

Attribute 3.2 Designing PBLs

PBL Collaboration

Teachers collaborate in professional development to custom design project based learning with STEM Design Thinking. The PBLs embed state standards and 21st Century Skills. They include possibilities for integrated content, community/industry partnerships, connections with postsecondary education, and digital learning. Above all, PBLs provide relevant learning and problem solving for the school's student population.

The Cleveland Middle School faculty participated in professional development focused on PBLs. One of our own teachers presented on understanding the connection between [PBL and STEM Design Thinking](#). First, teachers brainstormed PBL lessons they have taught. Then, they developed self-selected groups of grade-level teams, common-content teams or cross-curricular teams. In these groups they used the [TSIN PBL template](#). Some groups used the template to trouble-shoot issues with PBLs they have already conducted and refine those PBLs. Other groups used previous PBL ideas to springboard development of new PBLs. Finally, PBL groups peer reviewed each other's templates. Some of the PBLs developed from this professional development are linked below:

[Building Bridges](#)

[Movie Music Composition](#)

[Maximizing Popcorn](#)

[Surviving a Deserted Island](#)

[Ancient Civilization Theme Park](#)

[Money Management](#)

[Living Timeline of the Renaissance, Reformation and Scientific Revolution](#)

[eTravelers](#)

[Ancient Irrigation System](#)

[Fossils- Dirt Cake Excavation](#)

[Egg Drop](#)

[Project Citizen](#)

[My Personal Fitness Trainer](#)

Higher Education and Community Partnerships

One of Cleveland Middle School's showcase examples of a student-led, ongoing project-based learning and STEM Design Thinking experience is Raider Times. Raider Times is a school newspaper where the students brainstorm, design, write and edit the product. Raider Times began its relationship with Lee University's School of Arts and Communication during the 2019-2020 school year. Each semester Lee University hosts the Raider Times digital newspaper staff to participate in several on-campus seminars and digital training sessions which are specifically designed and tailored for [raider-times.org](#). Lee University has gifted Raider Times with professional-level cameras

and digital equipment as well as other items to encourage a quality digital newspaper format at the middle-school level. Cleveland Middle School also works on-site with the Lee University's digital newspaper, which is called the Lee Clarion. Students from both schools have worked closely together to engage in professional learning and future careers in leadership, communication, digital media, and writing.

As an example of project-based learning and community partnership, our Extended Resource Class, also known as CapableBunch, partners each November to sort, fold, label, and bundle bags for the Salvation Army. This is an event that has occurred 3 years running and has already been planned for next year. During non-pandemic times students were assisted in carrying filled bags to cars and practicing conversation skills with the recipients. [Photos of CapableBunch](#)

Inclusion and Peer Review of Learning Standards and 21st Century Learning Skills

In the first section, examples were given of PBL collaboration by our faculty. Teachers also participated in peer reviewing these PBLs and troubleshooting any issues for their fellow faculty members. Learning focuses and connected state standards are in the PBLs shared above. During the peer review, teachers looked for evidence of the 21st Century Learning Skills and gave their fellow teachers ideas to consider.

Peer Reviews of 21st Century Skills in PBLs

Additional Ways CMS supports the use of PBLs and Collaboration in STEM modules

- Teachers participate in Professional Learning Communities or Student Learning Teams by content area. Teachers trouble-shoot instructional issues within their content area and use PBLs to problem-solve these issues.
- Association for Middle Level Education presentation- Kristen Early and Emily Buckner, two of our sixth grade teachers, presented at the AMLE conference during the 2019-2020 school year. This presentation showed teachers how to "Breath Life Into Your Lessons." The hands-on techniques shown in this presentation are used by teachers throughout our school.
[AMLE presentation \(Early and Buckner\)](#)
- Hannah Medema and Derek Morris (CTE teachers) participated in STEM Teacher Training (State of TN, 8/6/2020) and TN STEM Innovation Summit (5/14/19-5/15/19). They also participate in regular system-wide CTE meetings.