Project overview

This learning module will take place as one day of class instruction within a larger 5 week class on entertainment rigging. This module will focus on the proper way to rig a hollywood style flat for flying on a typical counterweight theater system. The module will cover a one hour instruction period including lecture and activities. The steps involved with the rigging process will be coupled with instruction on why the steps are important, and how each part of the process adds to the overall safety of the rigged element. I will also couple the process with learning activities that let the learners perform the process getting hands on experience working with the real equipment.

Gap Analysis

In the initial stages of this project I developed a gap analysis to determine the need for this course. I would like the status of my students to be that they are able to perform basic rigging safely and effectively. The actual status is that most students who haven't had specialized training will know little to nothing about safe rigging practices. So the need arises to provide willing students with the instruction necessary to fill this gap in knowledge and provide more students with the understanding of safe rigging practices.

As an SME in entertainment rigging, I used that SME approach to Identifying the gap. Theatrical rigging is such a specific skill it is unexpected that many people would have much knowledge of it. Given that when putting large pieces of scenery over the heads of people safety is of utmost importance. It is clear to see the need for this module to help expand the number of people with knowledge of safe rigging practices to ensure safety for all.

Desired Status	-	Actual Status	=	Need
Students are able to assess and perform basic rigging of theatrical scenery overhead safely.		Most students have little to no understanding of the equipment, techniques, or proper assessment involved in rigging theatrical scenic objects to be lifted overhead.		A course to provide the students with a vocabulary of rigging equipment, explanation and practice in common rigging techniques, and guidelines to properly assess risk involved in rigging theatrical scenery overhead.

