* 18, no.9 (Sept. 2007):824, <http://www.jstor.org/stable/40064821> (accessed August 26, 2014).

<sup>32</sup> Student Four, interview by Ryan Henderson, (Abingdon, VA, December 8, 2012), Project REAL Transcripts, 10.

<sup>33</sup> Angela K.-y Leung and Dov Cohen, "The Soft Embodiment of Culture," 824.

<sup>34</sup> Gardner, *Frames of Mind: The Theory of Multiple Intelligences*, 70-71.

<sup>35</sup> *Ibid.*, 317.

through the physical experience.”<sup>36</sup> Gardner claims the skill of using one’s own body to communicate surfaces throughout the history of humankind. He notes that Norman Mailer says, “ ‘There are languages such as the body’ .”<sup>37</sup> Students communicate their own understanding of a topic or situation through making physical gestures to communicate that thought or topic. Ultimately, the students create pictures for others to see while embodying their thoughts and feelings on a given issue.

### Specific Theatre Tools

To invoke the students to create specific physical gestures, Project REAL uses a few different techniques. One of those techniques originates from Michal Chekhov whose work centered on the theory of the psychological gesture. An acting coach known as M.G. suggests to an actor, “Take a certain gesture such as ‘to grasp’. Do it physically. Now only do it inwardly, remaining physically unmoved. As soon as we have developed this gesture, it becomes a certain ‘psychology’, and that is what we want. Now on the basis of this gesture, which you will do inwardly, say the sentence.”<sup>38</sup> This theory puts the focus on creating a physical gesture first that represents what that character’s line means and evokes that character’s objective. The actor repeats that physical gesture, but eventually no longer repeats the gesture anymore when saying the line. Through these actions, Chekhov wanted the intent to stay with the actor delivering the line with the same feeling that the gesture performed evoked from him or her. Project REAL

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<sup>36</sup> Shelly Kruger Weisberg, *Museum Movement Techniques: How to Craft a Moving Museum Experience* (Lanham: Altimira press, 2006), 27.

<sup>37</sup> Gardner, *Frames of Mind: The Theory of Multiple Intelligences*, 219.

<sup>38</sup> M. G. “Chekhov on Acting: A Collection of Unpublished Materials (1919-1942),” *The Drama Review: TDR* 27, no.3 (Autumn 1983):63, <http://www.jstor.org/stable/1145460> (accessed September 6, 2014).

requires students to make physical gestures to represent the meaning of a word. As a result, through repetition the students learn the meanings of key words that remain important to the course material. When the students no longer find themselves performing the gesture, they will still understand the meaning of the word or concept when they verbalize such things. Student Seven confirms by stating, “You can always go back and remember something you did in class.”<sup>39</sup>

The use of psychological gesture as a tool to help students recall the material plays only a small part in the students finding a symbol with their own bodies that relates to the material. Augusta Boal’s Image Theatre technique allows students to create full body images on any given topic, while also utilizing sounds as well as mantras to convey a certain meaning. Ultimately, the idea focuses on the students becoming sculptors and their own bodies or other bodies becoming the clay he or she must sculpt. There are certain rules to follow when sculpting. Image Theatre requires two roles. One person plays the role of the human clay and the other plays the role of sculptor. Michael Rohd states, “The sculptor can sculpt by touching the clay and moving them into place or by mirroring and showing them the position they should take. The sculptor cannot talk. The entire activity is completely silent.”<sup>40</sup> Carol Lloyd Rozansky and Caroline Santos state in their article, “Boal’s Image Theatre Creates a Space for Critical Literacy in Third-Graders” asserts, “by applying Image Theatre the students were able to demonstrate appropriate reading skills and strategies because of their critical understanding of the characters’

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<sup>39</sup> Student Seven, interview by Ryan Henderson, Abingdon, VA, December 8, 2012, Project REAL Transcripts, 16.

<sup>40</sup> Michael Rhode, *Theatre for Community, Conflict, and Dialogue* (Portsmouth: Heinemann, 1998), 62.

oppression.”<sup>41</sup> This approach encourages the students to ask real questions about real concerns. Image theatre not only aids in a students’ ability to understand concepts, but it also generates emotional connections.

### Social Interaction

Psychological gesture and Image Theatre involve a few of the tools that help students with their physical and emotional lives, as well as encourages embodied cognition. The next component that adds a layer to the students’ connecting emotionally to the curriculum focuses on social interactions. Essentially, social interactions make up the lives of human beings. Because humans live as social beings, social experiences influence the brain to change and learn.<sup>42</sup> Cultures emerge through social interactions. Angela K.-y Leung and Deve Cohen define culture as

values, attitudes and beliefs. It is institutions, situations, and norms. It is language, metaphor, and symbols. . . culture is also an embodied perspective on the world. That is, culture is carried by human beings. Those humans have bodies that move through time and space. And the way those bodies move and are mapped onto time and space instantiates cultural assumptions. Cultural assumptions about one’s relation to others and one’s place in the world can be literally embodied in the way one cognitively maps out one’s position and motion in space and time.<sup>43</sup>

Expressing one’s view on culture through physical, social interactions enhances learning because, as Jensen notes, neuroscientists claim that culture helps shape the brain.<sup>44</sup>

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<sup>41</sup> Carol Lloyd Rozansky and Caroline Santos, “Boal’s Image Theatre Creates a Space for Critical Literacy in Third-Graders,” *Reading Improvement* 46 (Fall 2009): 178-188, <http://ebhis.ebscohost.ecomezproxy.etsu.edu> (accessed March 20, 2013).

<sup>42</sup> Jensen, *Teaching with the Brain in Mind*, 94.

<sup>43</sup> ”The Soft Embodiment of Culture,” 824.

<sup>44</sup> Jensen, *Teaching with the Brain in Mind*, 94.

To ignore the culture of the students could be detrimental to the students learning process. According to Howard Gardner, “much of the story of human development must be written in the light of cultural influences in general, and of the particular person, practices, and paraphernalia of one’s culture. . . intelligence, or intelligences, are always an interaction between biological proclivities and the opportunities for learning that exist in a culture.”<sup>45</sup> The same part of the brain that processes cognitive events also processes social experiences. This neuro-scientific fact supports the theory of learning through social experiences. Gardner categorizes this type of learning as interpersonal.<sup>46</sup> Roberta M. Berns writes in her book, “Interpersonal intelligence requires that you respond and react to the behavior and feelings of another.”<sup>47</sup> She goes on to write that those who like to learn through socializing usually like to talk to people and join groups.<sup>48</sup> Project REAL always makes sure to address the needs of the interpersonal learners. Theatre techniques help inspire the interpersonal learner. Many social issues arise through this type of pedagogy, which makes it essential for the teaching artists to understand how to relate those social issues to the curriculum. The connection to the curriculum through social interaction plays an important role in the success of the learning process with Project REAL.

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<sup>45</sup> Howard Gardner, *Multiple Intelligences*, 221.

<sup>46</sup> Jensen, *Teaching with the Brain in Mind*, 95.

<sup>47</sup> *Child, Family, School, Community Socialization and Support*, (Belmont, CA: Wadsworth, 2013), 231.

<sup>48</sup> *Ibid.*, 230.

## Role-Playing

In order for students to interact with one another, creating a structured environment remains key to the success of Project REAL. Role-playing helps create a safe environment. Evelyn C. Westerville states, “Role-playing enables students to explore and discuss problems on an impersonal basis. A problem may be common to many young people, but through role-playing they discuss it not as ‘my problem at home,’ but as the problem of outcomes which they choose. . . . The problem for role-playing must be within the experience or observation of the students.”<sup>49</sup> Creating fictional characters gives the students a safe environment to talk openly about certain social issues or problems that they might encounter on a daily basis. Due to the special characteristics of theatre, the students can practice certain life situations and not find themselves concerned with the consequences of risk taking and mistakes that occur in real life.<sup>50</sup>

Role-playing creates the human experience for those involved and helps Project REAL tap into the students’ personal experiences of their lives, as well. Dr. A. D. Radford and G. Stevens believe, “Role-playing games are concerned with interactions between players in defined roles. Role-play is the experiencing of a problem under an unfamiliar set of constraints so that one’s own ideas may emerge and understanding increase. It allows students to interact with others in certain roles.”<sup>51</sup> If humans learn through their own experiences, then simulating an

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<sup>49</sup> “Role Playing: An Educational Technique,” *Marriage and Family Living* 20, no. 1 (Feb. 1958): 78, <http://www.jstor.org/stable/347373> (accessed September 15, 2014).

<sup>50</sup> Rosemary Lippitt, “Role playing,” *The American Journal of Nursing* 53, no. 6 (June 1953): 693, <http://www.jstor.org/stable/3460374> (accessed September 1, 2014).

<sup>51</sup> “Role-Play in Education: A Case Study from Architectural Computing,” *Journal of Architectural Education* 42, no. 1 (Autumn 1988):18, <http://www.jstor.org/stable/1424996> (accessed September 1, 2014).

experience for students acts as an effective tool for student learning.<sup>52</sup> Theatre becomes the perfect venue to do that because theatre focuses on re-creating the human experience. Not only do students get to socially interact through role-playing, but they learn the material while playing a certain role at the same time. Rosemary Lippitt explains, “Role playing is an action method of teaching and learning, and it is fun at any age.”<sup>53</sup> Role-playing requires the participation of the entire student. Mark A. Wyn and Steven J. Stegink both emphasize, “Role-playing is a useful method for getting students involved in their own learning.”<sup>54</sup> The technique of role-playing encourages students to take ownership of their own education and learning.

