

Overview

The classroom furniture may help or hinder collaborative learning. The ability to move furniture easily, quickly, and safely is important in classrooms wanting to create and support collaborative learning. When students are using digital technologies such as tablets or laptops, they need to be able to move around, connect to electricity, work in ever-changing groups, and use a variety of materials and resources. Also, recent studies suggest that sitting is the new smoking. From Smith Systems website: “movement can contribute to ... concentration and is considered beneficial to physical health,” (Retrieved January 2016, <https://smithsystem.com/school-setting/classrooms/>).

Design Rationale

In some Canadian schools, classrooms look and feel very traditional. Students sit in individual desks and those desks are often arranged in rows. Increasingly, some schools are changing the arrangement of furniture in their classrooms. Typical individual desks and chairs are being replaced with more welcoming, colourful, and different looking furnishing. Educators are increasingly suggesting that we need to think about how the furniture students use can become a physical point of contact between the student, the teacher, the learning, and the school.

Problem Scenario

Your team has been selected to develop a prototype for a structure component of classroom furniture that supports learning innovations and collaboration. It needs to be welcoming, comfortable, functional, colourful, and mobile. Your furniture must be a scale prototype of a classroom furniture model that could be found in a class setting. For this design challenge, your prototype must satisfy two of the following identified concerns:

1. Be adaptable for use by children with disabilities
2. Be affordable
3. Be easy to move
4. Be enjoyable for users of all ages
5. Be innovative and not an exact copy of something that currently exist
6. Be useful and beneficial for students of varying heights and sizes
7. Foster a positive, collaborative and enjoyable learning environment by addressing a specific concern or function

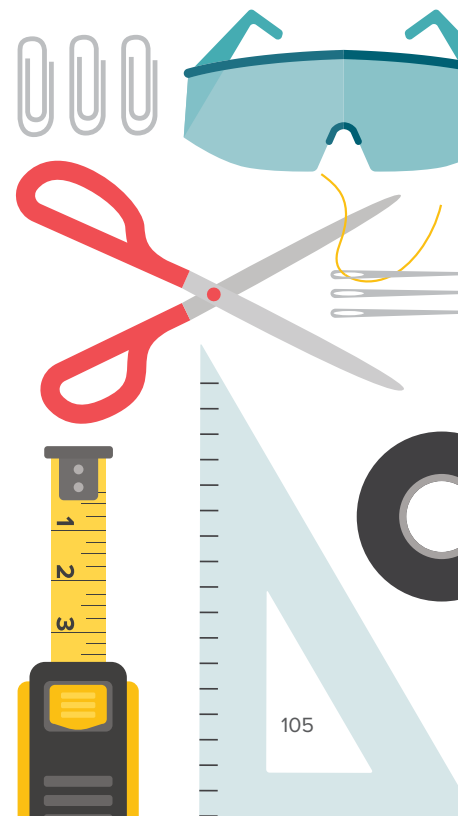


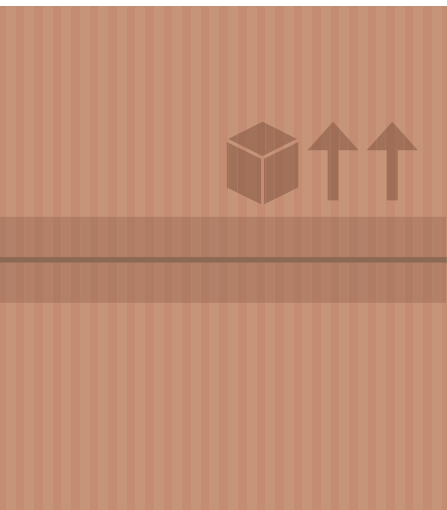
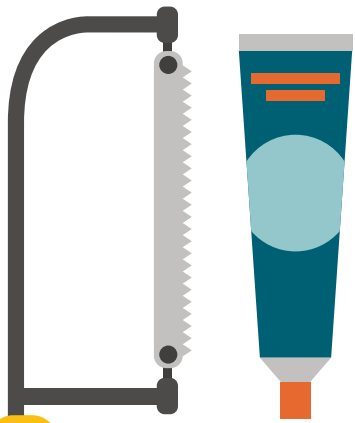
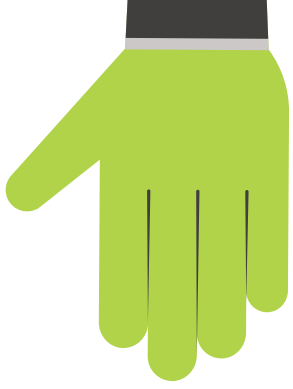
Suggested Grade Level

- Elementary through to secondary school
- Possibly primary grades with adult assistance

Suggested Subject Area

- Citizenship—wherever school culture or community is addressed
- ADST
- Health Sciences
- Mathematics
- Social Studies





Success Determinants

Success will be determined by:

- Ability of your prototype for a structure component of classroom furniture to help the user enjoy learning
- Alignment to design motto: “Make it smaller, stronger, do more, be easier to use, be cheaper, be clean, be greener.”
- Degree to which your prototype is adaptable to all users
- Degree to which your prototype looks like your design sketch
- Ease of long term maintenance and durability
- Ergonomic design
- Functionality
- Promotes active learning
- Uniqueness and usability of your prototype and the degree to which it solves an actual problem

Parameters

- You must complete a display panel, which includes your design thinking sketch, your prototype, your design notes, and your reflections on the activity.
- You must consider how to make your prototype colourful, intriguing and ergonomic.
- You must use some of all the consumable items in the participant group kit in some way.