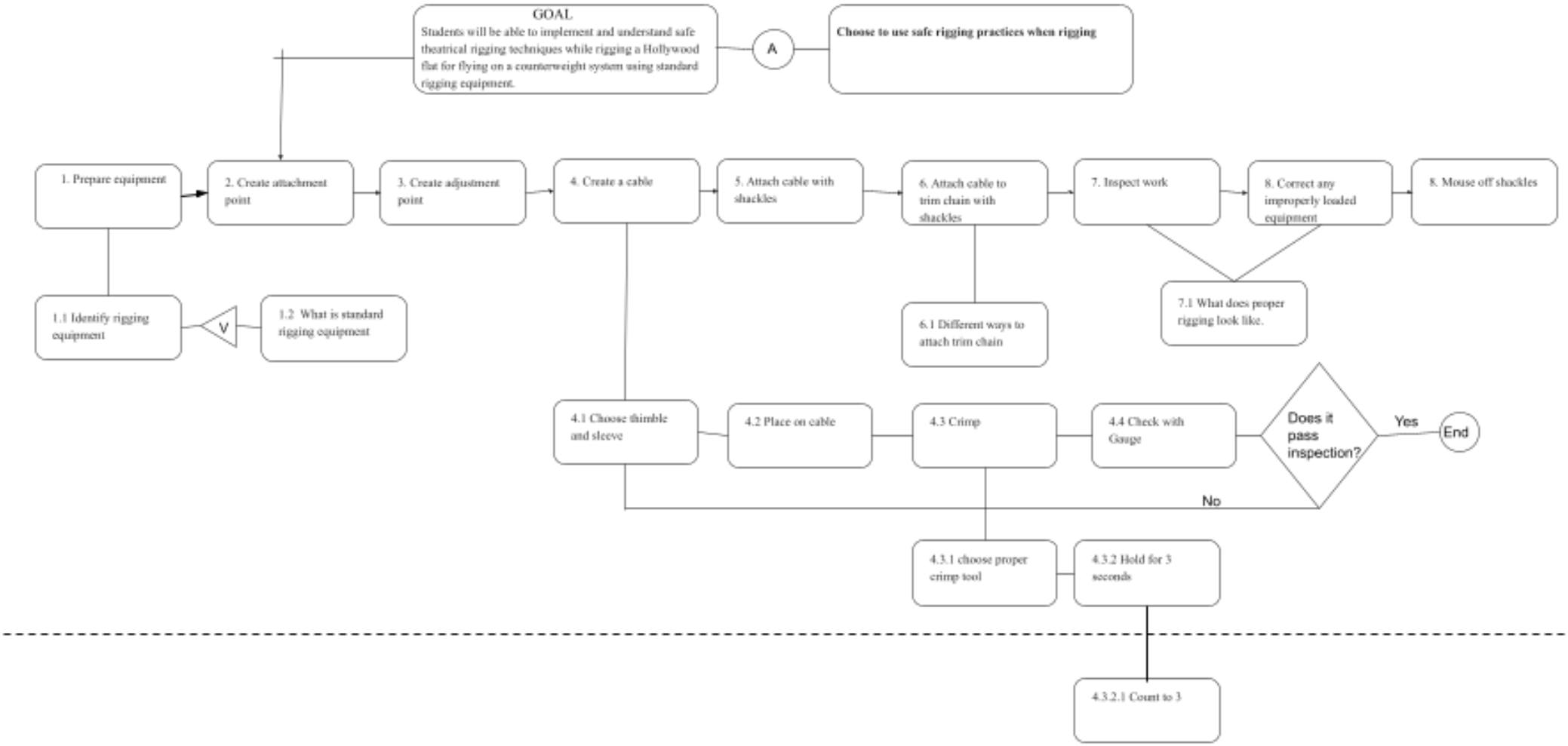
Goal statement

The instructional goal of this module is:

“Students will be able to implement and understand safe theatrical rigging techniques while rigging a Hollywood flat for flying on a counterweight system using standard rigging equipment.”

While for the most part the skills required for successful completion of the goal are psychomotor in that the rigging process is a physical one. The learner will need to use the equipment in a physical manner attaching the flat to the batten of the fly system through a series of techniques. There will also be a verbal component to the lesson as the amount of new tools, equipment, and vocabulary will be necessary to learn. In the end the choice to implement these safe working practices when rigging will be an attitudinal goal that will require the learner to make the conscious choice to implement these practices in the work that they do.

Goal Analysis Diagram



Reflection

So far the process of identifying my goal and the main steps has gone quite well. I feel that by choosing a mainly psychomotor skill it was fairly easy for me to think in terms of what does the learner need to do to complete the goal. Initially my goal was a bit too broad encompassing an entire 5 week class and after understanding more about what was needed for the project I was able to reduce it to just a single aspect of what I would cover in the class.

I have had difficulty breaking down the steps in the process so far that I came up with entry level skills. I think this may be because this task is such a specific niche that I do not expect my learners to know much of anything about it when first coming to the lesson. Even if some of the learners have worked with some of the same equipment before, or done similar processes I would still expect them to learn for the beginning in this case. The skills, and application of them are different from many other similar uses and I would want to know that the learner wasn't making any incorrect assumptions.

I received some helpful comments in the peer review. It was nice to hear that my steps were clear and followed even though some of my peers had no idea what some of the terms meant. The fact that they were still able to follow along was helpful for me to know I was on the right track. A couple of comments helped me to adjust my steps a bit and add a first step of Identifying rigging equipment. This was helpful so that I could add in the verbal subordinate step connecting the vocabulary of entertainment rigging to the goal.

Overall I feel as though I am on the right track with this learning module. Safety of rigging is important to the safety of everyone working and going to live entertainment events. This module will help expand the knowledge base of safe working practices and help keep people safe. The learners I am targeting with this module are entry level college students and those students will go on to be the ones running and volunteering at many small theaters and events across the country. By instilling this sense of safe rigging practices into their first introduction to rigging I hope to keep everyone safe.

Learner Analysis

This module is designed to be one section within a 5 week class in the introduction to theatrical rigging. The learners are students within the university organization which have signed up for this class. As this is an introductory level course the students will be primarily freshman and sophomore college students. This class is also a prerequisite to other more advanced courses where knowledge of theatrical rigging is an entry level skill.