### Collaboration

During social experiences created by Project REAL, the lesson requires group work or work with a partner at some point. Student Six says, “It teaches us skills on how to work with each other.”<sup>55</sup> One aspect of the theatre centers around ensemble work because of the importance of collaboration in creating theatre. Claire Canivan explains, “collaboration is fundamentally about how well you work with other people. . . it is an essential job skill for an aspiring theatre artist. Collaboration is the horizontal glue that holds an ensemble together and makes the work

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<sup>52</sup> Radford and Stevens, “Role-Play in Education: A Case Study from Architectural Computing,” *Journal of Architectural Education* 42, no. 1 (Autumn 1988):18, <http://www.jstor.org/stable/1424996> (accessed September 1, 2014).

<sup>53</sup> Rosemary Lippitt, “ Role playing,” 693.

<sup>54</sup> “Role-playing Mitosis,” *The American Biology Teacher* 62, no. 5 (May 2000): 378, <http://www.jstor.org/stable/4450924> (accessed September 1, 2014).

<sup>55</sup> Student Six, interview by Ryan Henderson, Abingdon, VA, December 8, 2012, Project REAL Transcript, 14.

collective, mutually supportive, and the composite of many minds, bodies, and imaginations.”<sup>56</sup>

Collaboration helps fine tune a person’s cooperative skills. Evidence shows that cooperatively working together can increase learning.<sup>57</sup> The benefits to collaboration flourish for students.

Bruce Campbell’s research shows that

Since so much of the center work was collaborative, students became highly skilled at listening, helping each other, sharing leadership in different activities, accommodating group changes, and introducing new classmates to the program. They learned not only to respect each other, but also to appreciate and a call upon the unique gifts and abilities of their classroom.<sup>58</sup>

Not only does collaboration among peers help students learn, but it also allows them to develop better social cognitive skills. Communicating and listening are skills that play an important part in learning. According to Student Six, Project REAL “Helps us learn to communicate with each other.”<sup>59</sup> This characteristic creates an understanding of why some of the time spent for learning can be conducted in groups.<sup>60</sup> Ultimately, social time encourages collaboration and enhances the learning experience for students.

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<sup>56</sup> “Working Together in Theatre: Collaboration and Leadership,” *Theatre Topics* 21, No. 2 (2011): 1, <http://muse.jhu.edu/journals/tt/summary/v021.2.canavan.html> (accessed September 25, 2014).

<sup>57</sup> Jensen, *Teaching with the Brain in Mind*, 96.

<sup>58</sup> “Multiple Intelligences In the Classroom: Of the Seven We Learn, Schools Focus on Only Two. Add the Other Five, and You Increase the Chances of Success,” *The Learning Revolutions* 27 (Winter 1991): 12, <http://www.context.org/clib/ic27/campbell/> (accessed August 26, 2014).

<sup>59</sup> Student Six, interview by Ryan Henderson, Abingdon, VA December 8, 2012, Project REAL Transcripts, 14.

<sup>60</sup> Jensen, *Teaching with the Brain in Mind*, 97.

## Self -Reflection

While Project REAL allows students plenty of social time, the program also finds time for students to reflect by themselves at certain points during the lesson. There seem to be benefits to isolating oneself from others as a way to learn. An education should give students the tools to develop ways of self -reflection.<sup>61</sup> Within the current public education system, children lack the time for solitude or self-reflection, which will cause more trouble than benefits.<sup>62</sup> Getting to know oneself means asking questions in order to grow up and contribute to the world as a functioning citizen. Teacher Five says, “I think you make students ask questions of themselves that they may not normally ask. I would say it gets students to be able to reflect upon their own viewpoints, and has them think in different ways.”<sup>63</sup> While reading a book might help a student understand a concept, the student still needs to acquire the skills to ask certain questions of oneself and how that concept pertains to his or her life. Learning these skills at a young age during adolescence comes at a perfect time to learn how to reflect.<sup>64</sup> Project REAL aids in students comprehending the skill of self –reflection to use in the learning process and assists their connecting their emotional lives to the material.

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<sup>61</sup> Deresiewicz, “The Ivy League, Mental Illness, and the Meaning of Life,” 3.

<sup>62</sup> Ibid.

<sup>63</sup> Teacher Five, interview by Ryan Henderson, Abingdon, VA, December 8, 2012, Project REAL Transcripts, 11.

<sup>64</sup> Deresiewicz, “The Ivy League, Mental Illness, and the Meaning of Life,” 3.

## Movement

Emotions are not the only important characteristics of implicit learning. Implicit learning involves hands-on physical activity. Moving to learn defines active learning. Those educators who avoid providing active learning for their students create a higher risk of their students becoming fatigued.<sup>65</sup> Stephanie L. Wells describes the classroom:

Every day in the classroom, I see signs of it – the bored restlessness that comes from sitting still for too many hours each day. There are hands fidgeting, eyes wandering around the classroom, and students looking for any opportunity to leave their seats, such as getting up to sharpen a pencil, throw away trash, get a tissue, use the restroom, or even take a trip to the nurse. It is a constant fight for teachers to keep these students in their seats. In the meantime, other students have gone to the opposite extreme and, having given in to the demand for seated silence, sit slumped over with their heads on their desks, doing nothing. Whether they have too much energy or are lethargic, there is a simple way to help those students focus and enter a mental state more conducive to learning: the addition of purposeful movement to everyday classroom lessons.<sup>66</sup>

Theatre for education easily brings purposeful movement to any classroom setting.

Neuroscientists agree that adding movement to the classroom would be very helpful to a child's learning process. To start with, the part of the brain that processes learning is the same part of the brain that processes movement. No wonder there is a strong correlation between the two. Active learning enhances meta-cognitive skills.<sup>67</sup> Shelly Kruger Weisberg informatively explains, "Laban shares his belief that motion, emotions, form, and content, body and mind, are all inseparably united. He defines thinking as a 'kinetic –dynamic process' and believes that 'getting

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<sup>65</sup> William Deresiewicz, "The Ivy League, Mental Illness, and the Meaning of Life," 38.

<sup>66</sup> Stephanie L. Wells, "Moving Through the Curriculum: The Effect of Movement on Student Learning, Behavior, and Attitude," *Rising Tide* 5 (Summer 2012): 1, <https://www.smcm.edu/educationstudies/pdf/rising-tide/volume-5/Wells.pdf> (accessed April 5, 2014).

<sup>67</sup> Jensen, *Teaching with the Brain in Mind*, 61.

the feel' of movement gives real understanding.”<sup>68</sup> Laban started movement education that encouraged learning about one's self through movement. When a human being moves, oxygen will circulate through the body.<sup>69</sup> Jensen reinforces the concept by saying, “Oxygen is essential for the brain function, and enhanced blood flow increases the amount of oxygen transported to the brain. Physical activity acts as a reliable way to increase blood flow, and hence oxygen, to the brain.”<sup>70</sup> There are many positive results to movement, which means there are negative side effects to the sit and learn mentality. Jennifer Koch claims that, “When students are engaged in ‘sedentary learning,’ teachers are negatively impacting their overall health and limiting student comprehension through a single dimensional learning style.”<sup>71</sup> To prevent the negative impacts of sedentary learning, one must actively learn. Movement is important for the health of the mind, body, and spirit. This characteristic is important to the holistic approach of brain-based teaching.

Through movement, from moment to moment each human body explores the space and environment in which one lives. One can learn spatial awareness through movement.<sup>72</sup> John W. Dixon Jr. writes, “Self- consciousness is an awareness of the self, here, and the other, there, so the first coordinate of these structures is spatial.”<sup>73</sup> Project REAL's focus on the student's

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<sup>68</sup> Shelly Kruger Weisberg, *Museum Movement Techniques: How to Craft a Moving Museum Experience*, (Lanham: Altimira press, 2006), 26.

<sup>69</sup> Weisberg, *Museum Movement Techniques: How to Craft a Moving Museum Experience*, 26.

<sup>70</sup> Jensen, *Teaching with the Brain in Mind*, 62.

<sup>71</sup> Jennifer L. Koch, “Linking Physical Activity with Academics: Strategies for Integration,” *Strategies* 26, No. 3 (May/June 2013): 41, <http://search.proquest.com> (accessed March 23, 2014).

<sup>72</sup> Weisberg, *Museum Movement Techniques*, 27.

<sup>73</sup> John W. Dixon, Jr., “Reflections on the Space of the Imagination,” *Journal of the American Academy of Religion* 45, no. 2 (June 1997):223, <http://www.jstor.org/stable/1462531> (accessed September 16, 2014).

knowledge of one's experiences and self makes the tool of movement pertinent. Because movement allows one to enhance his or her spatial awareness, in return they learn about themselves and the relations to another. The students can learn by making observations of the visual world in front of them. This idea stays true to what Howard Gardner calls Spatial Intelligence. Spatial intelligences also refers to visual spatial.<sup>74</sup> Hands-on activity taps into the visual spatial learner.

### The Essence of Play

Hands-on activity or active learning can take place in the form of play. According to Peter K. Smith's and Anthony Pellegrini's research, "Play is often defined as activity done for its own sake, characterized by means rather than an ends (the process is more important than any end point or goal), flexibility (objects are put in new combinations or roles are acted out in new ways), and positive effect."<sup>75</sup> Playing usually makes one think of children. Miquela Rivera admits, "Play is children's work. Through toys, games, role plays, and imaginative use of equipment and materials, children develop physically, intellectually, linguistically, emotionally, and socially."<sup>76</sup> Children are not the only ones who need to play. Adults need to play as well. Stuart Brown warns adults by saying, "When we don't play as adults, we also have consequences

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<sup>74</sup> Howard Gardner, *Multiple Intelligences*, 182.

