PEDAGOGICAL INSIGHT FROM TECHNICAL THEATRE EDUCATORS: DESIGNING A LEARNING-CENTERED COURSE

A Thesis

Presented to the Faculty of

Alaska Pacific University

In Partial Fulfillment of the Requirements

For the Degree of

Master of Arts Program

By

Rees Loren Miller

December 2016

Pedagogical Insight From Technical Theatre Educators

ABSTRACT

In the summer of 2016, Rees was given the opportunity to be the Technical Director of Training Better Artists' (TBA) summer Technical Theatre Academy. The goals were to create an academic learning environment and a hands-on learning environment for a group of 15 students. This study explores student engaged and leaning when in the theatre scene shop and in a classroom environments. Five educators explored safety and compared learning environments to provide a curriculum for the students. The data collected came from interviews conducted with these educators and a daily updated journal that includes observations and analysis of what was happening in each learning environment. This research focuses on the moments of learning observed by educators during instruction. The 15 students had 77 hours of contact divided between five educators. The participants in this study were the five educators. During this time, data was collected about each educator's observations about student learning. The data was recorded using structured interviews and a research journal updated daily. Over the course of this eight-week process the five teacher participants were asked to analyze their lessons for strengths, weaknesses, possible improvements, and to report, through interviews, what they observed. The data was reduced and coded using qualitative analysis software. Themes and patterns emerged from the data. Patterns indicate that kinesthetic learning is a preferred method of cognitive strategy instruction.

Keywords: Qualitative, Case Study, Technical Theatre, Education, Pedagogy, Action Research, Atlas Ti, Learning Environment, Teaching Strategy

Pedagogical Insight From Technical Theatre Educators

TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF TABLES

ACKNOWLEDGEMENTS

I want to thank my educators for their patients and expertise, my mentors for their tireless dedication to adult education, and TBA theatre for allowing me the opportunity to learn. I am currently employed by the Anchorage School District as a theatre educator for West Anchorage High School. I teach one section of technical theatre, one section of acting, I am the Artistic Director of the West High Theatre Company, and teach three sections of Chemistry (that's another story). This project is the result of the determination, hard work, and dedication of the men and women who selflessly donate their time and skills to art of theatre and adult education.

I found a passion for the performing arts late in life. I had very limited exposure to performing arts in high school and did not return to the experience until I was thirty years old. In the winter of 2010 I reluctantly step onto the stage and I haven't looked back since. For the past five years I worked with local theatre companies ACT (Anchorage Community Theatre), West Anchorage High School Theatre Dept., and TBA (Training Better Artist). With the help of these organizations and the hardworking and dedicated teachers I have developed a life long attraction to the art of theatre.

I would also like to acknowledge the hard work of my mentors. Many thanks to David Block for giving me the opportunity to work with teenagers in the field of technical theatre education. Special thanks must be given to Wayne Mitchell for his tireless dedication to this and many projects; he is a true supporter of arts education and a valuable member of the community. Finally a

heart-felt thanks to Dr. G. Andrew Page for the many hours of time he has spent teaching me how to express an idea on paper and reminding me that I am capable of completing this project.

PREFACE

Love has brought me to this point in my life. Not love of theatre or love of education, but love for someone. Or better yet, their love for me. The opportunity granted to me through this processes is the product of five years of self-discovery, but the best part of this story is not the awakening but the moment of choice. In life's moments of need I have found that it's not a "thing" that is needed most often, but a who. The "who" in question here is my wife. I will forever be grateful for her persistent love and it was that persistence that led me to a choice. It didn't seem like that big of a choice to make at the time. I suppose that made it easier to make.

In the coldest time of year in the winter of 2010 in Anchorage Alaska, I found myself in a what I could only describe as a long room, twice as wide as it was deep. There were no windows and the room had a shallow stage running the length of the space. Opposing the stage was three rows of seating. The room was artificially lit with large stage lights. I felt overwhelmingly claustrophobic as a very large crowd of people joined me. As I entered the room I could hardly find a place to stand. I looked at my wife and though I cannot remember the exact words said I'm sure it was along the lines of, "I can't believe you have dragged me here". She would give me a guilty smile that I have grown to recognize and love. As I began to examine the crowd closer I came to a shocking conclusion, there were only three men in this crowd. I didn't know how to take this information. I had the feeling I was in the wrong place, but before I could plan my escape route a commanding voice announced that we

would be getting started. We managed to fill in all the seats and standing room not on the stage. Some furniture was moved into a usable position on the stage. The booming voice I had heard earlier belonged to Erin Dagon Mitchell. She was a commanding presence. She spoke with authority and everyone in the room gave her deference. Before I could assess a plan of action I was called on stage to read a passage written on a piece of paper. The stage lights made it hard to focus on the words. I mumbled something that I'm sure came across with a tone of discomfort. I quickly sat back down and watched as my wife took her turn on stage. I reveled in the thought that I was finished. I had completed what was asked and would soon be sent home. I was horrified to find out that this process was going to happen again and would happen many times over the next three hours. Erin was disappointed to see so few male participants but made do with the three of us, and by "made do", I mean she used us in all of the scenes read that night. I mumbled lines under those blinding lights for what seemed like eternity. At the conclusion of this overwhelming experience Erin thanked all of us for attending and sent everyone on his or her way.

That was my first audition, my first expedition into the world of theatre. As I was leaving the long square cage I had been contained in, a large number of people stopped to talk to me. This group of people was very open and welcoming. They loved to laugh and held no judgment over my lack luster performance during the audition. By the time I got to the end of the room Erin stopped me an said, " your chances look good, I have roles for five males and only three of you showed up". I felt the lump in my throat start to build. I hadn't

expected to be part of the process. I was supposed to show up, do terrible, and leave. I was stuck with the choice. Again, it didn't feel that big at the time. I had no idea that in a moment, a seemingly meaningless choice would have such a profound impact on my life. A few days after the audition I found out that indeed I had been cast as a member of the play. I reluctantly accepted my post and tried to prepare for the battle ahead. The experience was amazing. I found the allure of acting to be quite addictive. By the end of our process, I was joyfully hooked. I am grateful, that in that moment, I found the courage to accept the challenge. I am even more grateful to my wife, who wouldn't let me out of it. She encourage me in a time when I needed encouragement, she listened to me as I mentally struggled with the demands of the theatrical process. She is and will always be my rock, my inspiration.

Acting is hard. Just overcoming the fear of public speaking was difficult. The thought of actually adding characterization to my public speaking was, at the time, almost unimaginable. I was lucky though. Erin Mitchell worked for a theatre company called TBA. It's an acronym for Training Better Artists and that is exactly what she did. Her guidance, patients, and training I will never forget. She was the first person to show me that theatre was an expression of art and that I could contribute to that art. I have never been an artist. My life's experiences up to this point had told that I'm not the artistic type. I couldn't draw, write, sing, or dance. I had resigned myself to having an analytical brain. One built for calculation, organization, and reason. Erin's faith in me was far

greater than the faith I had in myself. She allowed me to see that artist I could be. I will forever be in her debt.

The cast was a unique group of actors that made me feel right at home. I had not met a group of people like this before. So open, and willing to help. These people gave of their time so freely and without thought of compensation. The cast worked hard at producing the best product they possibly could. The process felt very team orientated. Each actor had their own roles and lines, but the beauty of the process was not the individual improvement or performance of an actor but what the ensemble of actors could create as a team. It was this team atmosphere that really attracted me to theatre. Everyone in the theatre community is working toward a singular goal, a selfless environment full on positive energy and an unspoken family atmosphere that I would later come to treasure.

I spent the next five years working with TBA Theatre Company. During my time working with TBA I met my mentor Wayne Mitchell. Wayne is the Education Director, Technical Director, and a founding member of TBA. Wayne was the first person to show me that acting wasn't the only skills needed to put on a quality show. Wayne introduced me to the scene shop. I found something familiar there. The scene shop was a community of people, each with specific skills, working towards a common goal. I've always felt comfortable around a wood shop. I love the smell of freshly cut wood. The sounds of a scene shop at work remind me of progress. I immediately connected with the shop and the people who spent their time there. I found myself working more and learning

more about what it takes to build and complete a set for a show. I will never forget the mentorship Wayne has shown me. He has been a true inspiration. He continues to challenge me and I look forward to many years of collaboration with Wayne.

The thought of teaching theatre to youth had always been in the back of my mind. I am a teacher by trade. I have been teaching high school chemistry for the past 13 years. Education is something I enjoy. The interactions with students and other staff members have always been a positive and re-enforcing activity in my life. I hadn't seriously thought about teaching theatre until I started this process. I had originally thought about perusing a master's degree in science, but as I began to research programs and availability none of the topics captured my attention. There were some offerings in environmental science that look mildly interesting but nothing appealed to my passions. I was about to give up on the idea of a master's degree when a good friend suggested I peruse a degree in theatre education. I wasn't sure about the application of this degree as I spend most of my day teaching chemistry. I made the decision that it would be nice to have the option to shift my teaching focus at some point in the next 10 years. I had no idea how quickly I would find myself in need of this degree.

In the fall of 2015 a colleague of mine came to me with a proposal. I had just started my master's program and was in need of a good high school mentor. David Block was, at the time, the Artistic Director of West High School's Theatre Department. Dave had been teaching theatre at West High for nearly 20 years. I

had approached him as a possible mentor for my program, which he gladly accepted. Over the next year Dave and I worked together on several productions. His guidance has been instrumental in my development as a theatre educator. I will forever be grateful for the time and knowledge he gave me. In the fall of 2015 he conveyed to me that he was ready to retire. Dave's hope was that I would be willing to take on the program after his retirement. I had thought I might get an opportunity like this, I had no idea it would happen so quickly. I wasn't immediately receptive to the idea; this was not a decision to make lightly. The time requirements are large and the knowledge needed to run a successful program was not fully in my skill set. As I reflected on this choice, I found myself getting more and more excited about the prospect of teaching theatre. Through my master's program I have made many connections in the local theatre community. This support network has given me the confidence to take on the challenge. I look forward to working with students at West High School. I am thankful for the opportunities this program has given me and look forward to many more years of teaching theatre in Alaska.

CHAPTER 1 INTRODUCTION

The purpose of this study was to investigate student learning in two different learning environments. The first setting is the technical theatre classroom. The second setting is the theatre scene shop. Data was collected about student engagement, safety, background, leadership, and small group learning. This data was entered into Atlas Ti's qualitative software programming for reduction and presentation. To organize the data and provide a lens to view this research, the following areas of emphasis were used to guide this study.

1. The first area of emphasis was learn how to best teach safety in the theatre scene shop. A majority of the work is done in a scene shop where power tools, saws, and other dangerous equipment are commonly used. Student safety is a chief focus while in the scene shop.
2. Second, to explore the effectiveness of teaching students in a classroom setting verses teaching them in a shop setting. Part of this job is theory and curriculum driven; another part is kinesthetic and hands on.
3. Third, to find ways to engage all students in the learning process. Many students get complacent in a shop setting and are happy to watch as others do work. The program seeks to design an optimum learning environment where all students feel like they have contributed to the final product.

4. Lastly, A focus on future applications of the study. To improve the educational practice, optimize student outcomes in educational practices, and kinesthetic learning environments.

The data for this research was collected during TBA's 2017 summer Technical Theatre Academy. The academy is an eight-week intensive program focusing on technical theatre education for youth and teens. The program was designed to work with15 students and five educators over eight weeks to produce five plays. The kinesthetic learning environment for this study was the Wendy Williamson Auditorium on the University of Alaska Anchorage's campus. Our classroom for leaning was located adjacent to the Wendy Williamson Auditorium.

All data for this study was collected using interviews and observations. All the educators working with the students were asked to complete an interview after they have taught a unit. The interview questions were designed to compare the classroom-learning environment with the theatre scene shop environment. Another source of data collection in this study was a personal journal. The journal was composed of observations and analysis of students and educator's performances. The journal was updated daily and includes information about student learning and observations of educators during the teaching process. All data was organized and coded using Atlas Ti's qualitative software.

Pedagogical Insight From Technical Theatre Educators

To aid in the understanding of this document the table below (Table. 1.1) has been created. This table is a list of terms and their definitions. All definitions were gathered from oxforddictionaries.com

List of Terms

Table 1.1

Term	Definition
Scene Shop	A space used to fabricate and assemble scenery for a theatrical performance.
Cyclorama	A cloth stretched tight in an arc around the back of a stage set, often used to depict the sky.
Radial arm saw/chop saw	A circular saw which slides along a pivoting horizontal arm that can be repositioned for cutting at different angles.
Table Saw	A circular saw mounted under a table or bench so that the blade projects up through a slot.
Engaged	Busy; occupied
Metal shop	A space where metalworking is taught.
Wood shop	A space where woodworking is taught.
Painting shop	A shop space used to facilitate process or the art of using paint in a picture, as a protective coating or as decoration for the purposes of a play.
Platforms	A raised level surface on which people or things can stand.
Hollywood Flats	A flat cloth, or backdrop of theatrical scenery used to represent walls.
Staircase	A set of stairs and its surrounding walls or structure.
Zone of Proximal Development	Is the difference between what a learner can do without help and what he or she can do with help.
Batten	A long flat strip of squared wood or metal used to hold something in place or as a fastening against a wall.
Rigging System	A system of ropes, cables, or chains employed to support battens in a theatrical production
Stage Manager	The person responsible for the lighting and other technical arrangements for a stage play
Dimensional lumber	Timber sawn into rough planks or otherwise partly prepared to specific dimensions.

The next chapter will provide a survey of the recent related research.

CHAPTER 2 REVIEW OF LITERATURE

2.1 Purpose

The purpose of this study is to design and improve pedagogy in the field of technical theatre. The research began at APU's consortium library. The research was comprised of 27 peer-reviewed documents from universities across the United States, of which three were directly applicable to technical theatre education. The search parameters of this research extended from 2013-2016 and were limited to peer-reviewed journals, thesis, and doctoral dissertations. The first part of this chapter is dedicated to research that has already been done in the field of technical theatre education. The second part of this chapter is dedicated to supporting literature that will be used to supplement learning goals in individual lessons.

2.2 Technical Theatre Education Research

The topic of technical theatre education proved to be an elusive subject for research. The amount of literature available in this study was sparse. A cumulative total of 27 peer-reviewed documents were examined for content. Three of these were instrumental in aiding in understanding what my research is and how it can add to what already has been studied about technical theatre education.

The first text reviewed was from Virginia Common Wealth University (Hershey, 2015). The purpose of this essay was to raise awareness for technical theatre course work to be taught in high schools and universities. The author observes a shift in the progression of technical theatre as an academic study to

technical theatre as an apprentice study. In more recent years, the role of technical theatre education has been to support productions done at universities. The author makes the argument that students are being used as labor to support the large productions instead of learning technical skills in a traditional collegiate course. Hershey believes that students are working more in a labor capacity and not a learning capacity. The qualitative analysis of Hershey's data supports Hershey's argument. The author reviewed the top 10 universities for theatre in the United States according to the *Princeton Review* (Hershey 2015, pg. 10).

