Interactive Technology to Support Student-Centered Learning

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Time Frame 120 - 180 minutes

Essential Question(s)

- How can we use technology to create student-centered learning experiences?

Summary

This session engages participants in a model learning activity that showcases how specific technologies that are typically teacher-centered can be authentically used to develop student-centered learning environments. Participants will explore interactive technologies such as Chromebooks and touchscreen devices/panels.

Learning Goals

- Identify components of student-centered learning.
- Analyze how the modeled activities and technologies support the identified components.
- Explore educational activities and supporting technology that promote student-centered learning.
- Apply activities and technologies to specific content areas.

Attachments

- Agenda—Interactive Technology to Support Student Centered Learning.docx
- Agenda—Interactive Technology to Support Student Centered Learning.pdf
- Authenticity-Framework-Reading-and-Lesson-Reflection-Tool-2020-version—Interactive Technology to Support Student Centered Learning.pdf
- Interactive-Technology-to-Support-Student-Centered-Learning.pdf
- Presentation-Slides—Interactive Technology to Support Student Centered Learning.pptx
- Student-Centered-Activities-and-Tech-Note-Sheet—Interactive Technology to Support Student Centered Learning.docx
- Student-Centered-Activities-and-Tech-Note-Sheet—Interactive Technology to Support Student Centered Learning.pdf
- Student-Centered-Learning-Research-Long-Version—Interactive Technology to Support Student Centered Learning.pdf
- Triangle-Square-Circle—Interactive Technology to Support Student Centered Learning.docx
- Triangle-Square-Circle—Interactive Technology to Support Student Centered Learning.pdf

Materials

- Presenter Slides (attached)
- Agenda (attached; 1 per participant)
- Authenticity Framework Reading and Lesson Reflection Tool handout *or* Student-Centered Learning Research Long Version (attached; 1 per participant)
- Student-Centered Learning Activities and Tech Note Sheet (attached; 1 per participant)
- Triangle, Square, Circle (attached; 1 per participant)
- An Interactive Board
- A digital concept mapping tool (Jamboard template provided)
- Highlighters (1 per participant)

15 minutes

Engage

Group participants into 4 or 5 at a table. Display the **Presenter Slides** attached to this PD and introduce yourself to the participants. Let them know that they will be learning about student-centered learning and its importance in teaching with technology.

Transition to **slide 3**. Briefly review the essential question and allow participants to discuss with their table group how they have used tech to create student-centered learning experiences.

"How can we use technology to create student-centered learning experiences?"

Ask for a spokesperson from each group to summarize and share out what was discussed among their table group. Have participants share their experiences... and tease out from the responses, "what made these experiences meaningful?"

Reveal the Session Objectives on **slide 4.** Briefly highlight the objectives for the session. This will provide a roadmap of where you will go together during the session and will let participants know what to expect from this professional development.

30 minutes

Explore

Move on to **slide 5** and introduce the next activity, a Card Sort Jamboard, which we will use in order to think more deeply on what makes a learning experience student-centered. Give participants a few moments to get into the Jamboard and make sure everyone can access it before moving on.

Tech Note

This template has been provided in Jamboard. Use this template or build a similar structure with another digital tool that works well with your tech set up and students (Jamboard, Popplet, Lucidchart, Google Draw, etc.)

Display the Jamboard and point out that there are several statements about student learning on the left side of the board. On the right side of the Jamboard is the question *"What makes a learning experience student-centered?"* Review the instructions on the slide:

1. Have each group open one copy of the provided Jamboard template and read through the statements about student learning.
2. Ask participants to select 4 to 5 of the statements about student-centered learning on the left and drag them under the question on the right.
3. After sorting, have each group share their sorted Jamboard with the whole group. (Instructions for how to use CastIt for this part are on **slide 6**)

Tech Note

Consider the technology you are using for the day and how groups can best share their work with the tools you have. If you are using interactive boards, try a split screen so that everyone can see everyone else's statements at the same time, noting differences and similarities.

Just Cast IT Software Cast & Multi-Cast to your TouchIT LED - from TouchIT Technologies

Casting and Multi-Casting is the ability to send a screen from your PC, MAC, Chromebook or Linux machine wirelessly to the Interactive LED.

With Just Cast IT, there is nothing to install on your computers. Simply open the App on the LED, then head over to www.justcastit.com. There is no limit to the number of computers you can cast at the same time.

45 minutes

Explain

As a facilitator, guide the group to pull out some common themes from the statements that each group chose. Then transition to the next section by explaining that we will be looking at deeper research on student-centered learning.

Proceed to **slide 7** and distribute the reading assignment. As participants read their sections of the research provided, have them highlight and note where they see the themes in the selected statements from their Jamboards coming up in the research.

Depending on the time available and the depth of learning desired, provide participants with either the **Authenticity Framework and Reflection Tool** or with the **Student-Centered Learning Research-Long version**. Allow a few minutes for each person in the group to read and highlight the handout.