<sup>75</sup> Anthony and Peter K. Smith, "Learning Through Play," *Encyclopedia of Early Childhood Development* (June 2013): 1, <http://www.childencyclopedia.com/pages/PDF/Smith-PellegriniANGxp2.pdf> (accessed March 26, 2014).

<sup>76</sup> Miquela Rivera, "The Powerful Effect of Play in a Child's Education," *Education Digest* 75, no. 1 (Sept. 2009): 50, <http://eds.a.ebscohost.com> (accessed September 25, 2014).

of that deprivation.”<sup>77</sup> Project REAL aims to provide play and help with the deprivation humans experience while growing up.

Theatre equals play. Just as children make believe and pretend to be certain characters and build elaborate worlds out of Lego blocks or cardboard, theatre artists do the same when creating the world of the play that they set out to produce for an audience. Imagination sparks the dramatic activity. Courtney writes, “Dramatic acts can vary over time too. Primarily a dramatic act is a performance in a role; this can be unconscious, as in the drama of every day life; or partially unconscious as in children’s play; or conscious as in theatre.”<sup>78</sup> Jensen emphasizes that imagination drives play, and that educators must provide ways to spark the imagination.<sup>79</sup>

There have been many studies conducted on forms of human play. Human play enhances a person’s academic learning.<sup>80</sup> Because theatre provides a form of playing, theatre- for - education enhances the learning process for students. Project REAL takes time to play using theatre tools because play opens the door to the human experience. Stuart Brown emphasizes, “Play is how we learn to experience people.”<sup>81</sup> The art of theatre provides ways to explore human relationships and experiences. If people learn from their experiences, then playing as a way to explore these situations helps others to find empathy, to share feelings, and to cooperate

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<sup>77</sup> Stuart Brown, “Play is More Than Just Fun,” Interviewed by Phil Couseau, February 2, 2014, New Dimensions Media, <http://newdimensions.org/program-archive/play-is-more-than-just-fun-with-stuart-brown/> , 31:45, 2014.

<sup>78</sup> Courtney, *Drama and Intelligence: A Cognitive Theory*, 53.

<sup>79</sup> *Teaching with the Brain in Mind.*, 27.

<sup>80</sup> *Ibid*, 64.

<sup>81</sup> Brown, “Play is More Than Just Fun,” 20:13.

with one another. Using one's own body creates a vessel to play.<sup>82</sup> Movement must occur in playing.

### Project REAL's Lesson Plan

The essence of play exists in Barter Theatre's Project REAL lesson plans, which specifically focus to foster implicit learning, emotional awareness, social interaction with classmates, and the ability to engage in play activities. When a teaching artist sits down to create a lesson on the core curriculum, he or she will start by preparing a warm up. The warm up aims to prepare the students mentally, emotionally, and physically for the key concepts of the lesson with which they are about to engage. An example of this can be seen through a lesson created by myself, as a Project REAL teaching artist, for a data analysis class on normal distribution. The students followed the instructions of an exercise called *Covering the Space*, which means the students just walk in the space working to fill in any empty space they see. There is constant movement here just to get the blood flowing after students have been sitting in a chair for a lengthy time period.

The first step focuses on getting oxygen flowing to students' brains and to start raising their levels of endorphins. Then the students followed certain cues, such as "jump," "clap," "freeze," and "mountain pose." These are instructions specific to how the body and brain best function. Jump spikes the heart rate up for more blood flow. Clap challenges the students' motor skills. Freeze calls for the students to stop and extend the arms above their heads reaching for the sky. This particular pose familiarizes them with a powerful pose, an expression of embodiment. Sarah L. Arnette and Terry F. Pettijohn II state that "Body positioning or posture is one major element which helps us to detect the emotions, intentions, and attitudes of others. Research has

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<sup>82</sup> Brown, "Play is More Than Just Fun," 21:00.

found that expansive or upright postures cause power-related feelings, cognitions, and behavior.”<sup>83</sup> Powerful poses exist as postures created with the body that allow the person to embody powerful feelings and behaviors. The embodiment in the warm up successfully sets the learning process up for the students.

Once the students establish simple dynamic movements, the directions introduce the key concepts. The students engage in specific physical directions with variance, standard deviation, and normal distribution, which are vital to the lesson of normal distribution. In *Variance*, the students find a partner and discuss the differences between the two of them. In *Standard deviation*, the students spread themselves out horizontally from the student in the center of the room without talking. In *Normal distribution*, the students create a symmetrical shape with their bodies. Some of the key concepts introduced in the warm up also allow the teaching artist to begin tapping into the personal lives of the students as seen through the variance instruction. Instead of variance used as the difference between numbers, the difference exists among the students. Personalizing the material plays a big role in the emotional aspect of brain-based pedagogy. As Educator One says, “Personalization is everything.”<sup>84</sup>

The personalization of the material continues in the bridgework component of the Project REAL’s lessons. Bridgework focuses specifically on the students creating an emotional connection to the material. With the normal distribution lesson, the students divided themselves into four different groups. Each group picked a social norm. After picking a social norm, the students lined up chairs. One student from the group created the image of the social norm in the

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<sup>83</sup> Sarah L. Arnette and Terry F. Pettijohn II, “The Effects of Posture on Self-Perceived Leadership,” *International Journal of Business and Social Science* 3, no. 14 (July 2012):8, <http://search.proquest.com> (accessed March 29, 2014).

<sup>84</sup> Educator One, interview by Megan Atkinson, April 9, 2015, 8:39-9:09.

center chair. Then another student created an image in the chair to the right of the center chair that progressed from the social norm. Another student created an image in the chair to the left of the center chair that deviated below the social norm. The remaining students in the group added on images that either deviated below the social norm or deviated above the social norm. Each group presented their images, which led into an entire discussion about social norms such as opening the door for others, shaking hands, or saying “bless you” when someone sneezes. The open dialogue allowed for self-discovery. Some students deviated below or above the social norm. They talked about the experience of what it does to them and others when one does not engage in the social norm. The students found the value in knowing where they fall in a distribution. That connection creates power for the students. According to Educator One, “You all made connections with the people in the classroom. That’s huge.”<sup>85</sup>

Once the students connect personally, the application of the material comes in the core exercises of the lesson. The teaching artists develop exercises that incorporate their bodies and the environment around them with problems based off the core concepts. Referring back to the normal distribution lesson, the students closed their eyes and arranged themselves from shortest to tallest without talking. After finding their way to the appropriate place, the students opened their eyes. The students wrote down how tall their classmates were in inches. They found the standard deviation, variance, and z score to discuss the normal distribution of the heights in their class. The students then put themselves in order from youngest to oldest without talking. After finding their spots, they continued to find the deviation, variance, and z-score to discuss the normal distribution with their ages. Now the students engaged in a hands-on activity, connected emotionally, and applied the material.

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<sup>85</sup>Educator One, interview by Megan Atkinson, April 9, 2015, 31:00-33:20.

Project REAL's emphasis on implicit learning with hands -on activity and tapping into the emotional lives of the students allows them to learn the curriculum. Student Five says, "When we go to have the test, I'm like hey we acted that out in class. We did that, and it helps me remember it. I usually get pretty good grades."<sup>86</sup> Teachers also recognize the benefits from this pedagogy. Teacher Two states, "A recent experience when Project REAL came into my classrooms was one of the most difficult topics of geometry. Some of my students have always struggled with that topic and afterwards they were like 'Wow, that was the easiest lesson that we've ever had in this classroom'. And then the test scores afterwards were the best test scores that I've seen on that topic."<sup>87</sup>

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<sup>86</sup> Student Five, *Project REAL*, DVD, Barter Theatre (Abingdon, VA: October 8, 2012), 7:44.

<sup>87</sup> Teacher Two, *Project REAL*, DVD, Barter Theatre (Abingdon, VA: October 10, 2012), 6:35.

## CHAPTER 4

### DATA COLLECTION, RESULTS, AND ANALYSIS

One must look at the data collection process for Project REAL and analysis of the results from such a process in order to understand the effect of this theatre for education program. Not only do these data support the idea that Project REAL's pedagogy implements an implicit learning experience, but the data also display insights to the strengths and weaknesses of the program. As the researcher, I collected both qualitative data and quantitative data working with schools as their Project REAL teaching artists. I also analyzed data collected by another Project REAL teaching artist, Ryan Henderson. At the time of collecting data, three school high schools located in Virginia and West Virginia participated in Project REAL. Being the first to participate in Project REAL, River View High School, Abingdon High School, and Patrick Henry High School became the focus of this study. One administrator from each school, nine teachers, and ten students provided feedback on the program. Because the feedback comes from students, teachers, and administrators who have experienced Project REAL, the analysis of the results will help shape future endeavors for this theatre for education program.

The first full semester of Project REAL's collection of data included student and teacher interviews, pre and post class assessments, and the end of semester student surveys. Interview questions and survey instruments were both designed by Project REAL's teaching artist Ryan Henderson and myself. Henderson is the co-investigator with me because of the desire to collect feedback on Project REAL to properly assess the program. After entering graduate school, I decided to use this information in my thesis. The pre and post assessments administered in each class involved questions that come straight from the students' textbooks. The interviews collected provide qualitative data, which I analyze in this study first. Henderson and I, as the

director of the program, both collected the qualitative and quantitative data. Henderson conducted the majority of the interviews in a semi-structured way. Kathryn Roulston defines semi-structured interviews as, “Interviewers refer to a prepared interview guide that includes a number of questions. These questions are usually open ended, and after posing each question to the research participant, the interviewer follows up with probes seeking further detail and description about what has been said.”<sup>1</sup> To provide a semi-structured interview, a set number questions helped guide the interviews with students, teachers, and administrators. Some questions focused specifically on the student’s perspective, the teacher’s perspective, or administrator’s perspective. Barter Theatre’s videographer recorded the interviews conducted.