College/University	Degree offered	Number of Production Classes Listed in Course Catalog	Number of Performance Classes Listed in Course Catalog
Wagner University New York City, NY	B.A.	20	20
Carnegie Mellon University Pittsburgh, PA	B.F.A.	118	122
Emerson College Boston, MA	B.F.A.	33	46
Ithaca College Ithaca, NY	B.F.A.	33	50
Indiana University Bloomington, IN	B.A./B.F.A.	22	30
Stephens's College Columbia, MO	B.A./B.F.A.	23	24
Elon University Elon, NC	B.A.	9	21
Kenyon College Gambier, OH	B.A.	4	14
SUNY Purchase Purchase, NY	B.F.A.	81	118
Vassar College Poughkeepsie	B.A.	8	19
Northwestern University Evanston, IL	B.A.	20	30

Figure 2.1 Course work vs. performance work class offerings at top universities

This data supports his theory that classroom technical theatre education is not as common as credits given to those working on active productions for the university. The author believes this has created an environment that only values technical theatre education as "free labor" to produce shows. Conversely

Hershey wants the classroom study of technical theatre to be as equally important as producing shows for a university.

Hershey provides a probable solution to the inequity found in the course offerings at the universities sampled. The plan has many parts that the author describes in detail. Hershey focuses on organization and scheduling as a successful way of integrating more classroom-based learning into the curriculum. The author stresses the creation of a technical calendar that mirrors a production calendar. The author aligns classroom material with the needs of the technical production calendar (Hershey 2015, pg. 18). In the author's plan a lesson on lighting design would precede the tech week's light production time block. In this manner the students are learning, in advance, information applicable to what is being asked of them by their university's theatre production program.

Hershey provides curriculum support and ideas for cross-curricular pairing with production teams. The plan is complicated and there are holes in the pairing of the classroom curriculum with production needs. To allow for flexibility in his program, the author recommends a two-team approach. Teams A and B would work in tandem to make sure all the needs of the production team are met while still allowing for suitable classroom time.

The second peer-reviewed text was written by M. Morey (2014). Morey wrote about diversification in theatre education. Morey believes that technical theatre education is an excellent medium to diversify education. The author starts the essay with a synopsis of the roles of each member of a production and

technical teams. This research goes into detail about the expectations of the scene shop, props, costume, sound, and paint crews. Morey uses this compartmentalization of tasks later in the thesis to talk about the plethora of diverse skills available for students to learn while in a technical theatre class. The author gives a detailed history of educational philosophy, focusing primarily on changes in the post-modern era. The research focuses on the effectiveness of self-motivated learning through multidisciplinary projects. She gives examples of learning institutions that currently use multidisciplinary projects to strengthen their programs. The examples are private institutions that have found success by offering a diverse and flexible curriculum to students.

Morey strengthens the arguments by comparing educational goals to the goals of the common core curriculum, which has a majority following nationwide. The research uses the lens of technical theatre to accomplish the goals of the "21st Century Learner". The author believes that in this decade students need to be well rounded academically and technically. Morey believes the lines between blue and white collar workers are becoming more blurred as technical jobs are requiring more and more academic skill. Morey believes technical theatre can help to train students to think critically, problem solve, and work with an educator to find solutions. "It is no longer reasonable to train students for a specific career; instead, students need to acquire the skills that will make them flexible, adaptable, and creative employees" (Morey 2014, p.72).

The final document I reviewed to support this thesis was written by Alex Schott. It was published in 2013 by the University of Iowa, it was his doctoral

dissertation. Early in the author's dissertation Schott makes an observation during a theatre strike at the school he conducted the research. "Strike" is a term used to designate the time when the stage must be cleared of all technical elements of the show. Set pieces, props, costumes, lights, sound, and stage must all be organized and put away. Strike is complete when the stage is empty. During the strike the author noticed two students struggling to carry a piece of plywood (pg. 24). He makes the argument that these two students were more than capable of carrying the plywood individually. They did not know there was a technique to carrying dimensional lumber. The students seemed to be not interested in learning a more efficient way of carrying the plywood. Schott goes on to propose that the reason for this particular interaction was caused by the focus on intellectual learning our educational system has adopted. The author believes that education is trending toward brain learning and not kinesthetic learning (pg. 27). The purpose of the research was to observe the types of learning that happens when students work with their bodies. Schott's research (2013) was guided by three research questions he posed early in his process.

1. In what ways are learning opportunities made available to students in the confluence of hands-on skills, critical problem solving, and artistic interpretation in the technical theatre curriculum?

2. How does the enacted pedagogy of technical theater shape the kind of learning that occurs during both in school and out of school

activities?

3. What processes and resources for meaning making are available to technical theater students? What is the nature of the meanings these students construct? (pg. 44)

Schott collected all data while spending time as the technical director of a high school over the course of one school year. The author worked on six plays during this time (pg.12). Schott uses participant observation method to collect the data. The interviews were recorded and collected in a journal. Technical directors and students were interviewed informally throughout the year. The author provided the interview questions. A short sample of a student interview in shown below, in figure 2.2.

INTERVIEW QUESTIONS FOR STUDENTS

Interviews varied widely. As originally conceived during the Institutional Review Board approval process, the questions I intended to ask students are listed below.

Background and subject's interest in tech theatre

- How did you choose this class or activity? Options you considered?
- Have you done tech theatre before? Have you done similar classes before?
- Did you start in Stagecraft or as a volunteer?

Stagecraft class

- How did you do? Did you enjoy it? What were your classmates like?
- In these regards, how did it compare to other classes?

After school teaching, if appropriate

- Why is tech theatre interesting to you? Do you like drama?
- What do you like about it?
  - Social aspects, belonging, etc.
  - Work, contribution, part of a large project
  - Recognition
- How much time does it take you / how much do you do it?

Other classes / interests

- Do you do other activities?
  - Are they similar to tech?
  - What's good about them?
- What are your favorite classes / activities? Why?
- What subjects / activities are you best at? Why?
- Who are your favorite teachers / coaches / faculty? Why?
- Do you have career plans? Plans for classes next term / year?
  - Does tech relate?
- What are some things you've done in other classes that have been especially good / fun / instructive? Why so?
- What is something you have done or learned doing tech that you have used in another class?
- What things have you learned in other classes that have helped you in tech?

Learning

- What's it like hanging out in the shop every day? Using power tools? Hitting things?
- What do you think people learn doing tech? Is it valuable?
- Can a person learn similar things in other classes?
- How is this class taught compared to other classes?

*Figure 2.*2 Sample interview questions pg. 356

All data collected was qualitative. Figure 2.3 organizes the data

collection opportunities.

Role	Setting / Location	Recording Methods	Frequency
Observer	Stagecraft class	Field notes Reflections	Approximately twice per week for 12 weeks
	Operation Backstage	Field notes Reflections	2 occasions, 1 per year
Participant Observer	After school work session	Field notes Reflections	52 occasions during 6 plays over two years
	Technical rehearsal	Audio recording	3 plays
Interviewer	Private interviews	Audio recording	2 interviews with adults 3 interviews with students

Figure 2.3 Record of data collection is Schott's study

Schott's findings and implications are directly related to the research questions listed above. Schott discovered a difference between how students are observed learning in a kinesthetic environment differently than in the classroom setting. Schott argues,

> I was struck by the fact that not only the ways in which students were learning were different, but the teaching was as well. I noticed that the directors and I worked with students differently than I did in my classroom, and seemingly quite effectively. Sometimes technicians and I worked together on the same project, but generally students had far more independence in technical theater than in my classroom. (pg. 327)

Schott's conclusion about how students learn and how they teach each

other indicates a difference in cognitive development of curriculum. Schott talks about the "freedom" and "independence" the theatre scene shop provides students. It is important to note that Schott gives credit to his teaching staff. Schott talks about the importance of the teaching style to match the environment the students are in and Schott talked about one of his educator's approach to teaching students in the theatre scene shop.

> . . . that one of the standout features of technical theater at Lincoln is the way that Linus has structured the activity to minimize overt instruction and locate learning opportunities in the chances provided to students to make things, make decisions, do meaningful work, and otherwise participate in the life of the community. (pg. 346)

Schott argues that the opportunities for learning in the scene shop should be student driven and taught as an inquiry. The author concludes that less direct instruction is needed in the theatre scene shop and the student's own imagination and questioning should guide the learning of each student and their peers.

2.3 Curriculum Support

The next section of my review of literature is a list of supporting text that educators will use to supplement the lessons taught to the students. Many topics will be covered during the duration of this study. The literature is organized by the application to the students and the summer theatre program.

Introduction to Scene Shop

Students will first be introduced to the environment of the scene shop. The group of students and educators will cover a variety of topics from packing and shipping to power tools and lumber. The primary textbook used to guide these lessons is Burris-Meyer and Cole text *Scenery for the Theatre* (1971). Chapter seven (pgs. 163-183) covers many topics including space requirements, shop layout, power tools, paint shop, metal shop, and shop safety lessons. The textbook is conveniently organized by these topics and gives a narrative and diagrams to help the reader understand the role of a scene shop employee. The author writes:

> A spacious, well-equipped, and well-arranged scene shop is essential to the efficient production of scenery. It must provide space and equipment for all the operations involved in converting its input, the designer's concept and the raw material tested, and ready for the stage, with the least waste of materials (Burris-Meyer, 1971 pg. 163).

This statement guides our educators in their introductory lesson. The chapter provides table and diagrams as examples and students will be expected to map the scene shop at the Wendy Williamson Auditorium. They will also be required to pay close attention to the delineation of space between wood shop, painting, and metalworking.

Scene Construction

The topic of scenic construction is vast and takes a lifetime of application to master and understand. For the purpose of this project the research focuses

on a few topics that are commonly used in theatre construction. I want students to understand the construction of flats and platforms, stair units, door flats, and wood joints. To cover these topics I am using two different texts as a resource for our educators to use. Chapter 6 of the Burris-Meyer and Cole text *Scenery for the Theatre* and Chapter 6 of the Carter text *Backstage Handbook*.

Stairs are a common commodity in the theatre world. Creating stairs that fit individual sets is always a challenge and unique to each set. Pages 235-238 of Carter's text give full diagrams of stair units.

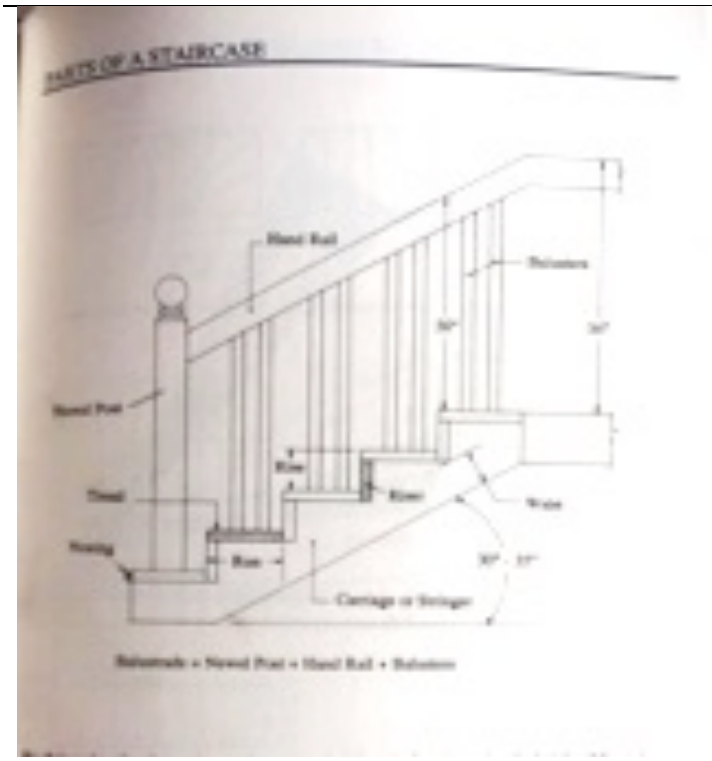


Figure 2.4: Diagram of a standard staircase *Burris-Meyer (1971) Backstage Handbook p. 235*

The text gives examples of strait and curved stair units, common dimensions, and proper construction of a stair unit. The diagrams in this text are versatile and easy to adapt to any situation.

Flats, platforms, and door flats are the most commonly used dimensional construction found on all sets. The Burris-Meyer and Cole text has excellent diagrams and discussion on various types of flats and platforms and their specific uses. The text focuses on proper vocabulary and design for these items. The author writes:

> By far the largest amount of scenery built is framed flat in wood and covered with whatever lightweight material, flexible or rigid, the particular situation demands. The size of the frame is governed by the limitations, which construction, transportation, and handling onstage impose. These three limiting factors are of varying importance in different situations. Burris-Meyer, 1971 pg. 79)

The author goes on to explain basic construction of door flats and platforms. The author is persistent in the use of proper vocabulary to describe the different parts of the construction and the most efficient and effective way to build and construct these staples of technical theatre construction.

Binding wood together for the purposes of rigidity and strength are situation specific. Wood jointing can strengthen a structure while giving it proper flexibility. Carter's text gives excellent diagrams and images of a variety of wood joints and their unique applications. The text, *Backstage Handbook*, is an indispensible reference for educators teaching this content. Pages 126-130 are of particular interest. These pages explain what wood joints work best for a given design and how to execute the construction of these joints.

Painting

The painting of a set is an art form few have mastered. It takes dedication and persistence to acquire. Pinnell (1987) composed an excellent reference in the book *Theatrical Scene Painting*. The goal is for educators to focus on painting equipment, color mixing, surface preparation, and texture. On page 6 of his text the author discusses the various types of brushes and equipment essential to every scenic painter and goes on to describe in detail how to properly mix paint. The author writes,

> For the beginning painter, the mixing of the paint sometimes takes longer than the actual scene painting. It is worthwhile to go to the precautions necessary to ensure the colors and consistencies are exactly right before the painting is applied to the scenery (Pinnell, 1987 pg. 11).

Numerous diagrams and charts to help the reader organize the information accompany the text.

Tools, Machinery, and Stage Equipment

In the scene shop many tools and specialized equipment is available for use. Proper training in technique and safety are needed. Specifically, assessments designed to test the student's ability to safely use scene shop machinery. As part of the course students will learn about these topics in a classroom setting before attempting to use the equipment. The primary text used to accompany the educator in this topic is the Burris-Meyer and Cole. Chapter 8. This chapter talks in detail about the available machinery used in an operating scene shop. The chapter divides the information by functionality. The author starts by discussing woodworking power tools, then progresses to

metal, plastic and foam tools. The text provides diagrams and pictures of proper use, storage, and maintenance of scene shop equipment.