The learners will have little to no prior knowledge of industry standard rigging. It is not expected that they have any experience with theatrical rigging as the course is meant to be an introductory level course giving them a base of knowledge to build on as their career progresses.

Information Categories	Data Sources	Learner Characteristics
Entry Skills	Observation	Learners will have the ability to move and lift up to 20lbs. Accommodations will be made for those with a disability.
Prior Knowledge	Observation	Learners will have no prior knowledge of rigging standard practices or the equipment used.
Attitudes toward content	Observation and student interviews	Learners have signed up for this course of their own will due to an interest in the subject matter or a requirement for further professional development.
Attitudes toward delivery system	Observation and student interviews	Learners tend to prefer a face to face class especially when dealing with a psychomotor skill.
Motivations for instruction	Observation and student interviews	Learners will receive a grade for their performance in this unit which will in part comprise their grade for the whole class.
Education and ability levels	Observation and student interviews	Learners are college students interested in an introductory course. They may have varying levels of credits earned but are in most part freshman and sophomore students.
General learning preferences	Observation and student interviews	Learners may have a varying level of learning preferences. Those interviewed expressed interest in a hands-on approach

		to learning this subject matter.
Attitudes towards training organization	Observation and student interviews	Learners expressed a positive attitude towards the organization as a whole and specifically the department of Theatre where this class will be taught.
General group characteristics	Observation and student interviews	Learners are motivated and interested in the subject matter.

Performance Context

The performance context for this module will be in a theater scene shop. The students will be performing these skills in the very same context if they work on future shows with the university. In addition the university models its own scene shop on what would be found in the professional world. When performing these skills in a professional context the environment will be very similar to a university scene shop.

Information Categories	Data Sources	Performance Site Characteristics
Managerial support	Discussion with management	This module will have full support of the managing faculty.
Physical aspects of the site	Observation	The site will have ample table space for each learner to work with. The site will provide all the necessary tools to complete the tasks.
Social aspects of the site	Observation	Learners will be able to interact with each other during group work.
Relevance of the skills to the workplace	Observation	Aside from the rigging taking place on a scaled down version of a flat the skills

		will be identical to those used in a professional setting.

Learning Context

This module will take place in a theatrical scene shop. The main reason for this is that there will be provided ample table space for the students to work. The shop will need to provide table space of approximately 4 foot by 4 foot for each group of 3 students. This will allow them the place to work while rigging their small scale flat. The shop should also be equipped with tools such as drills, wrenches, sockets, screwdrivers, and other basic tools. A properly stocked theatrical scene shop will be able to provide all such tools.

Information Categories	Data Sources	Learning Site Characteristics
Number/Nature of sites	Observation	This module will take place in a single location. That location will be the workshop of the theater.
Site compatibility with instructional needs	Observation	It is necessary to schedule the class during a time that there is no other work happening in the shop.
Site compatibility with learner needs	Observation	The space will provide enough table space for each learner to perform the tasks needed and have the necessary equipment provided.
Feasibility for simulating workplace site	Observation and student interviews	This is the actual environment that the learners will perform rigging tasks in.

Assessment Plan

Entry Skills Test

There will be no entry level test required of the students. As the students are accepted members of a higher learning institution it will be assumed that they meet any basic level requirements necessary for attending a class. Any disability information will be communicated to the instructor by the university so that accommodations can be made.

Pretest

A pretest will be given consisting of identifying terminology and equipment used in theatrical rigging. This will serve as a guide to the instructor if the class is already familiar with the equipment they may be able to move through that section at a quicker pace. This test will also serve as a comparison to the final test to assess the improvement in the students progress.

Practice Test

Each student will be able to practice each step of the process as many times as necessary for them to feel comfortable with the process and complete it successfully. While the students will be working in groups each will have the opportunity to perform each step along the way. I will be checking at each step of the process for understanding of the step and discuss the ramification of any shortcomings.

Posttest

The students will be given a posttest at the end of the module to determine their understanding of the material presented. This will include identifying rigging equipment, defining terminology, and identifying practical examples of improper rigging and how to rectify them to meet industry standards. This will be able to be compared to the pretest to assess the progress of learning.