After completion of the interviews, two East Tennessee State University graduate students transcribed the interviews by watching the video and typing out word for word everything stated in each interview. Then, a grounded theory approach guided the analysis of the interviews. Helen Scott’s Grounded Theory website explains that “Grounded Theory is a research method that will enable you to develop a theory which offers an explanation about the main concern of the population of your substantive area and how the concern is resolved or processed.”<sup>2</sup> A look at the themes that surfaced through the coding, aids in understanding the effectiveness and influence Project REAL has over student learning. I let the information obtained determine the themes. To obtain the themes, the first step in this approach starts with open coding. As I collected data, I coded the information to organize the data appropriately. Open coding means looking at each piece of text and identifying what that piece of text focuses

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<sup>1</sup> Kathryn Roulston, *Reflective Interviewing: A Guide to Theory and Practice* (London: Sage Publications, 2010), 15.

<sup>2</sup> Helen Scott, *Grounded Theory Online*, <http://www.groundedtheoryonline.com/what-is-grounded-theory> (accessed April 2, 2015).

on because eventually the core category becomes apparent.<sup>3</sup> What is it about? What is implied in that piece of text? Once I figured out what the text focused on, I summarized the text into one word. After open coding, the next step called selective coding involved connecting the open codes to one another. How do they relate to each other? Selective coding, which is the last step in grounded theory approach, focused on creating core categories from the connections found in open coding. Essentially, I best organized and condensed everything into specific themes.<sup>4</sup> Through this process, I discovered themes that became the center of this analysis.

### Administrators' Perspectives

The themes that emerged from the perspectives of the administrators gave an overall picture of how Project REAL affects all of those involved with the program. These results came about through a semi-structured, one on one interview with three of the administrators who collaborate with this theatre for education program. One administrator from each school participated at the time of the interviews.

#### Category 1: Defining Project REAL

The most important theme that surfaced from each administrator's description of Project REAL highlights the professional development that comes with the school's partnership. One of the main objectives with Project REAL centers on working with teachers and teaching them theatre tools and obtaining the support of teachers' use of those tools by the administrators. Because the teachers are the experts in their given disciplines, the more they become comfortable with Project REAL's creative tools, the more likely teachers will use these tools on their own. In order for teachers to reach success with their creativity, the support of the administrators plays a

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<sup>3</sup> Ibid.

<sup>4</sup> Scott, *Grounded Theory Online*.

vital part in their learning. With each school, Project REAL entered the school with clearance from all of the teachers to ensure that this program was not imposed upon teachers without their consent. All the administrators we work with ensure this occurrence. Through feedback from these administrators, the understanding of how professional development makes this program sustainable will aid in the success and future of Project REAL. Administrator One claims

We went into the partnership with Barter because we wanted to help our teachers provide more engaging instructions to more students. Not because our teachers aren't doing a good job because they certainly are, but you guys have a whole set of skills that our teachers aren't trained with and I think that has been the biggest benefit for our teachers is they have been able to steal some ideas from you guys to incorporate into their classrooms. And what you all do with our kids is great, but I don't think that is the biggest benefit. I think the biggest benefit is what you handoff to our teachers. Then they can incorporate it when you all leave the classroom.<sup>5</sup>

One of the major reasons schools want to partner with Project REAL revolves around the project's ability to educate not only the schools' students, but also its teachers. Teaching certain theatre skills to the educators will impact the sustainability of the program.

Administrator Two says

Project REAL is definitely a big asset not only for the kids, but also for the teachers. Because when you, one, come into the classroom to work with the teachers to plan instructions and come up with different solutions to help kids learn, it's not just the kids that profit it is the teachers. Teachers get exposed to different instructional strategies that they might not have had in their toolbox.<sup>6</sup>

After establishing that Project REAL encompasses professional development for the

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<sup>5</sup> Administrator One, interview by Megan Atkinson, Emory, VA, October 15, 2012, Project REAL Transcripts.

<sup>6</sup> Administrator Two, interview by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

schools' teachers, the administrators make a point to recognize what skills the program provides. Those skills emphasize the program's ability to provide an implicit learning experience because of the observation of a hands-on, kinesthetic approach to teaching the curriculum. Administrator

One explains:

You know we have all been in those classrooms where a teacher will just stand up there and just lecture, lecture, lecture, lecture, and you know kids aren't enjoying it teachers aren't enjoying it and therefore learning probably isn't taking place as much as it should be, but I think the skills that you guys have is umm... you enable our teachers to act a little and add some engaging, kinetic activity to the instruction and things in a creative way.<sup>7</sup>

Project REAL does not engage in a traditional pedagogy where a teacher lectures and a student writes notes. Instead, Project REAL offers instruction that encompasses movement and creativity.

Administrator Two states:

It is such an asset to the student learning. Most of our students are kinesthetic learners. We have a lot of athletes that learn by movement. We have a lot of creativity in our classrooms. So tapping into student creativity and students' kinesthetic skills in addition to stressing their auditory and visual preoperational learning styles, you tap into everything. . . with feedback from the students it is evident that they like to learn hands-on and they like to cooperate and collaborate with you and you have established great positive relationships with the teachers and students.<sup>8</sup>

## Category 2: Observing the Effects of Project REAL on Students

Part of the principal's job involves observing and collecting information on students' performances and reactions to new implementations. The engagement of the students seems to be the main effect along with improvement of social skills and learning from peers. Administrator

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<sup>7</sup> Administrator One, interview by Megan Atkinson, Emory, VA, October 15, 2012, Project REAL Transcripts.

<sup>8</sup> Administrator Two, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

two emphasizes, “When I come in to do a walk through in my observations, I see 100% engagement.”<sup>9</sup> Administrator Three says, “For me, to see kids who normally do not participate anything in the classroom begin to participate is kinda (sic) the prize for me. This is another one of the programs that helps me keeps those kids that don’t stay engaged, engaged. And ultimately we graduate more kids who are prepared and ready to move on to the next level.”<sup>10</sup> If students remain engaged, the result makes the students want to attend their classes. Administrator Two explains:

It definitely affects school culture because when the instructional results in student engagement, it means that kids want to come to school. They get engaged into something meaningful, something that derives real life experiences for them, they will be coming to school. The social aspect of learning as well. You don’t just touch upon academics you also touch in group work, the anti-bullying awareness, and different social aspects of kids working together. So that in addition to the rigorous academics that is meaningful results in increased collaboration and collegiality in our school culture.<sup>11</sup>

Project REAL does not just affect the students’ engagement, but it also affects the students socially through connecting the material personally to their lives. A part of the process that engages students revolves around social interaction with one another. Project REAL teaching artists even encourage the students who might not want to interact because social interaction is an important aspect of education. Through this interaction students find themselves learning new social skills or sharpening the tools they already possess. Administrator 1 confirms by saying:

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<sup>9</sup> Ibid.

<sup>10</sup> Administrator Three, *Project REAL DVD*, Barter Theatre (Abingdon, VA: October 8, 2012) 2:45-3:06.

<sup>11</sup> Administrator Two, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

Yes, I'll tell ya, I was in a meeting yesterday it was with a parent and a group of teachers and we were meeting about a student and one of the teachers that the student was having some difficulty opening up with their classmates, being very shy being, very reserved, and one of the teachers told a story about you guys being in the classroom and that student acting and taking part of the activities that you were leading ,smiling carrying on and goofing off and that was something that we had not seen. So you all tapped into a kid who is very uncomfortable in a normal instructional setting and enabled them to I guess spread their wings a little bit and umm have interactions with other students and their teachers.<sup>12</sup>

Not only do students learn to become comfortable with socially interacting, but they also find they can learn from each other through those interactions. Administrator Two supports peer learning by stating, "They actually become more social in learning and that is one of the biggest attributes. We don't only learn from our teachers but also from our peers."<sup>13</sup>

### Teachers' Perspectives

Looking at and understanding the teachers' views on Project REAL allow one to see more of the process with this theatre for education program. The teachers remain at the heart of Project REAL's preparation for each lesson. The Project REAL teaching artist works to serve the needs of the teacher and how that teacher works toward to his or her students' learning objectives. For this reason, collecting information and feedback from the teachers remains very important.

#### Category 1: Defining Project REAL

Not every teacher Project REAL teaching artists work with participated in the interviews. Each teacher who participated in the interviews defined Project REAL in his/her own words.

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<sup>12</sup> Administrator One, interviewed by Megan Atkinson, Emory, VA, October 15, 2012, Project REAL Video Transcripts.

<sup>13</sup> Administrator Two, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Video Transcripts.

Characteristics of implicit learning pops up several times throughout the different interviews.