Hanging the Show

The Glerum textbook (1997) is an excellent reference for use and application of the fly system. The book combines pictures, diagrams, and text to help the reader organize and understand the content. Chapters 3 and 4 focus on the mechanics of the fly systems. The chapter provides diagrams and discusses how the system works and proper vocabulary to use when around a rigging system. The author writes:

> As a rule, two people should work on the loading bridge. One person hands the weights to the other, who loads them on the arbor. To reduce the chance of dropping weights, the transfer of weights is done over the loading bridge, never in the open space next to the arbor. (Glerum, 1997 pg. 144)

This text is easy to read and a great introduction to the vocabulary used in a theatrical space.

Sound and Amplification

Leonard's book (2001) on theatrical sound is a useful text to help guide educators. Leonard uses accessible language to explain what is often very complex world of sound and amplification in the theatre. Chapter 3 on the theatre sound system is of particular use to this program. In this chapter the author explains how to use and maintain a theatre sound system. The author includes diagrams and pictures to help the reader understand the connections

in the text. The author writes, "The heart of all theatre sound reproduction systems is the mixing desk. All mixing desks have a number of inputs to which incoming audio signals can be routed" (Leonard, 2001 pg. 66). This text will supplement the classroom lectures on sound systems and prepare the students for learning how to operate an actual sound-board during a show.

Scenic Design

A majority of my research leading up to this project has been in the field of scenic design. Blakeley's book (2006) on scenic design is organized for ease in this project. In this text the author presents 98 different lesson plans designed to get students thinking about how scenes are designed and how to best create a successful production. Due to time restraints of the summer program , there was limited time to talk to the students about scenic design.

Lighting and Design

Lighting a stage is an art form in and of itself. Lighting designers can affect mood, pace, and emotions present on stage. Lighting is a complex system that can take years to understand. Since the goals of this class are introduction Cunningham's text (1993) *Stage Lighting Revealed* offers a usable introduction to the basic vocabulary used in lighting and shows the reader simple examples that support the text. Cunningham's chapter on introduction to equipment is an excellent resource for educators teaching this topic. Excellent diagrams and pictures help support this easy to read text. Figure 2.4 can be found on pg. 56 of Cunningham's text. It is an example of the diagrams found throughout the text. The content is simple and ideal for beginners.

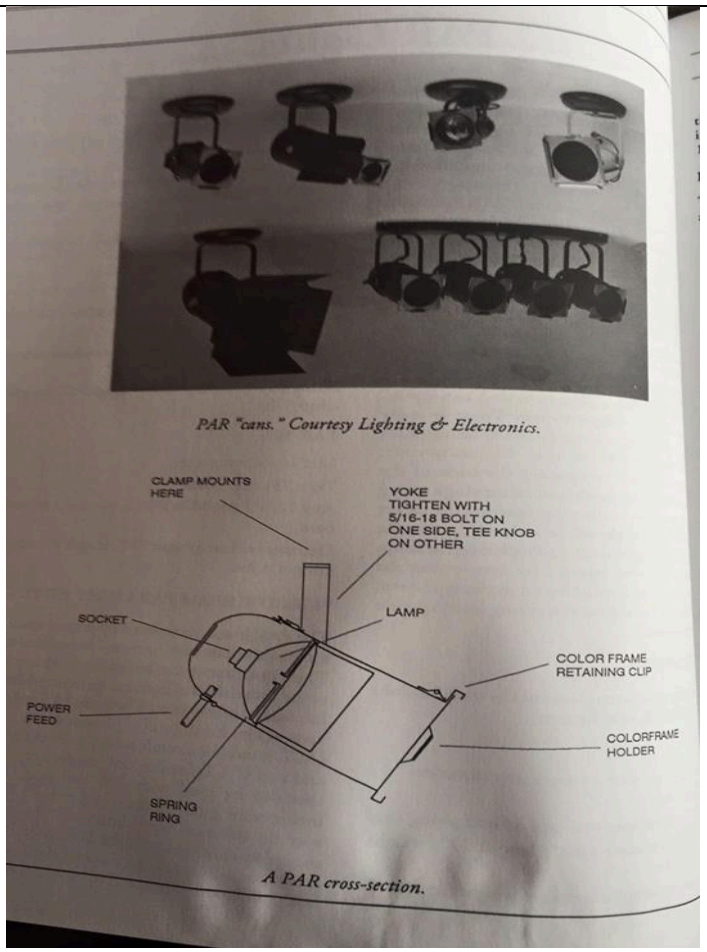


Figure 2.5 Sample light diagram

The author's chapter on equipment describes the attachment of lighting to its appropriate devises as well as a full description of the most common types of lights used in theatre and their unique qualities. Pages 55-77 cover most types of lights used and when to use each. It includes pictures and examples of what each lights function is and how to use it.

Stage Management

While a majority of this course is focused on scene shop work, sound, lighting, and paint design. Three-hours of class time is scheduled on stage management. This is a short amount of time to cover such a broad topic but an

opportunity to introduce stage management was essential. When our students are finished with the construction of the sets used for the summer academy shows they will be assigned backstage roles to help support the shows. Stage management is meant to prepare students for the expectations they will face working backstage. Ionazzi's text *The Stage Management Handbook* provides a few good chapters that an educator can use to guide a lesson. Chapters 9 and 10 of this text do an excellent job of outlining the duties and expectations of a backstage crewmember. The chapter breaks down the topic into several sub topics many of which are useful for this project. Pages 135-145, and 148 have excellent information on the duties of a stage manager and how the backstage crew is to conduct themselves the author writes:

> No unnecessary talk backstage. This is a somewhat sweeping remark, but everyone should be aware of the need for stage management, crewmembers, and actors to concentrate on the show during performance. It would be very easy for you to miss a cue if an actor or a crewmember felt the need to tell you the latest gossip at an inopportune time. (Ionazzi, 1992 pg. 148)

Although Ionazzi's text reads a little more like a narrative with few diagrams or pictures the information is sound and gives the educator a good academic scaffolding to support the lesson being taught.

The next chapter will provide a map for designing the research for this study.

CHAPTER 3 METHODS

3.1 Background

The purpose of this action research was to improve the outcomes of student learning. The question of how to keep students engaged in the learning process has been central to improving the pedagogy of day-to-day student learning. This study hopes to highlight the moments of learning students experience and teachers observe. The data collected in this action research compares two learning environments, the theatre scene shop and the classroom. The data contrasts the effectiveness of each environment to maintain student engagement while learning. All data was collected using interviews with educators and a daily updated journal of observations.

This study focuses on the moments of learning observed by the participants in this study. The students were observed over an eight-week course of technical theatre program through TBA's 2016 Technical Theatre Academy. The educators worked with 13-15 students between the ages of 15-18. The research was collected during lessons taught at the scene shop on site in two universities. The goals of the study were to compare two learning environments available for students in the Technical Theatre Academy. The first environment was the Wendy Williamson Auditorium scene shop and the second was a traditional classroom environment. Students in this study were divided into groups and assigned a learning environment. Each student spent an equal amount of time (36.5 hours) in each learning environment. The

following areas of emphasis were used to organize the research and guide the interview questions.

1. The first area of emphasis was learn how to best teach safety in the theatre scene shop. A majority of the work is done in a scene shop where power tools, saws, and other dangerous equipment are commonly used. Student safety is a chief focus while in the scene shop.
2. Second, to explore the effectiveness of teaching students in a classroom setting verses teaching them in a shop setting. Part of this job is theory and curriculum driven; another part is kinesthetic and hands on.
3. Third, to find ways to engage all students in the learning process. Many students get complacent in a shop setting and are happy to watch as others do work. The program seeks to design an optimum learning environment where all students feel like they have contributed to the final product.
4. Lastly, A focus on future applications of the study. To improve the educational practice, optimize student outcomes in educational practices, and kinesthetic learning environments.

During the course of this study a production team that is in charge of timing of the shows to be viewed by the public will guide the progress needs of the theatre scene shop. The curriculum schedule mirrors that of the production team's time line. The team of teachers is teaching specific technical skills just prior to that knowledge being

applied to create a product for the production team. For example, a specialist will be teaching a course on painting just prior to the time slot available for the technical team to paint the sets for production.

3.2 Group Dynamics

In this study the students (in equals 15) will be split into two groups. Each group will spend 3 hours in a classroom environment and 3 hours in the theatre scene shop. The group members are rotated daily to mix the group. At the end of each 3-hour class the students switch learning environments. This will allow for students to be in a formal classroom setting while still producing a product for the production team. This also ensures equal contact time in the classroom and in the theatre scene shop. Hershey (2015, Ch. 2) uses this technique to fill gaps in his production schedule. This is a wise move and will be built upon in in this project. By splitting the groups up the students can be available for the demands of the production and the learning goals of the program.

3.3 Subjectivity Statement

The subjectivity statement is defined by Given, (2008) as, "a summary of who researchers are in relation to what and whom they are studying". I am a white male of European descent. I am a proud member of the middle class. Growing up in a small rural Montana town I attended public school. My family instilled a working class mentality. I was expected to work hard and often. I was raised to respect education and value my teachers. My grandmother, who was Methodist, introduced me to Christianity, which I still practice today. My hometown had a singular culture. To

broaden my understanding of the world my family worked hard to make sure I had travel opportunities. I have traveled in Europe, Africa, Asia, North America, and South America. After receiving a bachelor's degree in secondary science education from Montana State University. I became employed to teach at West Anchorage High School in 2003. I am still employed at West High and I currently teach chemistry, acting, and technical theatre. In 2014 the National Census Bureau ranked West Anchorage High School in the top three most diverse schools in the nation.

3.4 Curriculum

The first objective that needed to be done was to organize the structure and sequence of the units taught. Every day of academy is divided into two parts: classroom work, including lecture notes and demonstrations and theatre scene shop time, where students apply what they have learned to complete the goals of the program. Table 3.1 shown below, breaks down the topics that will be covered during the course of the academy. TBA employed various specialists to teach many of the topics like rigging, lighting, stage management, and painting.

Table 3.1

Academic Calendar

Date	Classroom Curriculum	Scene Shop Work
June 21	Introduction	Safety/clean up
June 22	Scene Construction	Safety/clean up
June 23	Scene Construction	Organize/practicums
June 24	Types of scenery	Organize/practicums
June 27	Drafting	Design adv. shows
June 28	Tools/machinery	Pulling stock items
June 29	Planning Scenery	Adv. shows build
June 30	Stage Equipment	Lumber run
July 1	Stage Management	Adv. show builds
July 5	Scene Construction	Adv. show builds
July 6	Painting basics	Adv. show builds
July 7	Pavilion set up	Set up Pavilion
July 8	Assembling and running show	Adv. show builds
July 11	Processes and techniques	Adv. show builds
July 12	All day build for advanced academy	Regular academy show builds
July 13	All day build for advanced academy	Regular academy show builds
July 14	All day build for advanced academy	Regular academy show builds
July 15	light and sound board	Tech for shows
July 18	Striking the set	Out door stage build
July 19	Review skills	Tech Olympics
July 20	Costuming and stitching	Regular academy show builds
July 21	All day build for regular academy	Regular academy show builds
July 22	All day build for regular academy	Regular academy show builds

3.5 Instructional Strategies

Two forms were created to help organize both shop and classroom activities. Below (Fig. 3.2) is and example of a unit organizer used by educators in the classroom followed by a unit planner used by the educators in the theatre scene shop (Fig 3.3).

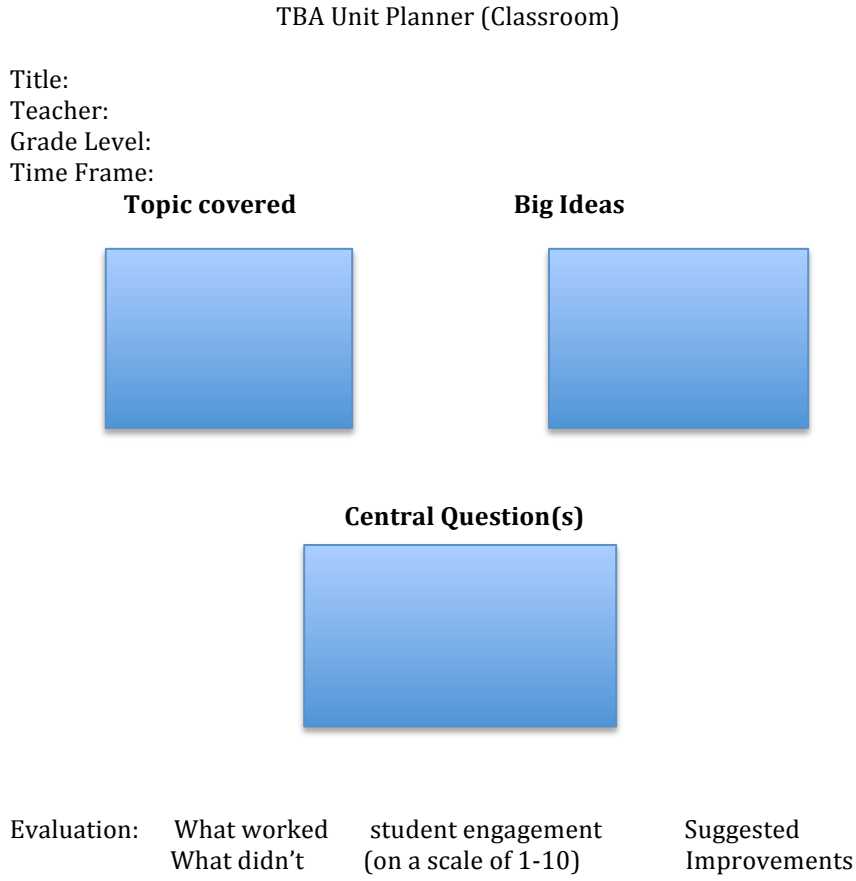


Figure 3.2. Sample classroom lecture planner

The following figure (3.3) is the unit planner used by educators to organize curriculum and observations in the theatre scene shop.

Title:

Teacher:

Grade Level:

Time Frame:

Daily Checklist:	
Division of labor:	
Equipment needed:	
Safety equipment needed:	

Evaluation: safety lesson taught Student engagement (on a scale of 1-10) Suggested Improvements

Figure 3.3. Sample scene shop lesson planner

A grading rubric will be used to score students on their ability to operate power tools in the scene shop. The power tools can be dangerous and it is important that no student use power tools until they have been trained and have assessed on their skills. At any point during the academy, students may choose to test out of a power tool. At that time the educator will provide a task for the student that requires the desired power tool. A rubric has been created to score students on the safety and use of the tool. Each category is a pass/fail score. Students must pass all categories to be allowed to use the power tool in the scene shop (Appendix C).

3.6 Research Design

This study is a case study. A case study is defined by Gay, Mills, and Airasian (2012) as:

> A qualitative research approach to conducting research on a unit of study or bounded system. Case study research is an all-encompassing method covering design, data collection techniques, and specific approaches to data analysis (pg. 14).

The participants in this study are a bound group of individuals who have come together for a specific time frame. The replication of the exact conditions of this study would be difficult. A case study is not a "methodological choice but a choice of what is to be studied". (pg. 444) In this case study, learning environments are compared using the areas of emphasis to guide the narrative.