Teacher's Note

If you are using the Authenticity Framework and Reflection Tool, all participants should read the introduction and then skip down to read the section titled "Student-Centered Learning."

If you are using the Student-Centered Learning-Long Version, consider using the Jigsaw strategy and having each group take a section of the text to read.

When everyone is finished, have groups take a few minutes to discuss the reading, including which information they highlighted as important and why.

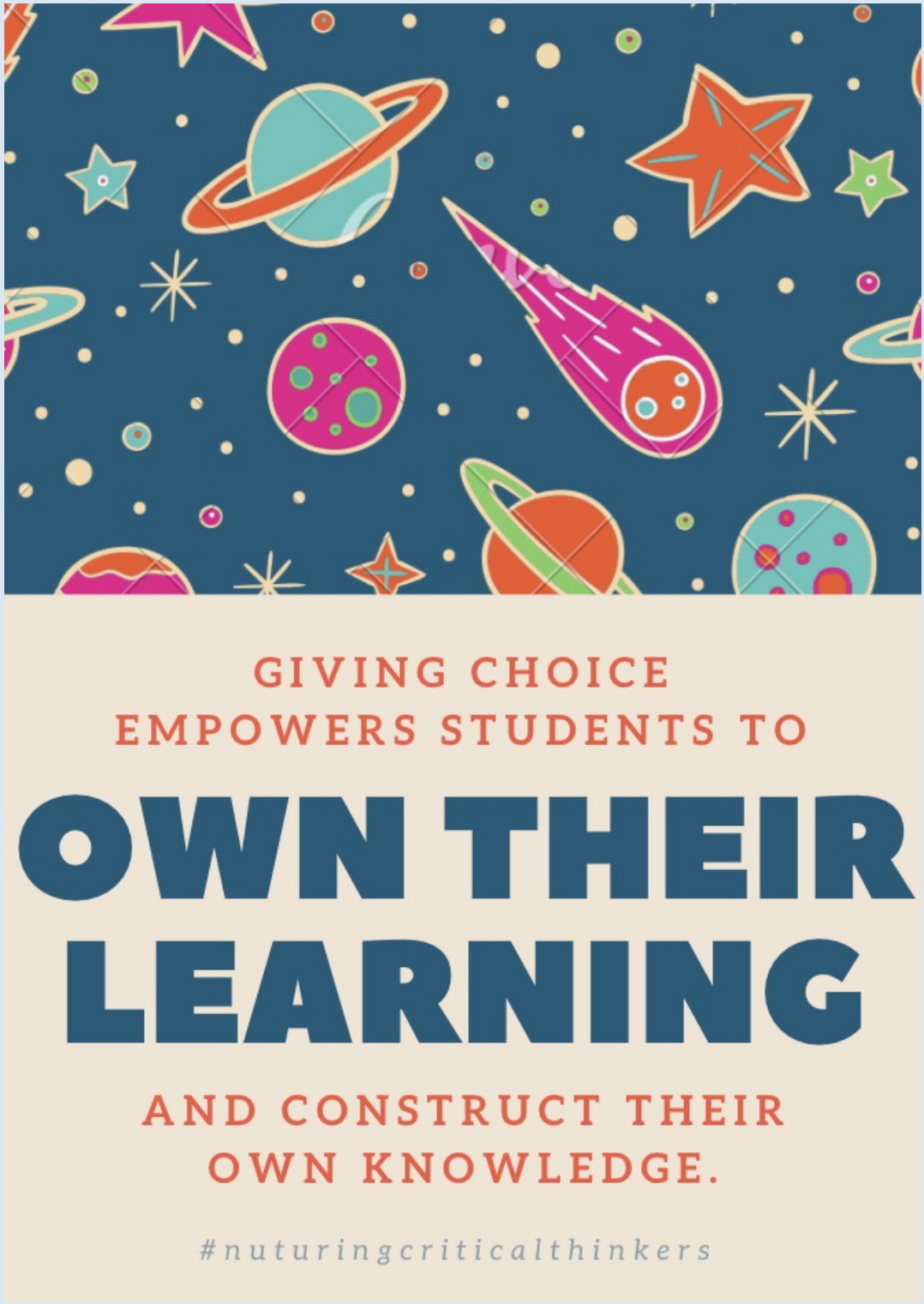
Then move to **slide 8** and ask groups to pull up their Jamboard again. Have them to take a few moments to consider if they would like to add or remove any statements from their top 4 to 5 they originally chose to best represent student-centered learning.

Next, move to **slide 9**. Participants should work within their groups to construct a Tweet Up, including a visual representation and a hashtag summarizing their group's understanding of student-centered learning based on the reading. Their summary should be no more than one sentence. After finishing their tweets in Canva, allow each group to share out.

Tech Note

Canva is a free digital resource that can be used as a tool for creating the Tweet Up summary. In Canva, there are many visual "announcement" templates that can be selected for their summary.