The ability of Project REAL to focus on hands-on, physical activities offers a tool that most of these teachers do not feel comfortable executing by themselves yet. Teacher One described

Project REAL by stating:

We all know learning should be an active endeavor, and we don't do it! We just don't do it because we are so whatever.... Busy trying to fit in all the curriculum stuff and it takes effort. I don't know if you realize this, but it does take a lot of effort to do something active and teach that way. You know it is a paradigm shift, and that I think that is the great thing about Project REAL.<sup>14</sup>

Through Teacher One's description, the problem of teachers not providing active ways of learning helps highlight why there seems to be such a need for Project REAL in schools and for teachers. Teacher Two also refers to hands-on activity with the students by saying, "It lets them use their talents, as I said, some of them um their strengths are as kinetic hands- on learners. So being able, like I say, to body sculpt a series circuits and body sculpt a parallel circuit lets them get that visual, lets them get that kinetic- so that they can do it."<sup>15</sup> Teacher Three claims when Project REAL visits his classes, "We do a lot of hands- on activities that forces the student to play the role and to examine other people's body language."<sup>16</sup> Teacher Four describes the program as, "You're also asking them in lots of different ways to express themselves. So you do things that are physical. You do things that are artistic. You do things that are also making them

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<sup>14</sup> Teacher One, interviewed by Megan Atkinson, Abingdon, VA, October 8, 2012, Project REAL Transcripts.

<sup>15</sup> Teacher Two, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>16</sup> Teacher Three, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012 Project REAL Video Transcripts.

think in a different way. Making them look at a subject in a way they never thought of before.”<sup>17</sup>

Teacher Four’s definition also focuses on the student’s expressions, which comes through the physicality of the activities performed in class. The focus of the students’ expressions and physicalizing such things stems from the need to connect the material to the real life of the students.

The personal connection and emotional connection to the students’ lives and their own experiences remains a fundamental goal of Project REAL. Making those personal connections can help the students identify where the material they study can be applied to their own lives.

Teacher Five describes Project REAL as follows:

Well we used it to reinforce what’s being taught in the classroom. I go over the math, and you come in with Project REAL and give the kids examples of where this stuff is used in the real world. . . You got a lot of programs that come into schools ,and I tell you what, you gotta keep an open mind because you never know when someone is gonna come in and show you something really good. And I’ve had the opportunity to use three or four good ideas that people have shown me over the years and this one is one of the good ones. This is not going to make math geniuses out of the kids, but it gives them a good outlook on math and gives them some practical uses for it. It just gives them a better outlook.<sup>18</sup>

While this teacher talks about the real life application that Project REAL gives students, the teacher also identifies a weakness when defining Project REAL. Not only will this program not make math geniuses, but the program will not make experts in history, business, psychology, or any other discipline. Project REAL’s goals do not center on making students experts in any field. Helping students make personal and real life connections to the material through an

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<sup>17</sup> Teacher Four, interviewed by Megan Atkinson, Emory, VA, October 15, 2012, Project REAL Transcripts.

<sup>18</sup> Teacher Five, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

implicit learning approach remains a priority; however, another important goal focuses on giving teachers who are experts in a discipline these tools so that perhaps the students can become experts through the use of them. Overall, Project REAL will not reach every student because of this limitation.

With the focus on teaching Project REAL techniques to teachers, the definition of Project REAL described by teachers includes professional development. Teacher One states

It's really kind of like teaching the teacher sort of thing. . . it has influenced my mind set; like I said, I am not up and running with it like we aren't you know, moving around like crazy every class, but you know, it's always on my mind and you know it is changing me. . . it's like a professional development thing, I think. You know it's not yea, it's good for the kids. It's like give me a fish and I will eat for a day. Teach me how to fish and I will eat for a lifetime sort of thing. So, you know, you learn from it.<sup>19</sup>

Teacher Five expresses similar thoughts by saying

It's a breath of fresh air for me. Cause right now your videoing me, but in the future I'm gonna be videoing you because I'm gonna copy a lot of what you do. It's a good deal. . . These people can show you another way to look at it, and give you some fresh ideals of what you may want to try in your own class sometimes. . . Because it's a valuable tool. Anytime you find a useful tool, you want to spread that good news around.<sup>20</sup>

Teacher Two also recognizes the growth in her teaching because of Project REAL. She expresses, "Project REAL, it has helped me to take it up another level to be able to differentiate more with some of my students."<sup>21</sup> Teacher Two means that she is able to provide different tactics for getting the material across to her students. Clearly, the teachers benefit from Project

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<sup>19</sup>Teacher One, interviewed by Megan Atkinson, Abingdon, VA, October 8, 2012, Project REAL Transcripts.

<sup>20</sup> Teacher Five, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>21</sup> Teacher Two, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

REAL. They allow themselves to become students and learn new skills that require the students to move and connect personally to the material.

### Category 2: Observing the Effects of Project REAL On Students

As teachers articulate their observations of how the students react to the program, much of what is articulated comes from seeing more improvement on tests, self-reflection, confidence engagement, and participation. Teacher Five emphasizes

I think this really helps them because it gets people interested. It gets more interest. Some students that may not have been high-level students wanting to understand math more. . . Every time the students come in, and they see you guys are here they're very excited. Because they know they're gonna have a lot of activities. They know they're gonna have a lot of participation. And I have students that have sometimes not wanted to vocalize or not wanted to participate, and they will come forward. So I have seen students come out of their shell, which is wonderful. . . They're very much engaged. We may have one every now and then that may not be in a good mood and whatever, but they normally come out. It doesn't take them long to start participating. So I think that's great. I think this really helps them because it gets people interested. It gets them more interested. Some students that may not have been high-level students wanting to understand math more<sup>22</sup>

Teacher One observes participation as well. He says, "It's neat to see because you get totally different kids who are involved. Who rise to the count of the occasion ummm..... instead of the same four people raising their hand every class."<sup>23</sup> Not only do the observations of the teachers support the characteristic of Project REAL engaging students, but their observations also confirm encouraging reticent students who do not normally participate to participate. As Administrator

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<sup>22</sup> Teacher Five, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>23</sup> Teacher One, interviewed by Megan Atkinson, Abingdon, VA, October 8, 2012, Project REAL Transcripts.

One says, “Anything we can do, even if we are just reaching one kid and helping that one student learn better, I think we have a successful program.”<sup>24</sup>

As students participate in Project REAL, teachers discover that Project REAL encourages students to draw from their own life experiences. To do this, students must reflect upon their own lives. Teacher Five responds, “I would say it gets students to be able to reflect upon their own viewpoints, and has them think in different ways. . . I think you make students ask questions of themselves that they may not normally ask. You do some activities that may make them reflect more on their thoughts and their viewpoints on something they may not have thought of before.”<sup>25</sup>

The tools used to engage and allow students to reflect upon their own lives affects the students’ grades as well. Teacher Five responds, when asked if Project REAL helps students’ with their tests by saying, “I feel like it has, because I feel like they think of something we did when we were working with you and say ‘Okay, I remember when we were talking about that.’ And sometimes vocabulary and terminology they may not have related to as well, and I think that helps them.”<sup>26</sup> Teacher Six states:

A recent experience when Project REAL came into my classroom was one of the most difficult topics of geometry. Umm .we actually teach trigonometry in geometry classroom, and some of my students have always struggled with that topic. And afterwards they said, ‘Wow! That was the easiest lesson that we’ve ever had in this classroom.’ And then the test scores afterwards were the best test scores that I’ve seen on that topic.<sup>27</sup>

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<sup>24</sup> Administrator One, interviewed by Megan Atkinson, Emory, VA, October 15, 2012, Project REAL Transcripts.

<sup>25</sup> Teacher Five, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>26</sup>Teacher Five, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts

<sup>27</sup> Teacher Six, interviewed by Megan Atkinson, Emory, VA, October 15, 2012, Project REAL Transcripts.

### Category 3: Describing the Process of Project REAL

Before Project REAL's teaching artist can even step foot into a class and administer a lesson that students benefit from when taking tests, the teaching artist and regular classroom teacher must discuss the needs of each class. The process would not work without the collaboration between the artist and the teacher. Teacher Two explains, "We do some collaboration, and I tell him what unit we are working on, what my goals are, and then he will do some planning. And we will come back together. Mostly we email. Sometimes we sit and talk. Constant communication through it, it's a team process."<sup>28</sup> Teacher Five expressed:

But what I love is I can give you something in my book and say, 'okay, this is our subject.' And you do with it what you want. And you look at it in a way that you may look at it in a different way than I had ever thought of looking at something. So I can give you problems, I can give you types of problems to work with students, and then let you go. Let you decide what to do. And it's always worked out wonderfully.<sup>29</sup>

After meeting with the teachers to collect important curriculum information, the teaching artist creates the lesson. Then he or she will communicate with the classroom teacher on that lesson to make sure the activities created are appropriate for each class. At that time, the teachers have a chance to make suggestions or ask questions about the lesson. The collaboration does not stop there, though. The teacher artist relies heavily on the expertise of the teachers. Co-teaching becomes the goal when the teaching artist works with the students. The students need both the theatre expert and disciplinary expert as they set out to learn. Collaboration helps with the

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<sup>28</sup> Teacher Two, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>29</sup> Teacher Five, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

success of the students learning the material. All Project REAL teaching artists follow this protocol.

### Students' Perspectives

After much collaboration with the artist and teachers, the students finally get to participate in the lesson created for their specific course. The students' comments indicate that Project REAL also focuses on implicit learning, helps them with tests scores, and aids in developing social skills among each other. This section highlights the comments of select students.