This case study is an action research project. Gay, Mills, and Airasian define action research:". . . .any systematic inquiry conducted by teachers,

principals, school counselors, or other stakeholders in the teaching learning environment that involves gathering information about the ways in which their particular schools operate" (pg. 508).

3.7 Data Collection

To collect data for this project, qualitative evaluations were created for interviews conducted with all the educators in the program. Each lesson taught in the shop and in the classroom was documented using the standard templates shown earlier in this chapter. All educators signed a consent form, required by the International Review Board, (See Appendix G) that states the requirements of the program. In the form it is stated that all feedback will remain anonymous and original data will be destroyed upon publication of this document. The comments used in the evaluation section are organized and presented in the results section of this document. Feedback will be used to evaluate each lesson. The information gathered will be used to improve, change, and maintain individual lessons for future use. Future Technical Directors at the TBA Summer Theatre Academy will use the lessons created in this process in future summer academies.

3.8 Unit Plan

A sample unit planner discussed earlier in this chapter was created to help educators organize educator's teaching goals and strategies. A sample of the information recorded in the scene shop planner from a lesson on the "fly system" is provided below. The fly system is a complex system used in larger theatre spaces. While the students do not build on a stage that has an active fly

system, the scene shop is connected to a theatre that does. The Wendy Williamson Auditorium has a functioning fly system and will provide a teachable location to show students the inner workings of the fly system. To supplement the lesson students will also learn about the rigging system in class. Figure 3.4 displays the organization of the educator's response to the evaluation of the lesson.

Evaluation: the lesson went well. Students were focused on the presenter and asked guiding questions. The lesson covered basic vocabulary of the fly system. After a 30 min. lecture the class walked into the Wendy Williamson Auditorium to demonstrate vocabulary and techniques used in the lecture. The lesson concluded with a summative assessment of the information presented in the class.

What worked: The best part of this lesson was having students observe and operate the fly system in the theatre. During lecture the students were focused and paying attention, but during the demonstration students began asking leading questions and working out the vocabulary and its uses.

Student engagement (on a scale of 1-10):8

Improvements: The face-to-face portion of this lesson could have been improved by digital diagrams of the fly system or short video clip on the uses of the fly system. A follow up lecture after the demo would have been helpful to assess student retention of the information.

Figure 3.4 Feedback from sample scene shop planner

3.9 Participants

Five subject matter participants were selected to take part in this study. Each participant is a specialist. The participants are educators and taught units

on scenic design, painting, stage management, and shop safety. The names of the participants have been changed in accordance with the approved IRB letter of consent. (see Appendix G). The participants in this study were selected by TBA Theatre Company. All participants were interviewed by founding members of the company. Five of the interviewees had skills particular to the theatre scene shop and were selected to participate in this study. The participants in this study ranged in age from 26-52 years old.

3.9.1 Sayre

The scene shop expert was Sayre. Sayre is a white male of European decent. He is a baby boomer with over 30 years of theatre education experience. Sayre received his Master's degree in Performing Arts from Wichita State University. Sayre is the technical director of TBA theatre. He is the current facilities manager at the Wendy Williamson Auditorium on UAA's campus. Sayre is an accomplished play write, director, technician, and actor. Sayre is a wealth of knowledge in the field of technical education. Sayre was asked to teach a unit on dimensional lumber and shop safety. Presentation is something Sayre excels at. His personality draws the students in and his background and knowledge makes his deliveries effortless. He is an asset to the program and those around him feel his love for art and education.

3.9.2 Nicole

My painting expert was Nicole. Nicole is a white female of European descent. She is a millennial who has trained at the University of Alaska Anchorage where she is currently perusing a degree in performing arts. Nicole

has been a scenic painter for TBA Theatre for over 10 years. Nicole has worked on numerous productions. Nicole's knowledge of theatrical painting is second to none. Nicole is very versatile; she is an actor, director, scenic designer, painter, and well rounded in all of these. It was an honor to have her work with the students. Nicole made genuine positive connections with the students. Her love for theatre comes out in her personality. The students would gravitate towards her anytime she was in the scene shop. Her contributions to this program are exemplary.

3.9.3 Kevin

Kevin was my second in command. Kevin is a white male of European descent. He is a Millennial that recently received his degree in theatre design from Southern Oregon University. He currently works for the Medford Theatre Company in Medford, Oregon. Kevin was a past TBA student, now in his mid twenties he is an accomplished set designer, actor, and technician. Kevin's input was greatly appreciated and always needed. He was decisive and objective in his planning and execution. Kevin earned the student's respect every day by listening to their concerns and communicating in a positive, upbeat manner that the students loved. Kevin taught lessons on orthographic theatrical design, shop safety, and construction.

3.9.4 Heather

Heather is also from Medford Oregon. Heather is a white female of European descent. She is a millennial that recently received her degree in stage management from Southern Oregon University. She came up to Anchorage to

work with TBA as a stage manager. TBA quickly discovered that Heather was a person of many talents. She is a certified stage combat instructor, stage manager, and accomplished technician. The students enjoyed Heather's lessons and were quick to seek her out for advice and guidance. Heather introduced the students to the field of stage management. With a degree in the topic, Heather was more than qualified to teach these lessons. Her stories of work in the industry captivated the students and provided them with a lens for theatre that only Heather could provide.

3.10 Institutional Review Board (IRB)

The Institutional Review Board (IRB) reviewed the research proposal in April of 2016. This project was approved by the IRB on May 13th, 2016. Appendices E-I include the details of the IRB proposal.

3.11 Triangulation

Gay, Mills, and Airasian (year) define triangulation as, "The process of using multiple methods, data collection strategies, and data sources to obtain a more complete picture of what is being studied and to cross-check information" (pg. 393).

To improve the accuracy and precision of the data two methods of data collection were used. Data was collected by conducting interviews with educators after their completion of a unit. Data was also collected using a daily updated journal that focuses on student learning and project goals. All participants in this study conducted a member check of their responses to the interviews. This increases the accuracy and precision of the data collected in this study.

3.12 Interview

Educators were interviewed to find out what their interpretation of student learning looked like. Before lessons were taught, educators were asked to identify verbally and define what they thought productive student learning looked like. As a group we identified three positive traits that all successful students exhibit while learning. The first trait is eye contact. A student maintaining visual connection with the presenter indicates student engagement. The second trait was teaching their peers. The educators decided that when a student self selects to help their peers understand a concept they are exhibiting positive learning behavior. The third trait was asking guiding questions. A guided question is one that leads the presenter to a new topic or deeper into the present one. When students ask guiding questions they are self selecting what material they want to learn. After the educator finished teaching their perspective unit they participated in the interview. A member check was used to increase the accuracy of the data. Each participant received a synopsis of their individual interview transcript and asked to check for accuracy to determine if there were any deficiencies. All educating participants conducted a member check. The interview questions are shown in Appendix D..

3.13 Settings/Participants

This thesis is a case study. Merriam and Simpson define a case study as: The case study is an intensive description and analysis of a phenomenon or social unit such as an individual, group, institution, or community (Merriam 2000, p.108)

The Data in this study was collected from a specific group of people over a designated time period. Five educators worked the eight-week intensive program. The educators provided specific skills and training in their area of expertise. The educators were interviewed after they completed teaching their unit. The educators were asked questions about student learning and student behaviors while in the scene shop and in the classroom.

CHAPTER 4 RESULTS

4.1 Purpose

The purpose of this chapter is to organize and present the analysis of data collected during TBA's 2016 summer technical theatre academy. The data collected came from interviews with educators at the academy, a personal journal updated daily, and observations made by the researcher during the process. This chapter begins with a description of the areas of emphasis that were used to guide the interview process. The educators in this study taught their students in classrooms and in the scene shop. The data was collected to compare both learning environments and the student response to lessons taught in both environments. Using the areas of emphasis, the data will suggest which learning environment is best suited to student achievement. The areas of emphasis are listed below.

1. The first area of emphasis was learn how to best teach safety in the theatre scene shop. A majority of the work is done in a scene shop where power tools, saws, and other dangerous equipment are commonly used. Student safety is a chief focus while in the scene shop.
2. Second, to explore the effectiveness of teaching students in a classroom setting verses teaching them in a shop setting. Part of this job is theory and curriculum driven; another part is kinesthetic and hands on.

3. Third, to find ways to engage all students in the learning process. Many students get complacent in a shop setting and are happy to watch as others do work. The program seeks to design an optimum learning environment where all students feel like they have contributed to the final product.
4. Lastly, A focus on future applications of the study. To improve the educational practice, optimize student outcomes in educational practices, and kinesthetic learning environments.

All data was collected qualitatively using journals, interviews, and primary observations. All data was reduced, organized, and presented using Atlas Ti's software.

4.2 Data Reductions

All data collected was qualitative data in the form of journal entries, interviews, and observations. Gay, Mills, and Airasian (2012) note:

> . . . data interpretation is an attempt by the researcher to find meaning in the data and to answer the "so what" question in terms of implications of the findings. Put simply, analysis involves summarizing what's in the data, whereas interpretation involves making sense of- finding meaning in- those data (p. 466).

The data was organized and reduced using Atlas Ti's qualitative analysis software. 287 quotations were collected throughout the process. The journal is a daily account of what we did as a team and my observations of the day-to-day process. The interviews were conducted at Alaska Pacific University. A

standard set of questions that were identical for each participant (see Appendix D). The educator's responses were recorded by hand and summarized each participant's response. A Member Check was used to increase accuracy of my finding.

4.3 Codes and Coding

Once the data was collected, it was uploaded into Atlas Ti's Qualitative computer software. The first step was to create a codebook to help reduce and deduce the meaning of my quotations. All quotations were taken directly from data collected during interviews and a personal journal that was updated daily. A codebook is a list of words or phrases used to categorize the meaning of the quotation. This research used 9 codes to process the data. Figure 4.1 below shows the color-coordinated codebook.

	A	B	C	D	E	F	G
1	Color	Name	Grounded	Density	Number o	Comment	Creator
2	Gray	background	30	0	0	Background information gathered to qualify educators, or describe interview environment.	Rees Miller
3	Brown	bored	12	0	0	Identifies when students are not actively engaged in the learning process.	Rees Miller
4	Light Green	classroom based learning	25	0	0	Learning in a classroom setting with the teacher guiding the lessons.	Rees Miller
5	Turquoise	engaged	41	0	0	Students are exhibiting behavior that indicates they are actively part of the learning process.	Rees Miller
6	Pink	leadership	38	0	0	Indentifies students that exhibit leadership qualities and facilitate peer learning.	Rees Miller
7	Yellow	project based learning	58	0	0	Indentifies learning done in the shop. Project based learning can be facilitated by the educator of by peers.	Rees Miller
8	Purple	safety	16	0	0	Indentifies moments in interviews or in my journal when the topic of safety was discussed.	Rees Miller
9	Orange	small group learning	17	0	0	Students are working in groups less than five. Small group learning can be facilitated by an educator or a peer.	Rees Miller
10	Red	Zone of Proximinal Development	11	0	0	Students exhibit learning without the aid of an educator. The student is facilitating their own learning.	Rees Miller
11							

Figure 4.1. Organization of Codebook in Atlas Ti.

The quotations were coded using positive feedback. For example, the code "project-based learning" was used only when the journal or interviewer referenced the theatre scene shop as a good learning environment or positive learning situation. Each code was defined at the start of this process. Table 4.1 is an alphabetized list of all the codes and their definitions.

Table 4.1.

Codes and their definitions

Code	Definition
Background	Background information gathered to qualify educators, or describe an interview environment.
Bored	Identifies when an educator describes a student as not actively engaged in the learning process
Classroom-based learning	A learning environment where the educator is facilitating the learning by speaking to the students directly and relaying information using lecture or demonstration
Engaged	Educator describes the students' learning as active. Students are described as having good eye contact, asking guiding questions, working with peers and educators to solve problems and complete tasks.
Leadership	Educators identifying a student or group of students as peer leaders, self-starters. Leadership is associated with asking guiding questions and helping other students facilitate their own learning
Project-based learning	A learning environment where kinesthetic skills are taught. All project-based learning was done in the scene shop at the Wendy Williamson Auditorium on the campus of University of Alaska Anchorage
Safety	Identifies moments in interviews or journals where educators or students discussed the topic of safety in the scene shop
Small group learning	A learning environment where students are working in groups less than five. An educator or student peer can facilitate small group learning
Zone of proximal development	Educator describes students learning without the aid of an educator. The student is facilitating his or her own learning (Vygostsky 1990)

4.4 Summary of the Findings

The relative frequency of each code used in this study is shown in the pie graph in table 4.3. This graph shows that project-based learning and engaged learning were coded more often than other codes in this study. ZPD and bored were coded the least in this study. The percentage each code was used throughout the data is as follows:

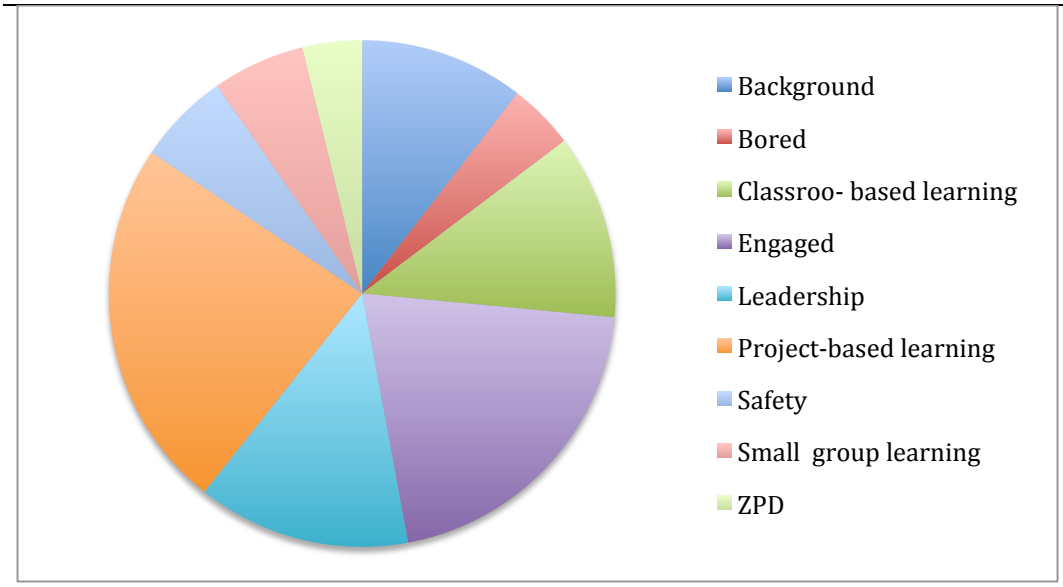


Figure 4.2 Coding percentages

4.5 Themes and Patterns

The next step in reducing the data is finding connections between the coded quotations. Some quotations had multiple codes associated with them. Using Atlas Ti qualitative software, several concept maps were created to show the relationships between quotations with multiple codes. The data presented in this chapter was organized using concept maps. The concept map is a tool for displaying all data points associated with a specific code. Each data point corresponds to a quotation from either the interviews with educators or the

daily journal. All data maps were created using Atlas Ti's qualitative software. Concept maps were used to show correlation between coded data points. For example, to draw inference from the data about observed student engagement and the learning environment, two concept maps were created. The first concept map shows how many times engagement and the theatre scene shop was coded together. Another map (engagement and the classroom) displays how many times engagement and the classroom was coded together. By looking at these two maps an inference can be made about student engagement and the learning environment the students were in. The data is displayed this way to support inferences made. The first concept map looks at the relationship between teaching safety in the classroom environment verses teaching safety in the scene shop. The concept map shows all quotations associated with each code. In Figure 4.4 below, all quotations coded using safety and classroom-based learning are displayed. Some quotations belong to both codes; they are shown in the middle.