Performance Objectives

The performance objectives of this module are broken down into a series of steps and sub steps which are detailed below:

Main Instructional Goal	**Terminal Objective**

Students will be able to implement and understand safe theatrical rigging techniques while rigging a Hollywood flat for flying on a counterweight system using standard rigging equipment.	Given access to standard rigging equipment (CN) the student will implement the safe rigging of a Hollywood flat for use on a standard theater counterweight system (B) by performing all the steps in the process following industry standard safety requirements. (CR)
Main Step	**Performance Objective**
1. Prepare equipment in accordance with industry standard rigging practices.	Using standard rigging equipment (CN) the student will prepare the proper equipment needed (B) to rig a standard Hollywood flat following industry standard safety requirements. (CR)
Subordinate Step	**Subordinate Objective**
1.1 Identify rigging equipment that meets the safety requirements of industry standard rigging practices.	Given a selection of equipment (CN) the student will be able to identify the equipment (B) safe to use for rigging procedures.(CR)
Main Step	**Performance Objective**
2. Create the attachment point to the flat in accordance with industry standard rigging practices.	Given the necessary hardware (CN) the learner will attach (B) the shackle plate to the flat following industry standard safety requirements.(CR)
3. Create the adjustment point for the rigging in accordance with industry standard rigging practices.	Given the necessary hardware (CN) the learner will attach (B) the turnbuckle to the flat following industry standard safety requirements. (CR)

4. Create a cable for attachment to the flat in accordance with industry standard rigging practices.	Using the necessary equipment (CN) the student will make a cable for rigging their flat (B) which will pass the “Go/No Go” Test.(CR)
Subordinate Step	**Subordinate Objective**
4.1 Choose a thimble and sleeve that meet industry standard safety requirements.	Given a selection of thimbles and sleeves (CN) the student will choose a thimble and sleeve (B) which meets industry standard safety requirements for the cable they are making. (CR)
4.2 Place the thimble and sleeve on the cable in accordance with industry standard rigging practices.	Having the necessary equipment (CN) the learner will place the thimble and sleeve on the cable (B) in accordance with industry standard safety requirements.(CR)
4.3 Crimp the sleeve in accordance with industry standard rigging practices.	Given the necessary tools (CN) the student will crimp the cable (B) in accordance with industry standard safety requirements.(CR)
4.4 Check the cable to make sure it meets industry standard rigging safety guidelines.	Given a “Go/No Go” Gauge (CN) the student will administer the test (B) and ensure their cable passes.(CR)
Main Step	**Performance Objective**
5. Attach the cable to the flat in accordance with industry standard rigging practices.	Having made the cable (CN) the learner will attach the cable to the flat (B) in accordance with industry standard safety requirements.(CR)
6. Attach the cable to the batten with trim chain in accordance with industry standard rigging practices.	Having attached the cable to the flat (CN) the learner will safely attach the cable to the batten with a trim chain (B) in accordance with industry standard safety requirements.(CR)

7. Inspect their work to ensure that it meets industry standard rigging practices.	The student will inspect (B) a fully rigged flat (CN) and identify all improperly executed elements.(CR)
8. Correct any improperly executed elements so that the rigging meets industry standard rigging safety guidelines.	For the flat that they have inspected (CN) the student will correct the improperly executed elements (B) until all elements are corrected.(CR)
9. Mouse off all shackles in accordance with industry standard rigging practices.	Given zip ties or wire (CN) the student will secure the rigging by mousing off the shackles (B) in accordance with industry standard safety requirements.(CR)

IDer Reflection

I found some difficulty when writing my objectives to keep each objective to a single active verb. I wanted to combine things together because it is normally my teaching style to teach a number of different related skills often at the same time and then test for all of them at once. It felt laborious to break out each step separately and think of it as its own objective with its own assessment. I can see now how this makes things more clear and helps the instructor get valuable feedback on how the students are progressing, allowing for intervention at an earlier stage.