#### Category 1: Defining Project REAL

When asked to define their view of Project REAL, the students highlight characteristics that fall under implicit learning, such as movement and hands- on activity. Student One explains, "Its hands- on you're teaching us to do stuff. . . action and moving. . . When you're there, it's hands-on, basically."<sup>30</sup> Student Two defines Project REAL as not being boring by saying, "Because we are moving around and not just sitting there."<sup>31</sup> Student Three states, "It's like learning while moving around."<sup>32</sup> Student Four shares, "It is a program that comes into our rooms and teaches us things through theatre methods. . . I think one of the best things about Project REAL is being able to act things out."<sup>33</sup> Student Five emphasizes, "I know it's pretty

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<sup>30</sup>Student One, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>31</sup> Student Two, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>32</sup> Student Three, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>33</sup> Student Four, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

much a program that is supposed to help us learn how to communicate with each other. Pretty much like hands- on working with one another.”<sup>34</sup> Student Six also touches upon the social interaction while moving. He claims, “We actually get time up moving around, talking, having a good time, acting a little bit crazy. And we just basically get to cut loose instead of being there sitting working all day.”<sup>35</sup>

### Category 2: How Project REAL Affects the Students

Through providing movement and hands -on activities as a way to provide an implicit learning experience for students, social interaction naturally plays an important part in that task. Each student has the chance to work on his or her social skills while participating in the program. Project REAL helps students develop and enhance certain social skills. Student Six supports such a claim by saying that

It teaches us skills on how to work with each other, and pretty much get a feel of when we’re out in the real world, you know, we will be communicating with other people. Not to be shy, be blankly, tell hem how you feel about them. . . Because before I was always shy to talk to people and ever since you came in, you gave me more confidence to be more interactive. And just speak up and learn how to talk to people. . . It’s taught me to be a more assertive person. So now, when I get out in to the world and start working at a job, if I start out small like working at a cash register I won’t be so shy to just like meet and greet with people. I think it has some of the same effects that has on me. Like people, if you don’t really know them you don’t really associate with them they were like, this is difficult. But afterwards it forms relationships like friendships with one another because they at first if they don’t know you they were kinda like, “hey, that was fun.” It just starts relationships.<sup>36</sup>

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<sup>34</sup> Student Five, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>35</sup> Student Six, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>36</sup> Student Six, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

Because of the opportunities Project REAL provides for students to interact with one another socially, the students not only from that peer to peer interaction, but they also learn how to be confident with who they are as people. Student Seven also communicated, “It’s kinda helped me be a little less shy about saying what’s on my mind so much because I’m completely comfortable when you’uns in there. I know it ain’t gonna be right or wrong no matter what I say. So I just put it out there.”<sup>37</sup> Project REAL works to develop a safe environment to enable students to express themselves, such as Student Seven noted. Because Project REAL encourages freedom of personal expression, Student Eight proclaims that

I think it will make more selfless. I don’t know why, but the way you come in and you communicate with other students has had an impact on me. Because I used to be just like that when I was little, but I grew out of it, but I grew out of it. Because, you know, you see all the cons of people and what’s so terrible about them and you really just don’t wanna try anymore. And I think Project REAL has made me want to try.<sup>38</sup>

If Project REAL can make an impact on how at least one student communicates with others, then this theatre for education program has succeeded.

Enhancing a student’s social skills is only one of the ways in which Project REAL affects the students. Some students actually articulate how the program helps them remember the material, learn the material, and perform better on tests. Student Four states, “I can remember it better on tests. If we have to take one on it, like that time we took one on that in science, like with mitosis. It was easier to remember it on the test. . . I think it’s easier to remember it. The

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<sup>37</sup> Student Seven, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>38</sup> Student Eight, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

way that you do it in the classroom, compared to like bookwork.”<sup>39</sup> After Student Four experienced the characteristics of mitosis through connecting personally by movement, hands-on activity, and social interaction, the student was able to remember the process of mitosis when taking a test. Student Five insists that, “I’ve seen some grades spike since you’ve started. Yeah, some people have gotten a lot better in class.”<sup>40</sup> Student Six explains, “I like how you relate to stuff that I can remember it by. It helps me remember things better and clearly like. It helps me remember, like if I don’t understand word or a term, you relate it to something like an activity and I can remember it.”<sup>41</sup> The ability to connect the material personally to the students through a physical, interactive activity helps a student’s memory, which makes things easier on a student. Student Seven exclaims

It’s honestly helped me in some of my classes. In a lot of the harder classes it’s helped me learn a lot in there. It just makes the assignment more enjoyable. It makes the subject more enjoyable. It’s like whenever you’re in a classroom you’re like , this is so boring I hate it, but when Project REAL comes in it’s like, “ah, yes we get to learn something new, it’s going to be much more enjoyable this time.” It’s just different. . . with Project REAL they actually get involved and they understand a lot better, too. Yes, it makes everything much easier. You can always go back and remember something you did in class with Project REAL And you’re like , “Oh yeah that’s how we did that!”

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<sup>39</sup> Student Four interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>40</sup> Student Five, interviewed by Ryan Henderson, Bradshaw, WV, November 10, 2012, Project REAL Transcripts.

<sup>41</sup> Student Six, interviewed by Ryan Henderson.

Student Eight says, “Most of the time you’ll come in the day before we have a test and the next day when we have the test we acted that out in class we did that and it helps me remember it. I usually get pretty good grades.”<sup>42</sup>

Because of the engagement through theatre tools involved with Project REAL, a number of students remember the material or perform well on tests. Not only does Project REAL help some students engage more in a particular classroom on a specific day, but the program also affects the student’s engagement enough to affect attendance throughout the semester. Student Five expressed, “It’s made me enjoy coming to school, if you’re going to be in a class, and since it’s a surprise if you’re going to be in a class that day it makes me want to come that one day more than normal.”<sup>43</sup> Through Project REAL’s exercises, the students are engaged and challenged to use their creativity as a way to learn. Student Seven says, “I think it helps me to think more outside of the box instead of just memorizing a definition or just memorize something. It actually helps me to relate it to life and actually try to use it.”<sup>44</sup> Student Seven observes what an important focus of Project REAL aims to provide, which is an experience that allows the students to make that real life connection. That connection helps them ultimately learn the material.

#### Quantitative Data for Project REAL

Information collected from interviews only represents some of the data and results of Project REAL. Before each lesson, the teaching artist distributed a pre assessment of questions that came straight from the textbook. All together we collected 2,244 pre and post assessments;

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<sup>42</sup> Student Eight, Project REAL Video Transcripts.

<sup>43</sup> Student Five, Project REAL Video Transcripts, (Abingdon, VA:2012).

<sup>44</sup> Student Seven, interviewed by Ryan Henderson.

however, that number does not represent how many students participated in the study. Some students provided more than one pre and post assessment. The student surveys indicate that 1,200 students participated in the study. Each student took the time to fill one out before the teaching artist conducted the warm up to the lesson. After the lesson, the students filled out a post assessment that contained the same questions from the textbook, along with one question that focuses on the opinion from the students on the lesson. The pre and post assessments allow one to see where students performed better in certain subject areas and shows students' thoughts on the process of Project REAL. After the teaching artist graded the assessments, a graduate school assistant at East Tennessee University entered the numbers into a statistics program called SPSS, a predictive analytic software. Once all of the grades went into the program, I began to apply statistical analysis including a t-test, frequencies, and means to the numerical data. The discussion below focuses on the results and the analysis of those results.

#### Category 1: Average Pre and Post Scores in a Given Discipline

Before running a t-test to determine differences between pre and post tests on each subject matter, I grouped certain subject areas together under one discipline. English involves all of the English literature classes. Math includes algebra I, algebra II, geometry, data analysis, trigonometry, and calculus classes. Social studies cover world history, American government, and American history. Science includes earth science, biology, ecology, physics, chemistry, and psychology. Electives involve foreign languages, chorus, and art classes because these classes register under electives in the schools. Table 2 displays all of the average pre assessment and post assessment scores for each discipline as well as the percentage difference between the pre and post tests

Table 2: Pre and Post Assessment Averages and Differences from 1,200 case studies that produced 2,244 pre and post assessments

Subject	Pre Assessment Average	Post Assessment Average	Difference
English (967 assessments)	28%	61%	33%
Math (550 assessments)	36%	76%	40%
Science (354 assessments)	28%	65%	37%
Social Studies (198 assessments)	24%	57%	33%
Electives (175 assessments)	36%	74%	38%

First, Table 2 shows in English the students' scoring an average of 28% on the pre assessments, making English one of the lowest scoring on pre assessments along with science and social studies. With the 61% average post assessment scores, Students who took English ended up with a 33% improvement increase in the discipline's post assessments, which makes it one of disciplines that showed the least improvement. Because English and theatre both fall under the humanities, one would think that English students might perform better with using theatre as a pedagogy; however, these results do not support that notion. Perhaps because English students and theatre are classified under the humanities, that is why their average improvement from the pre to post assessments did not increase more than it did. Project REAL provides another humanities lens for the students to look through, which may not make an impression on how the students perceive the material.

Math students taught through the structure of Project REAL produced better results than English students when looking at the average scores of both disciplines. Even the average pre assessment suggests students in math had a better understanding of the material going into a lesson with a Project REAL teaching artist. The average pre assessment score was 36%, and the average post assessment score was 76%. On average math students improved on their post

assessments with a 40% increase. Math students performed better than English students. According to the SPSS t-test, math students did significantly better than English students. This result might occur because math is being looked at through a whole new perspective; however, the analysis here cannot determine the English students' lack of improvement. For some students who might not grasp the logical, analytical perspective of math find value in learning math curriculum through Project REAL's pedagogy.

Science students also found some value looking at their science material through Project REAL's lens, but the students did not score as well as math students did. Those in science scored on average for their pre assessments a 28%, and on their post assessments scored on average a 65%. There was only an increase of 37% from the pre to post assessments. Not too far behind the math scores, but still in the top percentile with the major disciplines. Because Project REAL shows better results with two of the major disciplines of math and science, Project REAL supports the efforts of the STEM movement in public education. The organization, Teacher Convoy, states, "Stem Education is an interdisciplinary curriculum, which focuses on science, technology, engineering and mathematics (STEM). . . According to the math and science initiative, corporations are struggling to find qualified STEM employees to fill the 26 million STEM jobs in the United States. Many attribute this STEM shortage to the United States' educational system."<sup>45</sup> Project REAL can reach those struggling with math by using a different teaching tool.