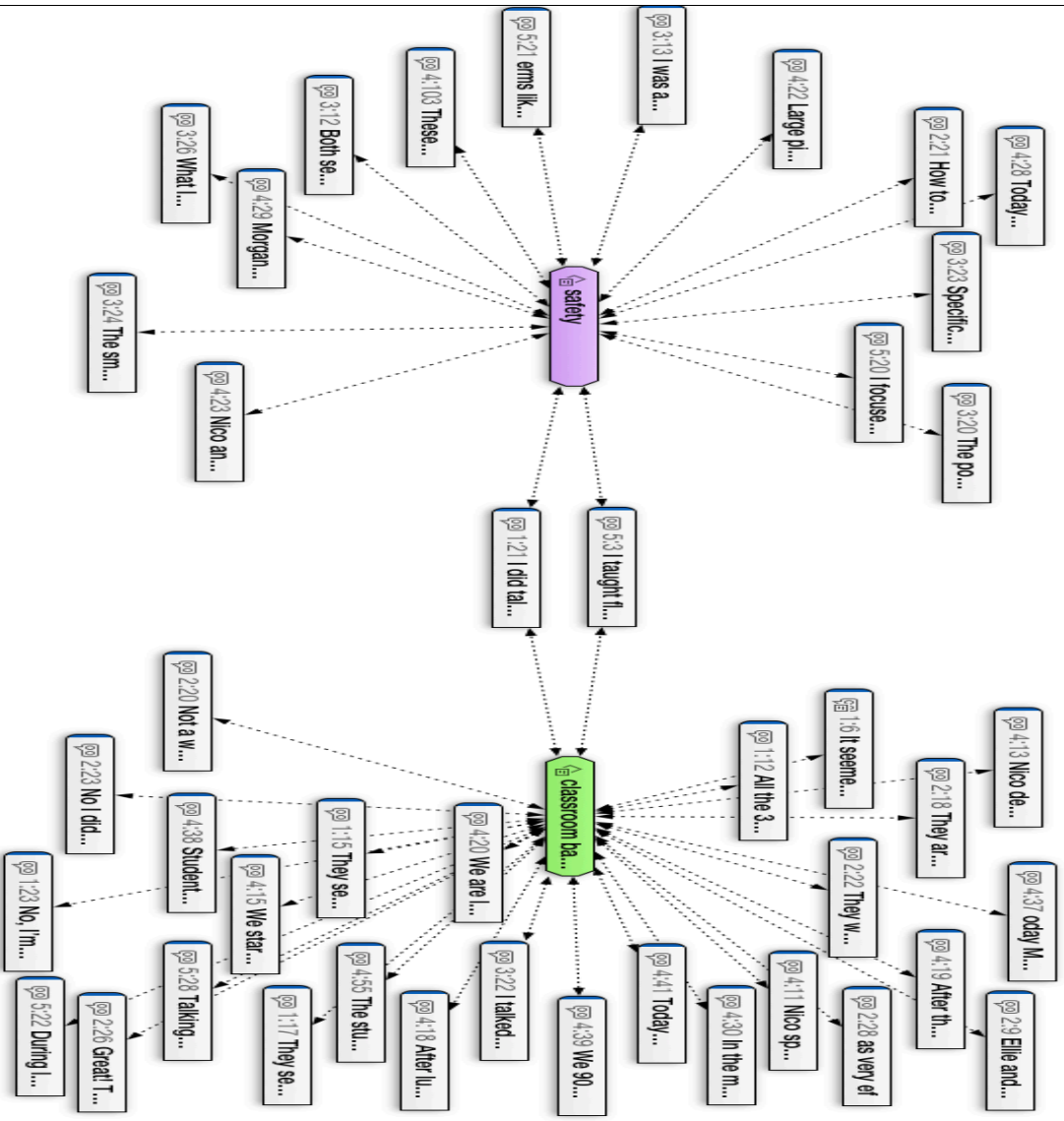


Figure 4.3. Classroom and safety coding

A similar comparison was found between safety and project-based learning. The map shown in Fig. 4.5 compares the number of times safety was coded along with the theatre scene shop environment. The theatre scene shop was the project-based learning environment. Using this data an inference can be made about the frequency of observed student engagement and the learning environment. The data suggests that student engagement was observed twice

in the classroom and three times in the theatre scene shop. This suggests that students are more engaged in their learning of safety in the theatre scene shop than in the classroom.

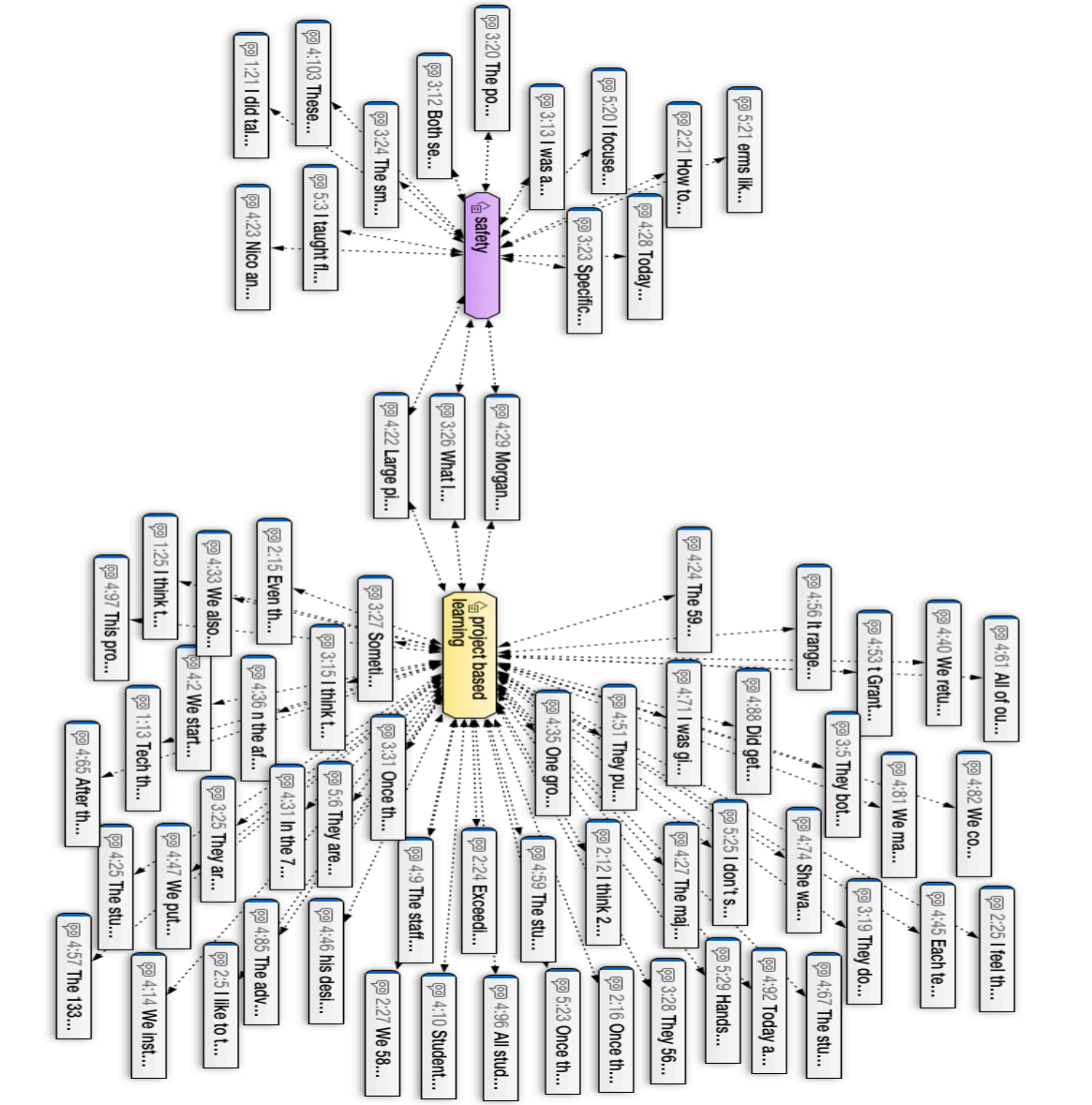


Figure 4.4 Scene shop and safety coding.

The next comparison examines the frequency of similar quotations between classroom-based learning and engagement verses project-based learning and engagement. Quotations that were associated with both codes are shown in the middle. The concept map for classroom based learning and engagement is found below (Figure 4.5)

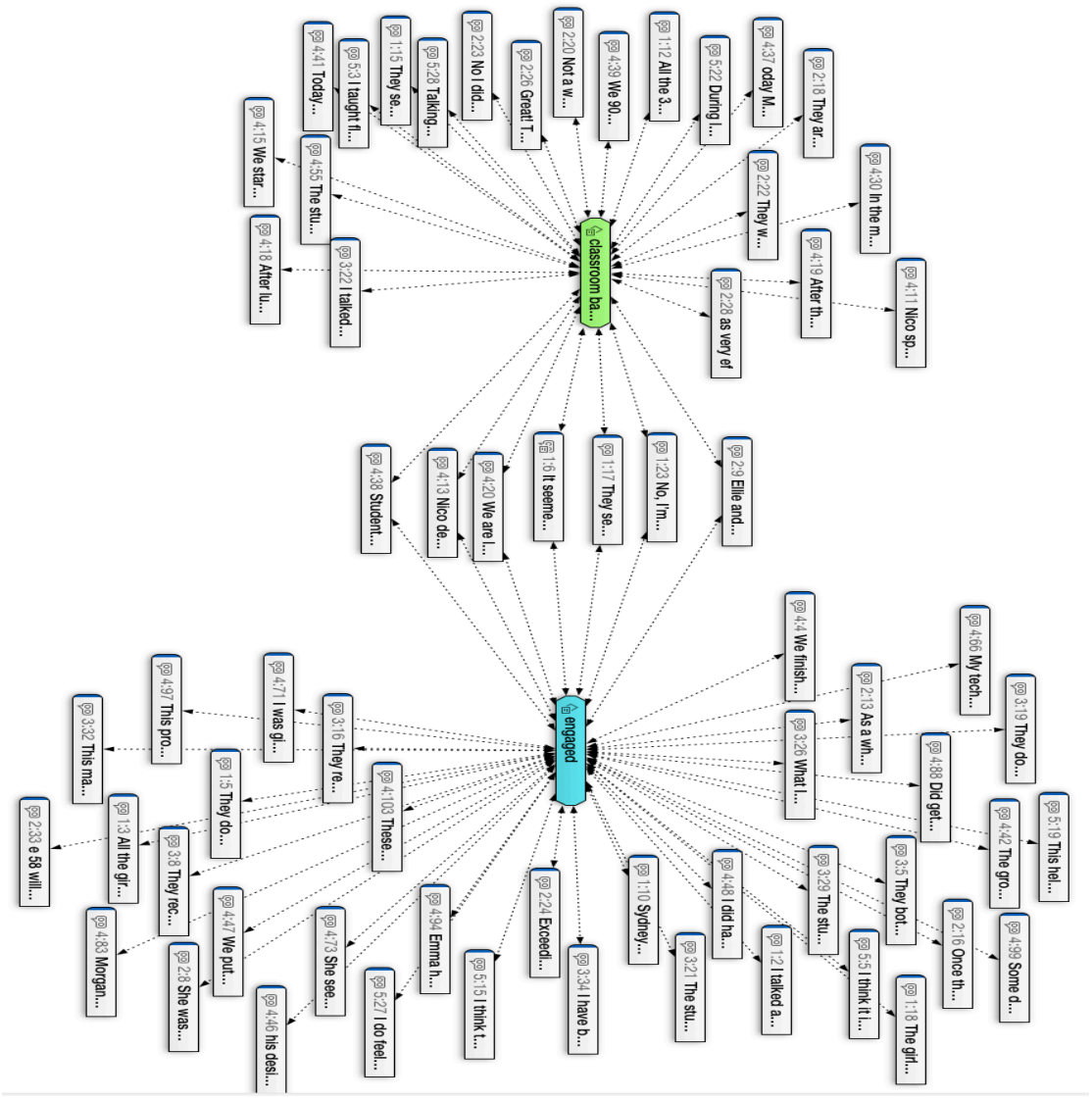


Figure 4.5 Classroom based learning and engaged coding

A similar comparison surfaced between the concepts of project based learning and engagement. The data is shown below in Figure 4.6. Both of these concept maps show the number of times engagement was observed by the educator in each environment. The data suggests that students were engaged more often in the theatre scene shop than in the classroom.