Example Summary Tweet Up created in Canva



30 minutes

Extend

Display **slide 10**. Using the provided **Student-Centered Learning Activities and Tech Note Sheet** as a guide, ask participants to take some time to reflect on the Jamboard card sort activity and the Canva TweetUp activity. They should specifically note how these activities facilitated student-centered learning and ideas for how they could use these activities in their own classrooms.

Ask volunteers to share their responses to the whole group.

Possible Responses

"The Jamboard card sort supported student-centered learning because I had many choices and had to negotiate with my peers on which ones to use and why. I could use this in my social studies class with a lesson on the revolutionary war and have students choose the top 4 causes of revolution prior to the lesson and then decide if they want to change their answer after learning more about the actual causes of the war."

Next, move to **slide 11.** Have each group research online and brainstorm among themselves to come up with another activity using interactive technology that is student-centered. They should record their reasoning on their note sheet.

Then, move on to **slide 12** and refer participants to the **Agenda** for some online libraries and technology resources (feel free to customize the options here based on the technology tools that are most relevant and available to participants). Provide time for groups to explore these resources and develop additional activities and tech tools they can use to support student-centered learning in their classroom.

15 minutes

Evaluate

Close this session on **slide 13** with the **Triangle, Square, Circle** strategy. Have participants use this strategy to reflect on how they have been using technology in their classrooms and what they will change about their practice. Briefly review the instructions for the Triangle, Square, Circle strategy:

- Write on the sides of the triangle, three components of student-centered learning.
- Write inside the square, how do the tech and activities we used and discussed today square with your curriculum?
- Write in the circle, what questions are still circling in your head about how the integration of tech supports student-centered learning?

Pass out session feedback forms (Participants are free to retype anything they wrote on their reflection above in the final part of the form or tell us something else about their learning/goals).

Research Rationale

Authenticity can be implemented in all content areas and all grade levels. Authentic teaching has four components, construction of knowledge, disciplined inquiry, value beyond school, and student-centered learning. These four components are created and apparent through authentic tasks. Authentic tasks defined by Herrington, J., et al (2014), are ill-defined, requiring students to define the tasks and subtasks needed to complete the activity. They are investigated by students over a sustained period of time. Tasks can be applied to different subject and content areas and lead with opened-ended outcomes. These tasks are seamlessly integrated with assessment and create accomplished products valuable in the student's own right. They allow for competing solutions and a diversity of outcomes. Authentic lessons allow opportunities for collaboration which leads to the exploration of multiple perspectives and various points of views to be heard during a lesson. By forming collaborative groups, students are able to construct knowledge. Through the use of essential, open-ended questions, teachers provide the opportunity for students to reflect, articulate thoughts and the processes of their learning. "Authentic learning environments need to provide collaborative learning where, for example, more able partners can assist with scaffolding and coaching, and where teachers provide appropriate learning support" (Herrington, J., 2014; e.g., Collins et al., 1989; Greenfield, 1984). Herrington, J. et al., describes the four components in an authentic lesson as 1.) students should seek to solve a real-life problem to which they would attach emotional commitment as well as a cognitive interest, 2.) the problem should be sufficiently open-ended so that there are a variety of strategies for its solution, 3.) the problem-solving strategies and "solutions" developed should encourage students to change their actions, beliefs or attitudes, and 4.) the problem should have a real audience beyond the classroom. Authentic tasks are more worthy of the investment of time and effort in higher education than de-contextualized exercises and tasks (Herrington & Herrington, 2006).

Resources

- Bulgren, J. A., & Ellis, J. D. (2012). Argumentation and evaluation intervention in science classes: Teaching and learning with Toulmin. In Perspectives on Scientific Argumentation (pp. 135-154). Springer Netherlands.
- Collins, A., Brown, J. S., & Newman. S. E. (1989). Cognitive apprenticeship: Teaching the crafts of reading, writing, and mathematics. In L. B. Resnick (Ed.). Knowing, learning and instruction: essays in honour of Robert Glaser (pp. 453-494). Hillsdale, NJ: LEA.
- Greenfield, P. M. (1984). A theory of the teacher in the learning activities of everyday life. In B. Rogoff & J. Lave (Eds.), Everyday cognition: Its development in social context (pp. 117-138). Cambridge, MA: Harvard University Press.
- Herrington, A., & Herrington, J. (2006). Authentic learning environments in higher education. Hershey, PA: Informations Science Publishing.
- Herrington, J., Reeves, T. C., & Oliver, R. (2014). Authentic learning environments. In Handbook of research on educational communications and technology (pp. 401-412). Springer New York.
- K20 Center. (n.d.). Card Sort. Strategies. https://learn.k20center.ou.edu/strategy/147
- K20 Center. (n.d.). Jigsaw. Strategies. https://learn.k20center.ou.edu/strategy/179
- K20 Center. (n.d.). Triangle, Square, Circle. Strategies. https://learn.k20center.ou.edu/strategy/65
- K20 Center. (n.d.). Tweet Up. Strategies. https://learn.k20center.ou.edu/strategy/130