I have never spent so much time thinking about the learner and performance contexts before. It has made me become aware of how much the environment of the learning can affect the way in which the student will learn. The performance context is also critical to try to mimic as much as possible while teaching to assist in the transfer of skills. It just so happens that the learner context and the performance context in my case are the same but this puts a great point on why I should continue this practice. I have thought of moving this section of my class to the classroom before to assist in the scheduling of the scene shop but now I understand how important it is to have the class take place in the shop.

Design Evaluation Chart

Performance Skill	Performance Objective	Parallel Test Item
Students will be able to implement and understand safe theatrical rigging techniques while rigging a Hollywood flat for flying on a counterweight system using standard rigging equipment.	Given access to standard rigging equipment (CN) the student will implement the safe rigging of a Hollywood flat for use on a standard theater counterweight system (B) by performing all the steps in the process following industry standard safety requirements. (CR)	Students will fully rig a flat for flying on a typical theater counterweight system. The finished rigging will be examined as a class and strengths and weaknesses discussed.
Main Step	**Performance Objective**	
1. Prepare equipment in accordance with industry standard rigging practices.	Using standard rigging equipment (CN) the student will prepare the proper equipment needed (B) to rig a standard Hollywood flat following industry standard safety requirements. (CR)	Students will choose from a pile of equipment what they will use to hang their flat. The instructor will then examine their choices and ensure that they have chosen proper industry standard equipment safe for rigging.
Subordinate Step	**Subordinate Objective**	
1.1 Identify rigging equipment that meets the safety requirements of industry standard rigging practices.	Given a selection of equipment (CN) the student will be able to identify the equipment (B) safe to use for rigging procedures.(CR)	Students will complete a written test identifying each piece of equipment and whether it is safe to use in rigging situations.
Main Step	**Performance Objective**	
2. Create the attachment point to the flat in accordance with industry standard rigging	Given the necessary hardware (CN) the learner will attach (B) the shackle plate to the flat	Students will perform the attachment of the shackle plate to a flat and the instructor will then

practices.	following industry standard safety requirements.(CR)	examine their work to ensure that it follows all industry standard safety practices.
3. Create the adjustment point for the rigging in accordance with industry standard rigging practices.	Given the necessary hardware (CN) the learner will attach (B) the turnbuckle to the flat following industry standard safety requirements. (CR)	Students will perform the attachment of the turnbuckle to a flat and the instructor will then examine their work to ensure that it follows all industry standard safety practices.
4. Create a cable for attachment to the flat in accordance with industry standard rigging practices.	Using the necessary equipment (CN) the student will make a cable for rigging their flat (B) which will pass the “Go/No Go” Test.(CR)	The student will make a cable for which to hang their flat. It will be inspected by the instructor once complete to ensure that it meets all industry standard safety requirements.
Subordinate Step	**Subordinate Objective**	
4.1 Choose a thimble and sleeve that meet industry standard safety requirements.	Given a selection of thimbles and sleeves (CN) the student will choose a thimble and sleeve (B) which meets industry standard safety requirements for the cable they are making. (CR)	The student will choose the proper thimble and sleeve to make their cable. The instructor will check to ensure that they have prepared the proper thimble and sleeve.
4.2 Place the thimble and sleeve on the cable in accordance with industry standard rigging practices.	Having the necessary equipment (CN) the learner will place the thimble and sleeve on the cable (B) in accordance with industry standard safety requirements.(CR)	Once the student is ready to crimp the instructor will check to ensure that there is at least 2 cable widths of cable sticking out of the sleeve and all other industry standard safety requirements are followed.
4.3 Crimp the sleeve in accordance with industry	Given the necessary tools (CN) the student will crimp the cable	The student will crimp the cable the instructor will observe and