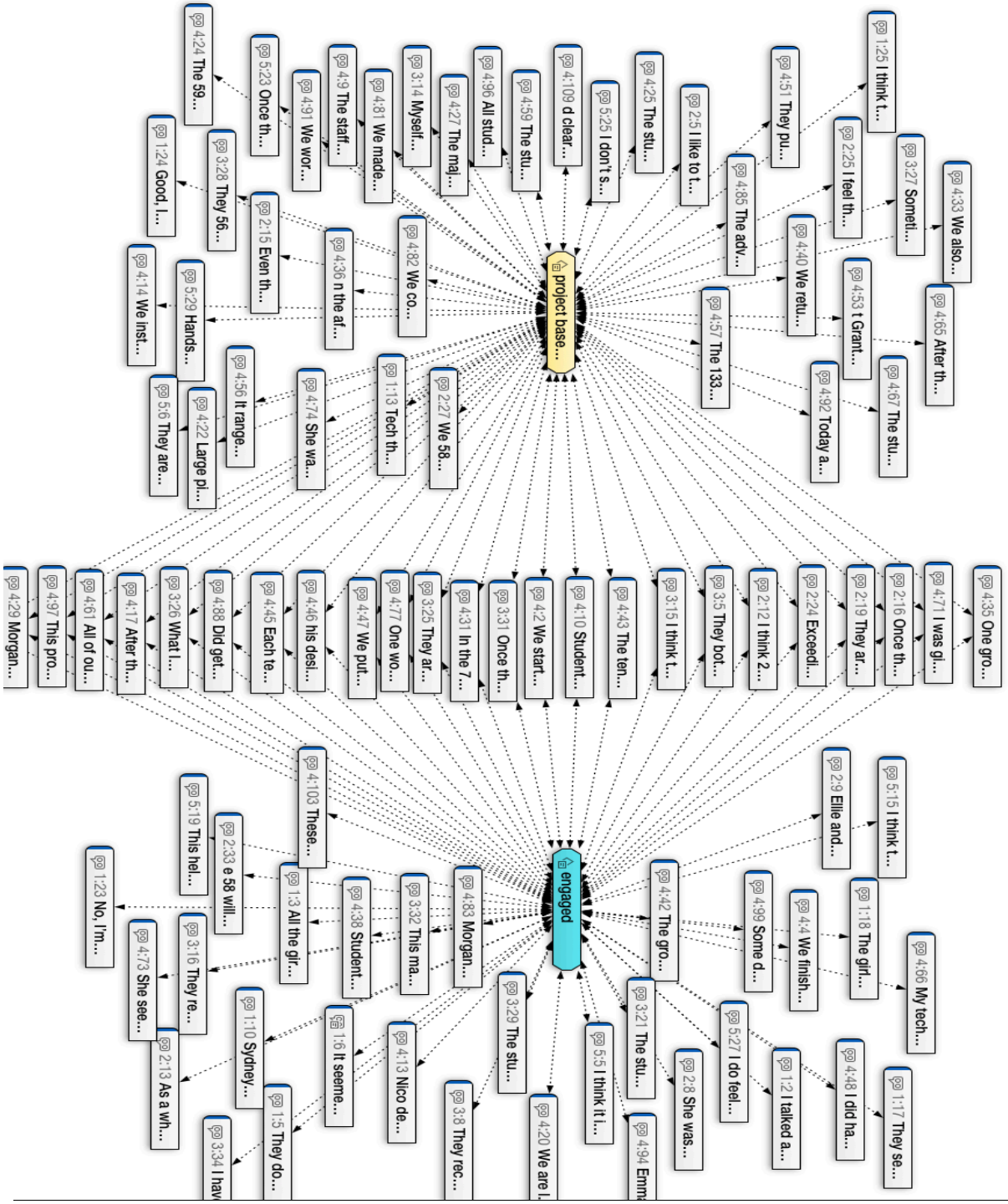


Figure 4.6 project based learning and engaged coding

The final concept map (Figure 4.7) compares how many times the zone of proximal development (ZPD) was connected with classroom based learning and when the ZPD was connected with project based learning. In this visualization the only quotations that are shown are those associated with the coding ZPD. There were a total of 11 quotations coded this way. Each ZPD code is associated with the environment in which it was observed. The results are shown below:

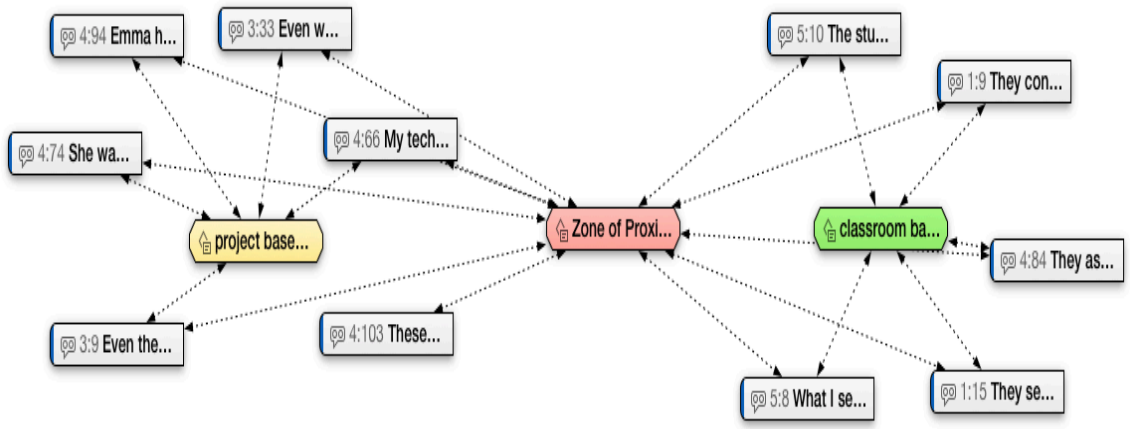


Figure 4.7 Project vs. classroom learning and ZPD coding

4.6 Conclusion

The purpose of this study was to explore the two different learning environments available to teach technical theatre during TBA's 2016 summer Technical Theatre Academy. The data was collected using quotations gathered

during interviews, a daily journal, and observations made during the duration of the program. The data collected was compared to each learning environment and to the areas of emphasis. The data suggests connections between environment and student engagement. Project-based learning was three times more likely to engage students than classroom-based learning. It was important to note that in both environments, students were observed reaching the zone of proximal development at nearly an equal rate. Likewise, safety was observed as being effectively taught in both learning environments. However, while both environments provided opportunities for students to learn, project-based learning provided a more effective environment given the areas of emphasis used in this study.

CHAPTER 5 CONCLUSION

5.1 Purpose

The purpose of this research was to explore student learning through the lens of the areas of emphasis listed below. The data was collected to reflect moments of positive student engagement during a lesson. Educators taught units over the course of several days. Educators used the classroom and the theatre scene shop to provide learning opportunities. Educator's reactions to their student's progress were recorded in interviews and in a daily updated journal. Using the areas of emphasis as a guide for comparison several patterns came out of the data. The four areas of emphasis listed below inspire the discussions in this chapter.

1. The first area of emphasis was learn how to best teach safety in the theatre scene shop. A majority of the work is done in a scene shop where power tools, saws, and other dangerous equipment are commonly used. Student safety is a chief focus while in the scene shop.
2. Second, to explore the effectiveness of teaching students in a classroom setting verses teaching them in a shop setting. Part of this job is theory and curriculum driven; another part is kinesthetic and hands on.
3. Third, to find ways to engage all students in the learning process. Many students get complacent in a shop setting and are happy to watch as others do work. The program seeks to design an optimum

learning environment where all students feel like they have contributed to the final product.

4. Lastly, A focus on future applications of the study. To improve the educational practice, optimize student outcomes in educational practices, and kinesthetic learning environments.

As a comparison, students were observed learning in two distinctly different learning environments. The goal of this was to examine both environments for their effectiveness as measured by the data collected. The first learning environment was the scene shop. In the scene shop, hands-on, project-based learning predominates. In the scene shop students create with their hands using tools and materials. Educators work with students to create different elements of theatre that were used by TBA for there summer program productions.

The second environment was the traditional classroom. This environment focuses more on discussions and verbal interactions between students and their peers and students and their teachers. Educators and students learn through discussion and demonstration. Both environments provided different opportunities for the students to learn and provided an interesting setting to collect data. Current research from chapter 2 of this document will be used to compare and contrast the results in this study. This chapter will conclude with a discussion of future implications of the study.

5.2 Types of Data

The data used in this research are quotations. The quotations were collected during interviews with educators and a person journal. The interviews were collected after educators finished teaching their individual units. An example of the interview questions is provided in Appendix D. The questions were designed to investigate student learning as observed by the student's educator. Each question was asked to learn more about the areas of emphasis listed earlier in this chapter. All interviews were conducted in room 50 at Grant Hall on Alaska Pacific University's campus. Each participating educator was given the same questions. Their responses were recorded by hand during the interview. These quotations were loaded into Atlas Ti's qualitative software for data reduction.

The second source of data was a personal journal updated daily. The journal included a narrative on what the educators were teaching, what the students were learning, and thoughts on the progress of the program. The journal was updated each evening after the workday was completed. The journal was uploaded into Atlas Ti's Qualitative software for coding and analysis. The table below compares the number of quotations collected from interviews and those from the daily journal.

Table 5.1

Interview vs. Journal; Quotations Collected

Type of Data Collected	Number of Quotations Collected
Interviews	117
Daily Journal	106

All responses were coded as quotations during the interviews. The daily journal was coded one sentence at a time. Sentences that had similar coding were grouped together. Any sentences that had more than one coding associated with it were marked and used for cross-comparative analysis.

5.3 Comparison to Current Research

Based on the data collected a comparison between each learning environment as it relates to each area of emphasis will be made. The comparison will be based on evidence gained in this case study. The results will be compared to current research collected in chapter 2 and the areas of emphasis for this study.

5.4 Area of Emphasis: Safety in the Scene Shop

The first area of emphasis pertained to safety in the scene shop. When analyzing the data for each learning environment, safety was coded more often in the scene shop than in the classroom (see Table 5.2). The term "safety" was one of my codes used to organize and reduce the data. Safety was coded any time an educator witnessed students actively engaged in the learning processes.

The educators were asked to describe what this looked like. Kevin described it as:

> The small group makes it easier for the students to pay attention to safety. They are focused on safety when we are actually building with tools, less when we are doing the talking part. What I mean is that they are less focused when we just talk about safety. When they are working with their hands they are much more likely to absorb safety talks.

Students and educators spent equal time (36.5 hours each) in the classroom and in the theatre scene shop teaching and learning about safety. The table below organizes the number of times the concept of "safety" was coded in both environments.

Table 5.2

Classroom vs. Scene Shop

Learning environment	Number of times safety was coded
Classroom	7
Theatre scene shop	10

This data suggests that a kinesthetic approach to safety is more effective when taught in the shop. Students were observed engaged more often in this environment than in the classroom. This conclusion was not surprising. Educators and students where intensely engaged in the learning of safety when they where about to begin a task that requires specific safety measures. For

example, the loud noise and apparent danger of the radial arm saw caused students and teachers alike to repeat the safety needs for that equipment each and every time it was used. In the classroom, students were more relaxed and their minds less focused on the details of how and why safety measures were being taught. The data did not suggest that teaching safety in the classroom was ineffective. Teaching the safety material in the classroom first gives students the opportunity to digest what was said, ask questions, and prepare themselves for what they were about to do. The educational content covered in the classroom served as an advance organizer for the "hands-on" experiential learning.

The conclusions about safety agree with what Schott (2013) inferred. Kinesthetic learning was not only more effective but desperately needed in today's educational system. Schott concluded that both observation and execution were needed to properly prepare a student for using dangerous tools in the shop. In Schott's dissertation, the author makes this statement after observing a teacher working with a group of students on the radial arm saw.

> The instructor also usually explains some of the reasoning behind these procedures. This information is followed by a demonstration of cutting a piece with the saw and then the student cutting a piece or two under the close supervision of the lesson teacher who provides hints and reminders as the student prepares to make the cut. Schott, 2013. (pg. 145)

The data in this study suggests that students were more successful learners of the safety curriculum more often in the scene shop than in the classroom. While the data suggested that the theatre scene shop did provide a better learning environment for this topic, safety was successfully taught in the classroom as well. The data suggest that a combination of the two environments (shop setting and the traditional classroom) works best to provide the most opportunity for learning to occur.

5.5 Area of Emphasis: Learning Environments

The second question is specific to learning environments. Data gathered on educators' observations of their student's learning in a classroom setting verses a shop setting was analyzed. Overall engaged learning was recorded 58 times in the scene shop and 25 times in classrooms. Engaged learning was defined in Chapter 4 of this study as occurring when,

> Educators describe the students' learning as active. Students are described as having good eye contact, asking guiding questions, working with peers and educators to solve problems and complete tasks (p.59).

This definition was given verbally to each educator before the lesson and before the interviews. The educators would meet and discuss what to look for when talking about safety, engagement, and the learning environment prior to their lessons.

This data collected from interviews and the daily journal suggests that students are engaged more often in the shop than in the classroom. This inference is driven by responsibility. In the classroom it is the responsibility of

the teacher to guide students in their learning. In the scene shop, the students are responsible for guiding their own learning, forming questions to solve immediate problems, and producing a usable product.

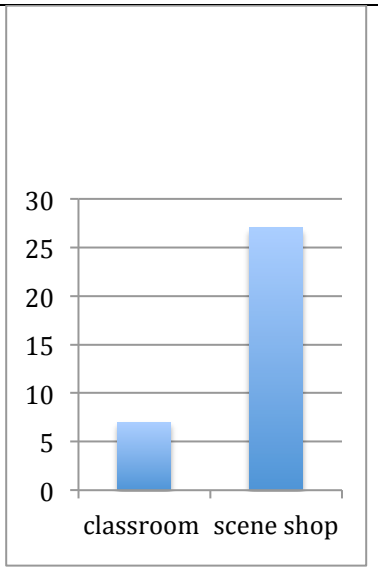
When compared to Hershey's (2015) findings the data collected was similar to the results found in this study, however Hershey believed that classroom learning should have an equal number of class offerings as shop based learning at the collegiate level. The figures below (Fig. 5.4) show Hershey's data compared to my data. In Hershey's data the universities are shown to favor production class offerings over traditional classroom based learning. The engagement data (seen in juxtaposition to Hershey's data) shows the number of times engaged learning was coded in each learning environments. Engaged learning is described as having good eye contact, asking guiding questions, working with peers and educators to solve problems and completing tasks. The connection between these two diagrams lies in the relationship between class offerings at the university level and the ratio of engaged learning moments that occur in both the classroom and the theatre scene shop. The data from this research suggests that the students in this study were observed as engaged 27 times in the theatre scene shop and only 7 times in the classroom. This data suggests that the scene shop provides moments for engaged learning more often that the classroom. The university data displays the number of production classes (what this study refers to as classroom-based learning) offered versus the number of performance classes (what this study refers to as project-based learning). The data shows that at the universities in Hershey's

study offer more learning opportunities in performance than in production. Using the metric of observed engagement, the university class offerings supports the data in this study. Hershey felt that the discrepancy between class offerings at the university was a detriment to student learning. Hershey used this data to argue the lack of equality between the two learning environments as a negative aspect of the education offered at leading performing arts universities. Using observed engagement as a metric the data in this research would support the universities decision to give more offerings in performance than production.

College/University	Degree offered	Number of Production Classes Listed in Course Catalog	Number of Performance Classes Listed in Course Catalog
Wagner University New York City, NY	B.A.	20	20
Carnegie Mellon University Pittsburgh, PA	B.F.A.	118	122
Emerson College Boston, MA	B.F.A.	33	46
Ithaca College Ithaca, NY	B.F.A.	33	50
Indiana University Bloomington, IN	B.A./B.F.A.	22	30
Stephens's College Columbia, MO	B.A./B.F.A.	23	24
Elon University Elon, NC	B.A.	9	21
Kenyon College Gambier, OH	B.A.	4	14
SUNY Purchase Purchase, NY	B.F.A.	81	118
Vassar College Poughkeepsie	B.A.	8	19
Northwestern University Evanston, IL	B.A.	20	30

Hershey's data

Engaged coding



Data from this research

Figure 5.1 Classroom vs. scene shop course offerings and observed engaged learning

Hershey's data found that among top theatre arts universities in the USA, most (10 out of 11) universities favored production class learning (learning done to produce shows) over classroom-based learning. The data collected comparing student engagement and learning environments supports the

findings from Hershey's data about what universities are offering. The conclusions inferred from the data in this study are in opposition to Hershey's conclusions. The data in this study suggests that even when given equal value of instructional time, educators observed that the scene shop environment engages student learning more often than the classroom environment does. However, the research in this study suggests that students do have positive learning experiences in the classroom. Group discussion and planning were coded as positive learning situations that happen frequently in classroom environments. While both environments should be used for students learning, the shop should be the primary environment used by educators for the most effective teaching of technical theatre.