The next discipline that Project REAL provides a different outlook for is social studies. Social studies scored the lowest on the pre assessments with an average of 24%. With the post

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<sup>45</sup> "What is STEM? What's Behind this Movement?," Teacher Convoy, <http://teacherconvoy.com/2014/05/29/what-is-stem-whats-behind-this-movement/> (accessed November 13, 2014).

assessments, students in social studies scored on average a 57%; therefore, the students increased their scores on average by 33%. Both social studies and English had the least amount of improvement. Both of these disciplines fall under the humanities category. Because Project REAL’s techniques focus on the human experience, the perspectives at which the students look at these disciplines may not be as effective as it maybe with other disciplines such as math and science.

As the last average scores to observe, the students in electives averaged 36% on pre assessments. Table 3 displays the students’ averages in electives, which show better improvement on the pre assessments then most of the other disciplines. Scoring an average of 74% on post assessments, the students increased from the pre to post assessments by 38%. Project REAL does not teach many elective classes. Most of these elective courses already involve an art, which could add to the reason why students in these classes did not do as well as math.

Table 3: Average Percentage Improvement from Pre to Post Assessments

Subject	Average Percentage Improvement
English (967 participants)	36%
Algebra (425 participants)	50%
Geometry (85 participants)	27%
Earth Science (220 Participants)	40%
Biology (134 participants)	37%

To be more specific about the average scores with certain subjects that fall under the main categories in Table 2, Table 3 displays the results of the subjects that had the best

improvement. Again, this highlights the success that students in algebra experienced with Barter Theatre's Project REAL. Earth science's improvement from pre to post assessments with an average of a 40% increase again shows how Project REAL supports the STEM fields. At the current moment, Project REAL does work more with the math, science, and English disciplines. Perhaps, this theatre for education system should highlight the success of the continuing collaboration with the math and sciences.

Overall, Table 2 shows that not one subject area scored an average over 36% in the pre assessments administered before a Project REAL experience. Math and electives scored higher than the other subjects while social studies scored the lowest on average. Even though every discipline improved from their pre to post assessments, math came out on top with an average of improvement of 40%. Science was the next major area of study that had more improvement than English and social studies. Students performing well in math and science, makes Project REAL an important component for the initiative of STEM in the public education system.

#### Student Surveys

Project REAL not only administered pre and post assessments for each lesson conducted, but the program also gave end of the semester surveys to students and teachers. For this study, the students' surveys were the only ones analyzed because there were very few teachers who returned their surveys; therefore, the results would technically have no statistical meaning. The students were asked specific questions and allowed to check the box of disagree, not sure, agree, or strongly agree when answering the questions. This particular method stems from a Likert scale. According to Saul McLeod, "Likert (1932) developed the principle of measuring attitudes by asking people to respond to a series of statements about a topic, in terms of the extent to which they agree with them, and so tapping into the cognitive and affective components of

attitudes.”<sup>46</sup> Because of the need to discover the attitude toward Project REAL, using this scale seemed to be the most effective. Table 4 displays all of those numbers.

Table 4: Student Survey Results from 1,200 Case Studies

Topic	Strongly Agree	Agree	Unsure	Disagree
Creates a Safe Environment	199 (16.6%)	479 (39.9%)	318 (25.5%)	204 (17%)
Encourages Me to Express and Explain my Ideas	174 (14.5%)	523 (43.5%)	246 (20.5%)	257 (21.4%)
Encourages Different Ways to Communicate	263 (21.9%)	583 (48.6%)	174 (14.5%)	180 (15%)
Gets Me Excited to Learn the Material	130 (10.8%)	374 (31.2%)	324 (27%)	372 (31%)
Teaches Tools Necessary for Problem Solving	136 (11.3%)	373 (31.1%)	392 (32.7%)	299 (24.9%)
Teaches Skills for Use In and Out of the Classroom	166 (13.8%)	442 (36.9%)	318 (26.5%)	274 (22.8%)
Applies Subject Matter to REAL Life Situations	216 (18%)	492 (41%)	299 (24.9%)	193 (16.1%)
Contributes to My Success of Obtaining a Diploma	113 (9.4%)	304 (25.3%)	368 (30.7%)	415 (34.6%)
Influenced My Decision to Go to College	110 (9.2%)	184 (15.3%)	312 (26%)	594 (49.5%)

<sup>46</sup> Saul McLeod, “Likert Scale,” Simply Psychology, Last modified 2008, <http://www.simplypsychology.org/likert-scale.html> (accessed February 13, 2015).

In order for Project REAL to work well, the majority of the students who participate in the program must feel that the environment in which they learn is safe. The teaching artists make the safety of the environment a priority. Otherwise, the students will not be compelled to open up and make personal connections to the material. With 16.6% of students who strongly agree along with 39.9% who agree, an overall of 56.5% agree that Project REAL provides a safe environment for their students. Leaving only 26.5% unsure and 17% who disagree. Those who disagree or do not know may be those students who find themselves uncomfortable because of Project REAL's requirement to get them involved physically and creatively. This can make others feel uncomfortable because it is out of the normal for them. They are stepping outside of their comfort zones when learning, expressing themselves, and communicating through such an artistic way.

Due to Project REAL's goal of helping the students make personal connections to the material, the opportunities to express themselves arise more often than not. This experience encourages empathy among students. Students expressing themselves allows them to get more information about and understanding of one another. Because there are 14.5% students who strongly agree and 43.5% who agree that Project REAL encourages them to express and explain their ideas, altogether 58% agree they are able to express themselves as a result of Project REAL's pedagogy. The 20.5% who are unsure may be the population of students who do not know how to express themselves well, and 21.4% may be the population of students who do not connect well with Project REAL's techniques.

In addition to Project REAL encouraging the students to express themselves in a safe environment, another encouragement focuses on communication skills. In the theatre the use of different communication skills requires one not only to learn how to communicate with another

person verbally, but also requires one to learn how the body language of someone helps him or her communicate successfully. Naturally, Project REAL encourages the students to communicate with one another in different ways, and the feedback from the students supports this goal. With 21.9% who strongly agree and 48.6% who agree, overall a total of 70.5% agree that Project REAL does give the students opportunities to use different forms of communication. That leaves a small portion of students who may think otherwise. That leaves only 14.5% who are unsure as well as 15% who disagree that Project REAL does encourage different ways of communicating with one another.

The same techniques that encourage different forms of communicating also allow the students to engage in problem solving. Problem solving along with communication skills eventually help with critical thinking. Those who represent Exforsys, a consultant and training firm, explain that, “Critical thinking is important for situations where logic needs to be used to solve a problem. Many researchers feel that schools should place a higher emphasis on critical thinking instead of memorization.”<sup>47</sup> Theatre focuses on creative problem solving skills, allowing one to think outside the box to help solve a problem. Theatre encourages critical thinking; therefore, Project REAL does teach and provide tools that will help students problem solve. Because 11.3% strongly agree and 31.1% of students agree, that gives a total of 42.4% who definitely agree that Project REAL teaches them tools to problem solve. That leaves only 32.7% who are unsure and 24.9% who disagree. Project REAL’s tactics do not involve telling a student directly what the program aims to teach them. Using theatre arts and creativity disguises

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<sup>47</sup> “How Critical Thinking Can Help You Solve Problems,” Exforsys Inc. Execution for System, <http://www.exforsys.com/career-center/problem-solving/how-critical-thinking-can-help-you-solve-problems.html>. (accessed November 14, 2014).

those things, so that some students do not fully understand or see how Project REAL teaches them problem solving skills.

Not only does Project REAL aim to help students with problem solving and critical thinking, but the program also focuses on encouraging and enhancing skills that are not only successful for the classroom, but also successful for living their lives. The 13.8% who strongly agree and the 36.9% who agree means a total of 50.7% agree that Project REAL does teach skills for use in and out of the classroom while the others are either unsure or disagree. In fact, 26.5% are unsure and 22.8% just disagree on whether Project REAL teaches them tools that they can use in and out of classroom. To help improve Project REAL's success with students, knowing if the students think the program does teach tools for inside the classroom only and not outside of the classroom would benefit Project REAL teaching artists.

The execution of a Project REAL lesson centers on helping students make a real life personal connection to the material they are learning. To do this, Project REAL teaching artists must apply the subject matter to real life situations. According to the survey, 18% of students strongly agree and 41% agree, which means that a total of 59% of students agree that Project REAL applies the subject matter to real life situations. That leaves only 24.9% who are unsure as well as 16.1% who disagree, which mean that Project REAL needs to find real life situations that resonate with those students. The ability to reach all students is a struggle; however, Project REAL does a successful job of reaching more than half of the students who participated in this study and helping the students make a real life connection to the material according to this survey.

The exercises that help relate the students' lives to the curriculum also allow Project REAL to teach the given curriculum in many different subjects. One of the goals of this-theatre

for education program aims at helping students take ownership of their learning., which means taking responsibility for learning and developing as an individual. Taking ownership might lead to getting excited about what one is learning. According to the student surveys, 10.8% strongly agree and 31.2% agree that Project REAL gets them excited about learning the material, which makes an overall percentage of 42%. Perhaps the 27% who are not sure may be unfamiliar with wanting to learn at school or who do not understand that Project REAL actually does teach the curriculum. The 31% who disagree are the students whom Project REAL needs to study and understand why they do not get excited about learning. Having that understanding might help with the implementation of Project REAL in classrooms in the future. Overall, Project REAL definitely excited more students about the material than not.

