Desired Results

Established Goals:

- Learners will analyze the key components of the maker movement.
- Learners will discover the philosophies that support the maker movement.
- Learners will plan spaces that promote curiosity, creativity, problem solving, critical thinking, collaboration and inspires students to use the library in a new, innovative way.

Understandings:

Learners will understand that…

- The maker movement consists of a variety of components that contribute to its successful environment and maker culture.
- The learning theories (constructivism and constructionism) make the foundation that the maker movement is built upon.
- Makerspaces are places that are designated for learning, growing, experimenting, examining, theorizing, and problem-solving.
- Library makerspaces need to be designed with the students they serve in mind.

Essential Questions:

- What is making and why is it important?
- What contributes to the maker culture?
- Where did the maker movement begin?
- What is the difference between constructivism and constructionism?
- How would you explain the maker movement to an administrator, teacher or parent? How can this explanation be consistent across all schools?
- What are some examples of makerspaces?
- Who are the students that will be using these spaces and how does that affect what spaces you choose to implement?

Learners will know…

- That it is more than the activities that make a successful makerspace, it is providing an environment for students to feel free to create, explore and fail without judgement.
- Constructivism is the theory that learning is constructed in the learners head, and that constructionism builds on that by stating learners are more involved in their learning when they are physically constructing something.
- To design makerspaces based off their students.

Learners will be able to….

- Define what the maker movement is and what makerspaces are and how they are used with shared language.
- Describe the components that make a successful makerspace.
- Intelligibly discuss the philosophies/learning theories that support the maker movement to others.
- Design makerspaces that meet their students needs and evolve or create new makerspaces based on student demands/requests.

Assessment Evidence

Performance Tasks:

- What is the Maker Movement? - Learners will collaborate and create a thinking map of what the maker movement is with examples.
- Makerspace Implementation & Impact Planning Guide - Learners will plan out what makerspaces they will implement at the start of next year, taking in consideration their student's needs.
    - *Note:* The planning guide has spaces to define a makerspace, list the key components and philosophies.

Other Evidence:

- "What does "makerspace" mean to you" group chart.
- Group discussions
    - Components of a makerspace
    - Philosophies compare and contrast
    - How these makerspaces will impact the students and school.
    - Shared makerspace definition
- Differences between campus and students needs. (ie. secondary vs. elementary, ESL campus vs. gifted campus)

Learning Plan

Learning Activities:

1. Begin with my "Call to Action" video to hook learners by visually showing them what a makerspace can bring to their school. **H, E**
2. Propose the question "What does "makerspace" mean to you?" on a chart and have learners stick their answers using post-it notes to pre-assess their understanding. **W, H**
3. Discuss today's goals that learners will leave knowing what the maker movement is, the learning theories behind the movement, have an idea of the different types of makerspaces and a plan of the makerspaces they want to implement to start the school year. **W, H**
4. Present several hard-copies of articles and a link with all digital copies of articles linked about the maker movement and allow learners to explore them, highlighting key phrases and concepts that stick out to them. **E, T, O**
5. *Note:* While learners are researching, encourage them to add to the "what does "makerspace" mean to you?" chart as they discover new information about the maker movement. **R, H**
6. Review and discuss the newly added notes to the chart and allow learners to share how they envision their makerspace. **E, E-2, T**
7. Facilitator inquires if anyone saw the words "constructivism" and "constructionism" while exploring the articles and allow learners to share what they read. **H, E, T**
8. Compare and contrast the two learning theories and assess how makerspaces demonstrate the philosophies. **T, O**
9. Each learner is given a "Makerspace Implementation & Impact Planning Guide". Have learners work together as a whole group to come up with our shared district wide language to define makerspaces and explain them to parents, co-workers and administration. It is important for us to all speak the same when regarding makerspaces so that we can build our own maker culture across our district. **W, R, E-2, O**
10. Discuss how the age differences and needs vary from campus to campus. Learners will give examples of what kind of makerspace would work for their campus and how it may not be successful at a different campus. **E, R, E-2**
11. Each learner will fill out their "about our campus students" section of their guide to use while planning their makerspaces they want to use. **E, T, O**
12. Facilitator prompts the learners to explore the different kinds of makerspaces, keeping their student's needs in mind. Present concept of basic vs moderate vs complex makerspaces and how it is a balancing act to make sure you don't have too many, too hard, or needs lots of monitoring stations. Learners will explore "Books, Robots, Makerspaces… OH MY!" blog. **H, E**
13. Learners then can work together as a whole group, break into smaller groups of elementary and secondary or work individually to develop and plan their personal makerspaces designed for their students and their campus. **R, T, O**
14. Encourage learners to add any new helpful resources while they are researching makerspaces for their makerspace to the Makerspace Articles, Websites and Resources shared doc. **E, R, T, O**
15. Conclude the day with learners reflecting on what they have learned and then share their planned makerspaces and the impact the spaces will have on their students. **R, E-2**

Wiggins and McTighe's (2005) WHERETO is an acronym that highlights the key elements and considerations for instructional planning (p. 197).

W = Ensure that students understand **WHERE** the unit is headed, and **WHY**.
H = **HOOK** students in the beginning and **HOLD** their attention throughout.
E = **EQUIP** students with necessary experiences, tools, knowledge, and know-how to meet performance goals.
R = Provide students with numerous opportunities to **RETHINK** big ideas, **REFLECT** on progress, and **REVISE** their work.
E = Build in opportunities for students to **EVALUATE** progress and self-assess.
T = Be **TAILORED** to reflect individual talents, interests, styles, and needs.
O = Be **ORGANIZED** to optimize deep understanding as opposed to superficial coverage.