The capstone project presentation entitled “Flexible Classroom Design” can be accessed using the following link: https://prezi.com/view/eVcw9s5Alx3GMtFcPIQq/
Capstone Project Research Design Goals

Research Design Goals

1. Use 3 Design Choices
   - Furniture should maximize space.
   - Flexible furniture should be adjustable.
   - Mobile furniture should be easy to move.

2. Utilize Driving Elements
   - Furniture should include as many elements as possible to create space, flexibility, and mobility. This includes wheels, swivels, etc.

3. Take User Proportions Into Account
   - Furniture should be designed to accommodate all body sizes rather than average dimensions.

4. Take User Perspectives Into Account
   - Student designs should be studied and incorporated.
   - Designs should be user-centered and allow the students to have choice in how the furniture is constructed or arranged in real time.
Figure B1. BEO chair overview.
BEO (Built for EveryOne) Chair Research Design Achievements

1. Design Choices

- Maximizes space by combining desks and chairs as one, and including built-in storage.
- Flexibility demonstrated through the adjustable parts.
- Wheels create mobility.

2. Driving Elements

- Wheels, built-in storage, adjustable swivel tabletop, variety of seat bases, variety of storage containers, tilting back, adjustable seat height, swivel tilting seat, adjustable lumbar & adjustable fold-down swivel armrests.

3. User Proportions

- Maximal amount of adjustable parts to fit all body sizes.

4. User Perspectives

- Students have choice in which seat base to use based on their preference, activity, learning style, or learning goals.
- Driving elements allow for easy reconfiguration of student groups.
Rack Stacks Furniture Design

Figure C1. Rack stacks overview.
Figure C2. Rack stack packs.
Figure C3. Rack stack storage and work spaces.

Figure C4. Rack stack pack model front view.

Figure C5. Rack stack pack model side view.
Rack Stacks Research Design Achievements

1. Design Choices

- Maximizes space with slim profile and very compact storage.
- Flexibility demonstrated through the manipulation of the various parts.
- Lightweight construction allows for easy mobility.

2. Driving Elements

- Lightweight, stackable, adjustable seat and table heights, possible rocking base, swivel tabletops & foot rests, & built-in storage shelves.

3. User Proportions

- Chairs and tabletops of varying heights can be created.

4. User Perspectives

- Students have choice in what type of furniture to create based on their preference, activity, learning style, or learning goals, or even their own creativity.
Swap Box Furniture Design

**Figure D1.** Swap box bench desk and floor desk.

**Figure D2.** Swap box computer desk and drafting table.
Figure D3. Swap box reclined seat.

Figure D4. Swap box rocking seat.
Figure D5. Swap box tall seat.

Figure D6. Swap box standing double desk.
Swap Box Research Design Achievements

1. Design Choices
   - Maximizes space by combining desks and chairs as one, and including built-in supply spots.
   - Flexible in nature by flipping to a different side.
   - Wheels on most sides create mobility.

2. Driving Elements
   - Wheels, lightweight, varying seat and table heights, rocking base, & built-in storage.

3. User Proportions
   - Chairs and tabletops of varying heights on each side.
   - Desktops and tabletops slant down to differing heights.

4. User Perspectives
   - Students have choice in which side to use based on their preference, activity, learning style, or learning goals.