While Project REAL aims to help students take ownership of their education, the program's goal also focuses on helping students eventually graduate prepared to move onto the next level as a functioning citizen in society. The survey suggests that 9.4% strongly agree and 25.3% agree that Project REAL does contribute to their success of obtaining a high school diploma, which means that a total of 34.7% agree. The 30.7% of students who are unsure and 34.6% of students who disagree may be the result of having only one semester with Project REAL. To collect data on the answer to this question, Project REAL would need to have the students answer this after experiencing the program for three years of high school. That might change those percentiles of the students who think Project REAL does help with their success of learning and obtaining a diploma.

Although Project REAL does want to help students graduate from high school, one of the goals does not revolve around convincing students to go to college because graduation does not automatically lead to one going to college. Project REAL's goal aims to help students learn and

take ownership of the learning in order to eventually become function citizens; however, the survey did ask the students about how Project REAL may affect their decisions to go to college. With 9.2% who strongly agree and 15.3% who agree, means that overall a 24.5% agree they were influenced to go to college, leaving 26% who are unsure as well as 49.5% who disagree. Again, providing the survey questions after the students have experienced Project REAL for three years might change these numbers.

### Data Conclusion

Both qualitative and quantitative data show many of the strengths for Project REAL and some of the weaknesses with the program as well. The data answer the research questions and support the argument that Project REAL provides an implicit learning experience that taps into the emotional lives of the students through theatre tools and support this particular pedagogy as a way for students to learn the curriculum. This theatre for education program does teach students critical thinking and communicating skills such as problem solving while at the same time providing an environment that encourages self-expression in order for the students to learn and take ownership of their education. These results show success in the work of Project REAL's teaching artists.

Not only has Project REAL found success, but the program has also found some weaknesses as well as other questions to answer. Why did math students show more improvement than English students? Will students think differently after experiencing Project REAL for the majority of the high school years? Is it possible to get all students excited about the material they are learning? What does a Project REAL class look like in comparison to a traditional class? Now that I have experienced collecting data for the first time on this program, I have implemented a control group and an experimental group to see if there are differences in the

students' test results. This study is the first step to understanding the strengths and weaknesses of Project REAL, but because of this study, I am able to move on and get specific with how we collect data. Isolating Project REAL as a variable is really important. The school participating in the experiential and control groups is allowing Project REAL to compare benchmark tests and any other assessments given by the teachers in those classes that participate. Engagement is one variable that this study will focus on because engagement is the only variable we can truly isolate. Meaning, one can see the effects of the students' engagement when Project REAL teaching artists implement a lesson. Now, we are administering engagement surveys to students to see not only how their engagement is in Project REAL classes, but also in traditional classes. All of these changes will give a better idea of how Project REAL classes compare to the traditional classes, which will be important to the sustainability of Project REAL.

## CHAPTER 5

### CONCLUSION

In the public education system at present, many educators find themselves focusing less on the process of learning and more on the outcome of the students taking a test. As seen in Chapter 2, the history of public education reveals various social and political reasons that schools place emphasis on teaching to the test. This emphasis fuels Project REAL's initiative to assist educators with providing a long lasting, rememberable human experience through the use of theatre techniques to help their students learn the material. These theatre techniques help students explore human experiences by way of physical movement, hands-on activities, social interaction, and expression of emotions so that the students can make a real-life, personal connection to the material. This study focused on analyzing whether or not Project REAL's approach was successful because of the program's brain-based pedagogy that incorporates implicit learning, which is a vital component and process for how humans learn according to neuroscientists. Implicit learning works in the opposite way of a traditional form of teaching where a teacher lectures and a student sits taking notes, which is a pedagogy categorized as explicit learning. There are times when explicit learning plays a valuable part in a human's education and for some students that is the best way to learn; however, A number of studies, including those of Jensen, Gardner, and other cited in this study proves that when a human engages in implicit learning cognitive skills are enhanced and the chances of learning increase. The more intense the experience of an emotion the more likely one will remember the lesson; therefore, Project REAL implements an implicit learning pedagogy as a way to teach to the mind, body, and spirit of a student.

Project REAL's ability to teach to the whole child speaks to the advancing world of education psychology. Neuroscience and educational psychology provides more and more information regarding the capabilities of the human brain and body, which educators and institutions must start acknowledging. Separation of the mind, body, and spirit exists as an old way of thinking as philosophers Kant and Descartes claimed. Because of the need to teach the whole child, understanding the diverse learning needs of each student aids in the success of an educator. Project REAL addresses the diverse learning needs of those students who learn better through kinesthetic movements, visuals, social interactions, or emotions. Through the imagination, theatre artists use the craft of theatre to help students reflect on their own human experiences as a way to inform them about the curriculum. The Project REAL experience also supports John Dewey's experiential learning theory because the program formulates meaningful experiences that then allow for learning to take place. Students need to experience something meaningful in order to truly learn and embody the knowledge gained from the experience.

#### Recommendations for the Future Research

Through interviews collected from teachers and students, the evidence shows that Project REAL does create a meaningful experience for the students. When the students experience something meaningful, they want to come to school and they learn the curriculum. Both teachers and students recognize the impact Project REAL has on the students' social skills, grades, and the teachers' pedagogical skills. One of the weaknesses of the program involves Project REAL's inability to teach the details of each discipline. Project REAL is not designed to help a student become a mathematician, historian, writer, scientist, or an actor, because the goal of Project REAL is not to do such a thing. This is why professional development with the teachers remains an important component of the program. The teachers' feedback on professional development

provided by the program remains one of the highlights for the teaching artists. The organizers of this theatre for education program want to provide more opportunities for professional development not only for the schools Project REAL already has a presence in, but also for educators who do not work with Project REAL on a consistent basis at the schools. Finding more time to collaborate with the experts in each subject will allow the creation of more detailed activities through which students can then learn more in depth information on a given subject.

Collaboration with teachers is not the only action Project REAL teaching artists want to take in order to improve this theatre for education program. As mentioned in the data conclusion of Chapter 4, an experiential group and control group currently exist in the data collection in both science and math classes. The focus of math students in experiencing Project REAL on a consistent basis becomes important to the arts existing in a STEM (Science, Technology, Engineering, and Math) motivated educational world. Because math students showed a significant improvement in their assessments, obtaining this information on math classes could uncover why math students improved more than did the English students.

Ensuring the comparison between the control and experiential group will help isolate the difficult task of intervention of Project REAL on students. Many variables can affect how a student performs academically. One variable that can be isolated though, is engagement; therefore, instead of distributing the pre and post assessments, the teaching artist distributes an engagement survey at the end of each lesson. The artists also require the traditional teacher to give an engagement survey to classes that Project REAL does not visit. Obtaining surveys from students participating in the traditional classroom, as well as the Project REAL style classroom will help one compare the engagement and participation. Perhaps, the engagement survey can provide more solid evidence to the capabilities of Project REAL.

While waiting for more raw data from the surveys and experimental groups versus the control groups, the importance of providing professional development for educators remains high. Project REAL is currently in the process of developing a certification program through East Tennessee State University. This certification program will allow educators to get continuing education credit when taking a Project REAL course and can allow them to complete a certificate in Project REAL pedagogy as well as to count such credits toward a specified graduate degree. Those details are still being worked out. If regular classroom teachers obtain more exposure to specific tools used in Project REAL, they will become more comfortable helping students make personal connections to the material through their own creativity.

Project REAL's capabilities focus on helping the students make personal connections to the material, while at the same time aiding students in developing their empathy with one another, understanding their emotional lives, developing social skills, communication skills, teamwork skills, learning skills, and understanding of the curriculum. This theatre for education program gives students the opportunity to explore who they are through the material they must learn; therefore, Project REAL's pedagogy gives students the chance to take ownership of their learning as it forces them to reflect inward and make creative choices, which in turn helps shape their futures as functioning members of society. The program does that by providing an implicit learning experience through theatre techniques that reinforce movement, social interaction, and self-reflection as a way for students to have an emotional experience for a long lasting impression; therefore, students learn the curriculum.

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All the World's a Stage: Importance of building an ensemble and listening skills using Meisner, Spolin, and Boal techniques (2012)

*Abingdon High School/Barter Theatre* Abingdon, VA  
Artist in Residence: Supported and taught school's curriculum through theatre exercise, nominated for "Women in the Arts" Award for YWCA, and honored by Minds Wide Open for teaching Theatre arts to youth (2011-2012)

*Abingdon High School*, Abingdon, VA  
Shakespeare Core Group: Studied Shakespeare text through movement techniques (2012)

*English High School*, Jamaica Plain, MA  
Self Image Workshop: Worked with Youth at Risk (2011)

*Shakespeare Now! Boston, MA*

Teacher assistant: Taught workshops on connecting the text of Shakespeare to the students' lives.

*Shakespeare in the Valley, Waterville Valley, NH*

Actor Apprentice Advisor: Mentored young actors and conducted workshops using Hagen and Suzuki techniques (2008)

*Barter Players, Abingdon, VA*

Improvisation: Using Spolin techniques (2007)

Honors and Awards:

Women in the Arts Nomination for *YWCA* 2012, *Minds Wide Open* honor for Teaching in the Arts 2012, Patricia O'Neal Scholarship 2006-2007 for *Barter Theatre*, Irene Ryan Scholarship Nominee 2004-2005, Theatre Performance Scholarships 2002-2006, Emily Woodruff Scholarship 2003.