standard rigging practices.	(B) in accordance with industry standard safety requirements.(CR)	ensure that all industry standard safety requirements are followed.
4.4 Check the cable to make sure it meets industry standard rigging safety guidelines.	Given a “Go/No Go” Gauge (CN) the student will administer the test (B) and ensure their cable passes.(CR)	The student will perform the Go/No Go check and the instructor will observe them to ensure that they have administered it correctly.
Main Step	**Performance Objective**	
5. Attach the cable to the flat in accordance with industry standard rigging practices.	Having made the cable (CN) the learner will attach the cable to the flat (B) in accordance with industry standard safety requirements.(CR)	The student will attach the cable to their flat and this will be inspected by the instructor to ensure that it follows all industry standard safety requirements.
6. Attach the cable to the batten with a trim chain in accordance with industry standard rigging practices.	Having attached the cable to the flat (CN) the learner will safely attach the cable to the batten with a trim chain (B) in accordance with industry standard safety requirements.(CR)	The student will attach the flat to the batten the instructor will inspect and ensure that it follows all industry standard safety requirements.
7. Inspect their work to ensure that it meets industry standard rigging practices.	The student will inspect (B) a fully rigged flat (CN) and identify all improperly executed elements.(CR)	No test is necessary; this will be assessed in the next step.
8. Correct any improperly executed elements so that the rigging meets industry standard rigging safety guidelines.	For the flat that they have inspected (CN) the student will correct the improperly executed elements (B) until all elements are corrected.(CR)	Once complete the instructor will inspect the entire rigging ensuring there are no parts that don’t meet industry standard safety requirements.

9. Mouse off all shackles in accordance with industry standard rigging practices.	Given zip ties or wire (CN) the student will secure the rigging by mousing off the shackles (B) in accordance with industry standard safety requirements.(CR)	The student will mouse off all shackles and present their completed work to the instructor for evaluation.

Instructional Strategy Alignment

Learning Component	**Design Plan**
Cluster 1 Choosing Equipment	Objectives 1. Using standard rigging equipment the student will prepare the proper equipment needed to rig a standard Hollywood flat following industry standard safety requirements. 1.1 Given a selection of equipment the student will be able to identify the equipment safe to use for rigging procedures. Content Presentation Content: There are many different pieces of equipment used in theatrical rigging. It is important for the students to be familiar with them and their proper uses. There are also many pieces of equipment that are typically found in a theater scene shop that are not safe for rigging purposes but may look as if they are. As a rigger you must know what equipment is rated for use in rigging and the proper ways to use it to ensure safety. Example: Eye bolts with a bent eye are common in any scene shop but are not rated for lifting. It is important for students to know that using a forged eye, eye bolt

	from a reputable dealer is the only way they can guarantee that the bolt will have a rating for overhead lifting. The instructor will explain this and pass around examples of each so that the students can actually handle the equipment and understand the difference. Student Grouping and Media Selection: Students will be in a large group while the instructor introduces different pieces of equipment and how and why they are used. The instructor will also introduce many common pieces of equipment which do not meet industry safety standards. These pieces of equipment will be passed around. Student Participation: After learning about and handling the equipment the students will be given a short quiz identifying each piece of equipment and which are rated for overhead lifting.
Cluster 2 Making the Cable	Objectives 4. Using the necessary equipment the student will make a cable for rigging their flat which will pass the “Go/No Go” Test. 4.1 Given a selection of thimbles and sleeves the student will choose a thimble and sleeve which meets industry standard safety requirements for the cable they are making. 4.2 Having the necessary equipment the learner will place the thimble and sleeve on the cable in accordance with industry standard safety requirements. 4.3 Given the necessary tools the student will crimp the cable in accordance with industry standard safety requirements. 4.4 Given a “Go/No Go” Gauge the student will administer the test and ensure their cable passes. Content Presentation Content:

	Crimping a cable is the preferred method for creating the ends for lifting. A properly crimped cable is 90-100% efficient in the load that it can support. An improperly terminated cable can be as low as 50% efficient. It is important that the students know how to make a proper crimped cable and how to check it to ensure that it is strong enough to hold the loads necessary. Example: The instructor will talk about the different sizes of thimbles and sleeves and show some examples to the class for them to pass around. It will be important for the instructor to explain why the properly sized piece is needed for the cable and if another size is used the cable will not meet safety requirements. Student Grouping and Media Selection: The students will be paired off so that they have a partner to help them as they create the two cables that they will need for rigging their flat. Each student is responsible for crimping two ends of the cable. Some videos of the making of steel cable and or stress testing on steel cable may be shown to help explain why the proper procedures need to be followed. Student Participation Each student will be responsible for crimping two ends of the cables that they and their partner will be using to rig their flat.
Cluster 3 Putting Together the Flat	Objectives 2. Given the necessary hardware the learner will attach the shackle plate to the flat following industry standard safety requirements. 3. Given the necessary hardware the learner will attach the turnbuckle to the flat following industry standard safety requirements. 5. Having made the cable the learner will attach the cable to the flat in accordance with industry standard safety requirements. 6. Having attached the cable to the flat the learner will safely attach the cable to the batten with a trim chain in accordance with industry standard safety requirements.

	9. Given zip ties or wire the student will secure the rigging by mousing off the shackles in accordance with industry standard safety requirements. Content Presentation Content: Although there are many ways to rig any individual object there are some standard practices involving rigging a theatrical flat. It is important that the students not only know the standard procedures for rigging a flat but understand the principals at work behind them so that they can use the same techniques to rig any object. Example: The instructor will walk through and demonstrate a typical way in which a flat would be rigged. Stopping along the way to explain each step, The attachment, The adjustment, and The connection. Student Grouping and Media Selection: The students will be in a single large group for this instruction. The actual equipment should be used and attached to a flat in real time to give the students an example of how it should be done. Student Participation The students will work in small groups to attach all the equipment they have prepared to a flat and connect it up for flying on a theatrical fly system.
Cluster 4 Inspection and Correction	7. The student will inspect a fully rigged flat and identify all improperly executed elements. 8. For the flat that they have inspected the student will correct the improperly executed elements until all elements are corrected. Content Presentation Content:

	It is important for any rigger to be able to inspect their own work and notice and correct any issues before the item is put in a dangerous position. Example: After the students have rigged their flat they will go through the work that they did and double check that each part was done correctly, looks right and passes any necessary tests. If any part of the rigging does not pass this inspection it will be required to be redone before the flat can be lifted. Student Grouping and Media Selection: The students will be working in small groups and each should make their own pass over the equipment to ensure that everything is right. Student Participation In their small group each member will go over each point in the rigging and ensure that it has been done correctly.

Implementation Plan

I plan to test this module on two undergraduate students in the theater program at Purdue. They are within the target demographic although each have undergone a similar lesson and have prior knowledge of rigging. I will ask them to attempt to forget all their prior knowledge and work solely on the information given to them in the lesson.

I will schedule a time that I can meet the two students in the Purdue theater scene shop after the shop has closed for the day and I will walk them through the lesson as stated above. They have each committed to spending the hour with me and working through this workshop.

Evaluation Plan

As a formative evaluation I intend to give the students a short survey asking about the process and how they enjoyed it and how it helped them learn. I will also conduct a short interview with each. I intend to interview each participant to allow them to expand on anything that they would like to tell me about but wasn't covered in the survey.

IDer Reflection

I found that breaking the objectives into different clusters helped me understand the larger section of my lesson. It seemed like before I was going to be teaching a series of small lessons each with its own practice and evaluation at the end. Being able to cluster them together has helped me get a handle around how I would go about teaching this lesson in an effective manner. What I have really enjoyed about this project is the way it has required me to think about ways that I can add more evaluation into this lesson. Each objective along the way should be given an evaluation. This has helped me because I often struggle with the right way to give assessments. By tying each assessment to the objective, specifically the active verb, it has helped me to think of more ways to give assessment.

It was helpful to get the feedback from the class on the media clip that I chose. I am looking for a more dynamic clip of theater scenery in motion to use instead of the dry example that I first found. I would like to create more excitement in the students to see some of the things that can be done with the type of skills that they are learning.