5.6 Area of Emphasis: Student Engagement

The third area of emphasis deals with student engagement. This data point was directly measured in both the classroom and shop environments. Engagement, was associated with classroom learning 7 times. Engagement was associated with the shop environment 27 times. The data is presented below. (Fig. 5.2) The vertical axis represents the number of times engaged learning was coded when reducing quotations associated with each learning environment.

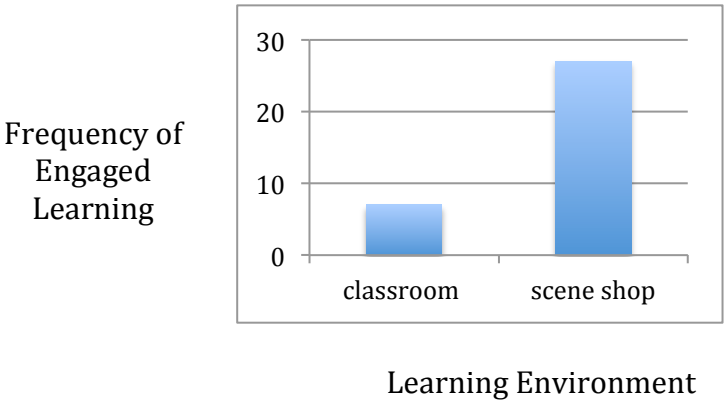


Figure 5.2 Classroom vs. scene shop and observed engaged learning

This data infers that in the theatre scene shop, students were observed by educators engaged in the learning process nearly 4 times more often than in a classroom environment. This large division of engagement clearly indicates the effectiveness of kinesthetic project-based learning. Schott's data concurs with these findings.

> Collaboration, especially in the case of physically involved work, and experiential learning, or learning by doing have been discussed as important facets of learning in technical theater. And learning with and about one's body has been shown to be an important element of understanding embodiment (Schott, 2013 p. 306).

The conclusions inferred from this data agree with Schott's conclusions. The student's engagement spiked during hands-on projects. Students were observed in the "Zone of Proximal Development" (ZPD) 20% more often in the scene shop than in the classroom. The educators in this study identified students in the ZPD when students are asking guiding questions, and learning

without the direct aid of an educator. Students had opportunities to self guide their learning in both environments. In the classroom, during group discussion, students could select where the conversation should go. In the theatre scene shop students had opportunities to take ownership of their own projects and make individual decisions about the outcomes of their projects. This study provided opportunities for self guided learning in both environments. The diagram below represents the number of times student learning was coded in each learning environment.

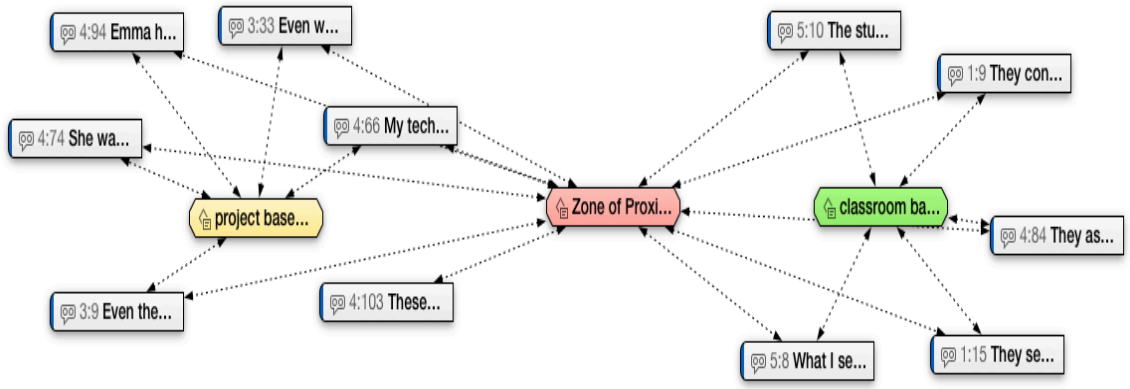


Figure 5.3 Classroom vs. scene shop and observed ZPD

Zone of Proximal Development occurs when an educator describes students learning without the aid of an educator. The student is facilitating his or her own learning. The students were assigned learning environments so that each student spent equal time in the classroom and in the scene shop. Small

group learning was coded 17 times in my data and every time it was associated with the scene shop. During small group learning, the responsibility of the learner to contribute is higher. Students self selected their small groups in the scene shop. This responsibility forces students to engage in the activity and thereby increasing the level of engagement. This data suggests that educators witnessed students engaged in the classroom and therefore it is still an effective learning environment. During the interview with the stage management, Heather stated:

> They [students] were the ones talking the most during class discussion. They contributed by asking questions and telling stories of there own, you know, past experiences and horror stories from backstage. A new student was also paying close attention. She wasn't as much of a talker; I don't think she has had as much stage experience as the other girls. But she was paying attention. She always had great eye contact and really seemed to be interested in what we were talking about. (Interview Heather July 7 2016)

During interviews, educators observed engaged learning by their students while in the classroom. However, in the field of technical theatre, the data does indicate that the best option for increasing student engagement is to increase the amount of learning done in the shop.

5.7 Area of Emphasis: Future Application

The final focus pertains to future applications of this data and what it suggests. Currently I am teaching one technical theatre course and one

production course at a West Anchorage high school. Given the data collected in this study on student engagement and safety displayed previously in this chapter, I can infer that I should be using the shop environment four times as much as the classroom to achieve similar results. I have the flexibility in my program to structure the curriculum in a way that works best for the program. Using the data collected in this process I have currently structured my teaching to match these result. Time will tell if my inferences pay off in the form of increased student learning. Both an increase in grades and participants in the program will be the metric by which success in this class will be measured. I feel confident that I have a good base level to start each new class. As I reteach this content over the coming years I will modify my pedagogical strategy and continue to diversify in a search for the most effective method of teaching technical theatre to youth.

5.8 Limitations

This research was collected as a case study. The recreation of these exact conditions would be difficult to do. Five educators and 15 students participated in this study. All data was collected by interviews, journals, and observations completed by educators and myself during the classroom and the theatre scene shop lessons. The study was conducted over an 8-week period. The small sample size and length of this study limits the reliability of the findings. Another limiting factor that did affect the data was the gender of all the participating students. Through a chance situation, all 15 students enrolled in the summer academy were female. Replication of this research could include

a mixed gender classroom that may not yield the same results. The amount of data collected also limits the reliability of the conclusions. 223 quotations were collected to support the study's findings. This small sample size limits the validity of the conclusions.

5.9 Future research

The research collected in this study was done through observation of the learning environment by myself and transcribed accounts of what the educator's observed during their employment at TBA's 2016 summer academy. In future studies, the sample size and time would need to be increased for generalizability. The reliability of the data is directly related to the sample size of the study and the time available to collect data. A suggestion for potential methodological change would be to collect data in the form of student summarization. In this study the students were not interviewed. This choice was made because it was difficult to get approval for a study that directly involved participants under the age of 18. In reflection it would have been worth the effort to get IRB approval for data collected directly from students. To improve the accuracy of the data in this research students should answer the following questions in an interview:

1. What part of the lessons today held your attention the longest?
2. What part of the day was the most exciting and easiest for you to participate?
3. What part of the day was the least interesting to you?
4. Are their any questions you had today that didn't get answered?

5. What are you excited to learn tomorrow at academy?

These five questions and their responses given could add validity to the conclusions in this study. This data could show a correlation or a disconnect between what students are experiencing and what educators are observing. My research does not include a student response to the learning environment.

It would be interesting to conduct a similar case study with a mixed gender group of students. As previously stated, the sample of students was, by chance, all female. This factor makes the data collected in this study unique. Future studies would have to ask the question, "If the study had been all male would there be more student engagement in the scene shop than in the classroom"? In my decade of experience in technical theatre, I have never been in a situation where the gender working on set design and construction were all the same. In my experience, the scene shop and classroom are taught and attended by both males and females. An all female group of students makes this data original but similar situations with mixed genders may yield different conclusions. Having said that, this group of students was amazing to work with. I cannot make conclusions that my data does not support, but I cannot help but to draw some inferences from the situation. I have led many technical design crews and this group was different than my previous experiences. This group of females bonded more quickly than any other group of students I have worked with. The students wanted to work as a team and felt most comfortable when they were helping each other. In comparison to other scene shop classes that I have taught, this group was a very safety conscious group. The students were

always reminding peers and educators of the safety requirements of the situation. The students in this study were eager to ask questions when they didn't understand and willing to help their fellow students with any task that needed to be done. It was my observation that this group of students worked efficiently and with fewer mistakes than other groups I have led. I collected no data to support the inferences I have made in this paragraph, however these are just observations and a comparative study with a mixed gender group would be needed to verify these inferences.

I would be arrogant in my findings not to mention that this is my first attempt at writing an action research case study. I found that when it came to reducing my data into usable coded quotations I should have restructured some of the questions I asked during my interviews with educators. For example, in all of my interview questions I did not give the interviewee the chance to compare their responses between the shop environment and the classroom environment. I would include the following question in the questionnaire:

> Did you observe the students engagement peak in the classroom or in the scene shop? Explain your answer with examples.

This question would have added clarity to the division between the relative effectiveness of both environments and how the educator observed student learning in each. Question number 14 was a difficult question to code.

> How are the set and preparations for the current play progressing? Do you feel the students are committed to the projects?"(Appendix D)

At the time it felt like this would be a good question to ask and would yield useful data about the students involvement in the productions of the company, but the answer to the question proved difficult to code. Below is a response given to that question by one of my educators:

> The sets are going well. Silhouettes is a difficult design and in the beginning the students didn't seem interested in it. Once they started to build it and understand the design they seemed more into it. This made them more committed to what they were doing, once they were part of the process. Even when we had to get some building done in a short amount of time they didn't sacrifice quality for speed. I have been very happy with how this group works.(Interview conducted on 7/13/16)

The answer to the question was a quality answer, but it was a difficult answer to work into the coding. The answer was too general and not focused enough to add to the validity of my conclusions. This question focuses more on the production of the company than the environment in which the students were learning.

I would also like to add more detailed questions pertaining to safety. I like all the questions I have about safety. (See appendix D) I would add the following question to the interview:

> Which environment did you find the students most engaged in the safety of your lesson? Support your answer with direct observations.

This question speaks directly to the comparison between both environments. The data would be less general and the results more specific to the questions this study hoped to answer.

5.10 Conclusion

The purpose of this study was to determine the best learning environment for teaching technical theatre to youth. The data collected over the eight-week long academy yielded clear results for the students and educators involved. The findings and their implications are based on the data collected in this case study and the research done to prepare for this project. The study concluded that a kinesthetic approach to technical theatre education provides the best environment for learning safety, technique, and teamwork.

While the findings suggest the scene shop to be the preferred environment for teaching technical theatre, the classroom is not to be discredited. Using the data in this research, it can be concluded that a class should split time between the classroom ad the theatre scene shop. A quarter of the time spent with students should be done in the classroom while the remaining three fourths of the time should be spent in the scene shop to achieve similar results.

I have had the unique opportunity to apply the findings of this study to my technical theatre class. I am still in the first semester of teaching so it is too soon to verify the validity of my findings in this study, but I can presently conclude that my students enjoy the class and are finding moments of engagement in both environments. Keeping a realistic 1:4 ratio of class time to

shop time has been a challenge. Due to the requirements of the theatre program the shop work comes in waves and is not continuous. Some times the requirements of the production are low and students spend more time in classroom-based learning, and other times the demands of the production forces shop work to take precedence. With more planning and an accurate knowledge of what the production needs are of the company, I believe I can alleviate some of the variations in the production needs for the class. For example, I could make a complete scene shop list of needed elements of theatre for the entire season at the beginning of the school year. With this list I could work on needed items months in advance of their use. This helps stabilize the needs of the production class. I could also use this list to better balance the time management of the classroom by evenly distributing the workload of the class throughout the year. Right now the production needs of the class are directly related to the plays that are scheduled to show. Without a pre-made list of needed theatrical elements, the class only focuses on "the next production". This creates a curriculum that is hard to predict and less effective. I am currently working to streamline the needs of the company so that I can stabilize the ratio of classwork to project work.

It is my hope that others working in the field of technical theatre will find this document useful and that technical theatre remain a vital part of the curriculum available to high school students. The skills taught in the classroom and the theatre scene shop allows students to be both creative and logical. The

curriculum is academic and artistic. I want my students to have the opportunity to create and learn with their minds and hands.

WORKS CITED

Blakely, K. (2006). *Projects for Teaching Scene Design*, Syracuse, NY: United States Institute for Theatre Technology, Inc.

Burris-Meyer, H. (1971). *Scenery For The Theatre*, Ontario, Canada: Little, Brown & Company.

Carter, P. (1994). *Backstage Handbook*, Louisville, KY: Broadway Press.

Cunningham, G. (1993). *Stage Lighting Revealed A Design and Execution Handbook*, Cincinnati, OH: Betterway Books.

Gay, L. R., Mills, G. E., & Airasian, P.W. (2012). *Education Research: Competencies for Analysis and Applications.* Boston: Pearson

Given, L. (2008) *The SAGE Encyclopedia of Qualitative Research Methods*, Thousand Oaks, CA: SAGE Publications

Glerum, J. (1997). *Stage Rigging Handbook*, Carbondale, IL: Southern Illinois University Press.

Hershey, C. (2015) *Teaching Technical Theatre: Learning Not Just Doing* (Doctoral dissertation) Retrieved from http://scholarscompass.vcu.edu/etd

Ionazzi, D. (1992). *The Stage Management Handbook*, Cincinnati, OH: Betterway Books.

Leonard, J. (2001). *Theatre Sound*, New York, NY: Theatre Arts Books/Routledge

Merriam, S. B., & Simpson, E. L. (1984). A Guide to Research for Educators and Trainers of Adults. Malabar, Fla: R. E. Krieger pub. Co.

Morey, M. (2014) *Bridging the Gap Between Academic and Vocational Training While Preparing Students for Careers and Life* (Master's Thesis) Retrieved from http://digitalscholarship.unlv.edu/thesisdissertations

Oxford Dictionaries Our story, products, technology, and news. (n.d.). Retrieved November 06, 2016 from https://oxforddictionaries.com/

Pinnell, W. (1987). *Theatrical Scene Painting*, Carbondale, IL: Southern Illinois University Press.

Schott, H. (2013) *Teaching and learning in technical theatre: Activity, composition and embodiment* (Master's Thesis) Retrieved from http://ir.uiowa.edu/etd/2627

Tudge, J.R.H. (1990) *Vygotsky, the Zone of proximal development. And peer collaboration: Implications for classroom practice.* In Moll, L. C. (ed), *Vygotsky and Education. Instructional implications and applications of the Sociohistorical psychology.* (New York: Cambridge University Press).

WORKING BIBLIOGRAPHY

Benedetti, R. (1970). *The actor at work*. Englewood cliffs, New Jersey: Prentice-Hall.

Burris-Meyer, H. (1971). *Scenery For The Theatre*, Ontario, Canada: Little, Brown & Company.

Carter, P. (1994). *Backstage Handbook*, Louisville, KY: Broadway Press.

Cunningham, G. (1993). *Stage Lighting Revealed A Design and Execution Handbook*, Cincinnati, OH: Betterway Books.

Gay, L. R., Mills, G. E., & Airasian, P.W. (2012). *Education Research: Competencies for Analysis and Applications.* Boston: Pearson

Given, L. (2008) *The SAGE Encyclopedia of Qualitative Research Methods*, Thousand Oaks, CA: SAGE Publications

Glerum, J. (1997). *Stage Rigging Handbook*, Carbondale, IL: Southern Illinois University Press.

Hagen, U. (1973). *Respect For Acting*, Hoboken, New Jersey: John Wiley & Sons, Inc.

Hershey, C. (2015) *Teaching Technical Theatre: Learning Not Just Doing* (Doctoral dissertation) Retrieved from http://scholarscompass.vcu.edu/etd

Higgins, A. M. (2003). *The keys to theatre education.* (Order No. 1415715, San Jose State University). *ProQuest Dissertations and Theses.* (305224642). Gay, L. R., Mills, G. E., & Airasian, P.W. (2012). *Education Research: Competencies for Analysis and Applications.* Boston: Pearson

Ionazzi, D. (1992). *The Stage Management Handbook*, Cincinnati, OH: Betterway Books.

Leonard, J. (2001). *Theatre Sound*, New York, NY: Theatre Arts Books/Routledge

Lu, Y. (2002). *Theatre in education: Catalyst for change* (Order No. EP35266). Dissertations & Theses Full Text; ProQuest Dissertations & Theses Global. (1118264894).

Merriam, S. B., & Simpson, E. L. (1984). A Guide to Research for Educators and Trainers of Adults. Malabar, Fla: R. E. Krieger pub. Co.

Morey, M. (2014) *Bridging the Gap Between Academic and Vocational Training While Preparing Students for Careers and Life* (Master's Thesis) Retrieved from http://digitalscholarship.unlv.edu/thesisdissertations

Moore, S. (1965). *The Stanislavski System*, New York, New York: The Viking Press.

Oxford Dictionaries Our story, products, technology, and news. (n.d.). Retrieved November 06, 2016 from https://oxforddictionaries.com/

Pecktal, Lynn. (1975). *Designing and Painting for the Theatre*. New York: Holt, Rinehart and Winston.

Pinnell, W. (1987). *Theatrical Scene Painting*, Carbondale, IL: Southern Illinois University Press.

Prior, R. (2013). *The Imperative Education of Theater Artists.* (Master's Thesis California State University, Long Beach). Retrieved August 14, 2014, from Consortium Library: Full Text. (ISBN 1303796163)

Smith, F. (2002). *Metaphor as the Basis for Set Design*. (Master's Thesis California state University, Long Beach). Retrieved August 15, 2014, from Consortium Library: Full Text. (ISBN 049396312X)

Schott, H. (2013) *Teaching and learning in technical theatre: Activity, composition and embodiment* (Master's Thesis) Retrieved from http://ir.uiowa.edu/etd/2627

Tudge, J.R.H. (1990) *Vygotsky, the Zone of proximal development. And peer collaboration: Implications for classroom practice.* In Moll, L. C. (ed), *Vygotsky and Education. Instructional implications and applications of the Sociohistorical psychology.* (New York: Cambridge University Press).

Tundermann, S. B. (2013). *A midsummer night's dream: A lighting design the Ina and Jack Kay theatre Clarice Smith performing arts center University of Maryland – college park* (Order No. 1543649).

Vazquez, A. (2013). *Costume design for Lend Me a Tenor.* (Order No. 1523584, West Virginia University). *ProQuest Dissertations and Theses*. (1427376521).

Walsh, J. (2006). *The Technical Director's Process: An Account of WVU Division*

of Theatre and Dance's Production of Into the Woods. (Master's Thesis West Virginia University). Retrieved August 14, 2014, from Consortium Library: Full Text. (ISBN 0542763702)

APPENDIX A

TBA Unit Planner (Classroom)

Title:
Teacher:
Grade Level:
Time Frame:

Topic covered

Big Ideas

Central Question(s)

Evaluation: What worked student engagement
Suggested
What didn't (on a scale of 1-10)
Improvements

APPENDIX B

TBA Unit Planner (Scene Shop)

Title:

Teacher:

Grade Level:

Time Frame:

Daily Checklist:	
Division of labor:	
Equipment needed:	
Safety equipment needed:	

Evaluation: safety lesson taught Student engagement (on a scale of 1-10) Suggested Improvements

APPENDIX C

TBA Scene Shop Practicum

Power tool:

Teacher:

Student:

Assessment	Pass/Fail
Safety	
Following Direction	
Proper use of power tool	
Final Product	

Final Grade (pass/fail)_____

APPENDIX D
Interview Questions for educators

INTERVIEW QUESTIONS FOR EDUCATORS

As originally conceived during the Institutional Review Board approval process, the areas of interest for my interview with the educators are as follows.

Engagement / Collaboration / Future Application

1. What were the key elements of your lesson?

2. Who would you choose as a peer leader in your area of expertise? Why?

3. How do direct whole-class instruction and direct instruction by peers compare, with respect to effectiveness? Examples?

4. Which students do you see engaging with the class? What does this look like? How do their peers help them engage in the lesson?

7. Which students do you see not engaging with the class? What does this look like? How do their peers distract from learning.

9. What opinions are students forming about this class? Do they think they are learning? Do they see class as valuable? Do they see themself as belonging to a group?

10. How do student attitudes compare to those of other faculty at TBA?

11. Which part of your lesson was focused on safety (either student or material safety)? How concerned do students seem to be about safety of your lesson?

12. Is there any student behavior that causes you concern as a teacher?

13. How are the students performing? Are they meeting your expectations?

14. How are the set and preparations for the current play progressing? Do you feel the students are committed to the projects?

APPENDIX E

Human Participants Approval Form Part A – Certification

This approval is valid for one (1) year from the approval date. Researchers must request a renewal to continue the research after that date. If any major modifications have been made, renewal requires resubmission to the IRB.

Project title: THEATRE EDUCATION FOR YOUTH

CERTIFICATION STATEMENT
By signing below, I accept responsibility for the research described herein, including work by others under my direction. I further understand that I must obtain written approval from the Institutional Review Board before making substantive changes to the originally approved research protocol. I agree to immediately report all unanticipated adverse affects of the study on participants to the Chairperson of the Institutional Review Board.

Rees Miller **Researcher (print and sign)** **Date**
5/2/16

Approval by Faculty Research Supervisor (for student researchers)
Date

Acknowledgment by Faculty Advisor (if different than supervisor)
Date

Faculty Supervisor/PI email address **Phone ext.**

This proposal has been approved by the APU Institutional Review Board.

Chairperson
Date
Institutional Review Board **Alaska Pacific University**

APPENDIX F

Human Participants Approval Form Part B – Review Questions

1. Answer the following questions directly on this form

Study is part of:

___x__Thesis/Dissertation

_____Senior Project

_____Faculty Research

_____Other (specify) _____

Project Title _____Theatre for the Youth_____

Researcher's Name _____Rees Miler_____

Department ___MAP___Email__miller_rees@asdk12.org__ Phone_____

What is the average time required of each participant____2-8 hours_____

Approximately how many participants will be involved _____5____

What is the approximate starting date?__6/22/2016_____

What is the approximate ending date? ___8/13/16_____

Will persons be told that participation is voluntary and they may withdraw at any time? (y/n) Yes

Will an informed consent form/letter be provided to all participants? (y/n) Yes

Does research ensure that participants will remain free from criminal or civil liability or damage to their financial standing, employability, or reputation by their involvement in the study? (y/n) Yes

Will participants receive compensation for participating (e.g. money, extra

credit, prizes)? (y/n) No

APPENDIX G

LETTER OF CONSENT TO PARTICIPATE
Technical Theatre for Youth

My name is Rees Miller and I am working with Alaska Pacific University (APU) conducting a Master's Project over the next 8 weeks. I am requesting your voluntary participation in my research. You may choose to stop your participation at any time without penalty. I expect that your participation will take approximately 6 hours to complete.

The purpose of this project is to conduct and analyze an educational program for your given expert focus. You will be expected to teach one 3-hour class on your area of focus. You will also be asked to teach one 3-hour shop class on your area of focus. You must complete a Unit Planner for each class. The unit planner asks you to identify what topics are going to be covered, the big ideas you want the students to understand, and a central question that your lesson will answer. You must also fill out an analysis of the experience documenting what you did, what went well, and what you could do to improve the lesson.

Your participation in this process will remain confidential. Your name will not be used in any published documentation. I will be the only person reviewing the material and collecting your comments. I alone will compile the data and report your findings. Upon completion of my final thesis in December of 2016 all data collected will be destroyed.

This project has been reviewed and approved by APU's Institutional Review Board.

A copy of this letter is yours to keep. If you have any questions about how this investigation is to be conducted please contact me at: rmiller@alaskapacific.edu
You may also contact my Faculty Advisor: Karen McCain, 907-564-8243, mccain@alaskapacific.edu, 4101 University Dr. Anchorage AK 99508.

_____ _____
Investigator (print and sign) Date

I agree to participate in the project as described above.

_____ _____
Participant (print and sign) Date

APPENDIX H

Training Better Artists Toward a Better Alaska

To Whom It May Concern:

TBA Theatre approves and supports Rees Miller and his proposed project. TBA gives permission for Rees Miller to research and collect data for his Master's thesis. Rees will be working with our technical academy students for the duration of the 2016 TBA summer academy. TBA recognizes that while all educators of the technical academy will be solicited, there will be opportunity for folks to not participate if they do not want to with no penalty, embarrassment, or guilt involved in not doing so

Sincerely,

Shane Mitchell

APPENDIX I

Answer the following questions on a separate sheet of paper and attach to this form.

A. What is the primary reason for this study? What are the anticipated educational or scientific benefits of the proposed project?

The primary reason for this study is to collect data on the effectiveness of teaching technical theatre to youth. Throughout this process I want to answer several questions to guide my writing and provide a focus for learning. First I want to learn how to teach safety in the scene shop. A majority of our work is done in a scene shop where power tools, saws, and other dangerous equipment are commonly used. Student safety is my chief focus while in the scene shop. Second, I want to learn more about what to teach students in a classroom setting verses what to teach them in a shop setting. Part of this job is theory and curriculum driven; another part is kinesthetic and hands on. Third, I want to find ways to engage all students in the learning process. Many students get complacent in a shop setting and are happy to watch as others do work. I want an environment where all students feel like they have contributed to the final product. Lastly, I want to learn how this process will help me in my future endeavor to become the theatre director at the school I presently work at. During my process I want to view my progress and measure my learning goals through the lens of these questions.

The educators are working with 13-15 students ranging in age from 15-18 years old. These students are enrolled in TBA's summer technical theatre academy. The academy lasts for eight weeks. During that time the students will take classes

designed by my mentor and myself. In addition to classes the students will build the sets for six plays produced during the eight-week period.

The goal of this program is to learn more about how lessons can be taught to youth. Each lesson will be designed in collaboration with my mentor Wayne Mitchell and myself. The educator teaching the class will determine the effectiveness of each class. There will be four educators teaching classes during this program. Kevin Flanagan, Nicole Peterson, Heather Castle, Sayre Smith, and myself will work as a team to design what we think will be an effective lesson. After the lesson has been taught the educator will fill out an evaluation form. The form asks the educator to identify questions we want the students to understand, the big ideas of the lesson, and an evaluation of the lesson. To evaluate the lesson the educator is asked to identify what parts of the lesson the educator felt was effective and which parts of the lesson the educator felt were not effective. The evaluation also includes a quantitative evaluation of class participation. In the last step of the evaluation the educator is asked to suggest improvements for the lesson.

B. What is the proposed participant pool? If the participant pool includes minors (under 18 years old), prisoners, mentally challenged persons, or persons in residential institutional settings such as hospitals, clinics, or rehab centers, you must attach evidence of permission to work with these populations.

My study group will be a small group of four educators over the age of 18. I will be working with these educators to develop and refine curriculum to better educate the students in the class. The educators will evaluate each lesson and provide feedback on each lesson.

How will you recruit participants? If you are recruiting through a private or public institution, you must attach evidence of permission to recruit in that setting.

All employees I will be working with are hired through TBA Theatre Company. No recruiting is necessary. Each year educators come from across the United States to help with this academy. TBA Theatre Company has already selected the educators I will be working with. These educators are all repeat clients who have done the academy in past years.

Will participants 1) be identified in this study and in the research report; 2) be promised confidentiality (the final research report will not associate their responses with their names/other identifying information); or 3) be anonymous (nobody, including the researcher, will know the identities of the participants)? Explain.

The participants in my study will be promised confidentiality. The final research report will not associate their responses with their names or other identifying information. This has been explained in the letter of consent I will have all participants sign.

C. **How will data be collected and recorded to ensure the level of privacy indicated in your answer to item D, above? At the completion of the study, what will happen to materials (datasheets, videos, etc.) that identify individual participants?**

All of the data I collect for the study will be in the form of datasheets. I've attached data sheets at the end of this document for review. (Appendix A and B) The data sheets are organized by learning environment and are specific to the goals of the academy. The most useful part of these data sheets is the evaluation section. I want to get feedback on the effectiveness of the lesson and suggestions for improvement. All educators will complete the evaluations; this will be collected as data for analysis.

Is there any pre-existing professional or personal relationship between the researcher and the participants? If so, explain.

I know many of the educators I will be working with this summer. I have no pre-existing professional relationships with these educators but I have informally worked with all of them on projects related to TBA's summer academy and regular season.

D. **Does the study involve deception of the participants? If so, explain and justify.**

This study does not involve the deception of any participants.

E. **Will the study cause discomfort, harassment, invasion of privacy, risk of physical injury, or threat to the dignity of participants, or be otherwise**

harmful to them? If yes, explain these potential effects and justify them. What measures will be taken to minimize these effects?

This study is not harmful to its participants. It does not cause discomfort, harassment, invasion of privacy, risk of physical injury, or threat to the dignity of the participants.