

Across the Hall: Multidisciplinary Lessons

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Time Frame 90 minutes

Essential Question(s)

What are the key elements needed to create an effective and engaging multidisciplinary lesson?

Summary

This session examines the barriers, benefits, and process of creating lessons that touch on standards from more than one subject area. Participants view samples of student products from multidisciplinary lessons, analyze a K20 LEARN lesson, and work to create ideas for collaborative lessons in their own schools.

Learning Goals

- Participants explore the functions, challenges, and benefits of multidisciplinary lessons.
- Participants identify potential partners and possible roadblocks in developing cross-curricular lessons in their own schools.
- Participants locate areas of their own curriculum where such lessons could be used and brainstorm ideas for a multidisciplinary lesson.

Attachments

- Brainstorming Document Template- Across the Hall.docx
- Brainstorming Document Template- Across the Hall.pdf
- Session Slides - Across the Hall.pptx

Materials

- Session Slides (attached)
- Brainstorming Document Template (attached; one per participant)
- Make Some Waves printout (linked; one per participant)
- Paper (for Commit and Toss)
- Sticky notes
- Chart paper (for Collective Brain Dump)
- Pens
- An internet-connected device
- iPads/Chromebooks

10 minutes

Engage

Presenter's Note: Setting Up

Prior to beginning this session, you will need to set up a few things.

1. Ensure chart paper and markers are available at tables prior to participants' arrival.
2. Print the attached **Brainstorming Document Template** and linked lesson, "Make Some Waves," for each participant.

Welcome participants and briefly introduce yourself. Using the attached **Session Slides**, display **slide 2** and welcome participants to your session, "Across the Hall: Multidisciplinary Lessons."

Display **slide 3** and share the Essential Question for the session: *What are the key elements needed to create an effective and engaging multidisciplinary lesson?*

Display **slide 4** and share the Session Objectives with participants:

1. Explore the functions, challenges, and benefits of multidisciplinary lessons.
2. Identify potential partners, as well as possible roadblocks, in developing multidisciplinary lessons in their own schools.
3. Locate areas of their own curriculum where multidisciplinary lessons could be used and brainstorm an idea.

Move to **slide 5** and share the instructional strategy Collaborative Brain Dump with participants. Instruct participants to work with their table group to list as many qualities as they can about multidisciplinary learning and how they would define multidisciplinary learning using those qualities.

20 minutes

Explore

Explain that multidisciplinary lessons can be simple or complex and that the next two examples will showcase both ends of the spectrum. Display **slide 6** and share with participants the concept for the lesson "Patriot's Pen." Say the following: "Patriot's Pen is a scholarship program established by the VFW for students in grades 6-8. Its prompts in the past have included topics like, "'Why is the veteran important?' or 'What does patriotism mean to me?' These are obviously difficult topics for the average 12- to 14-year-old to understand."

Display **slide 7**. Explain that the first step in the lesson sequence is for students to work with social studies teachers to gather context for the prompt. The teacher then helps the students develop ideas based on the context.

Display **slide 8**. Explain how the ELA teachers could help these students turn their ideas into 5-paragraph essays.

Display **slide 9**. Say the following, "Patriot's Pen is an example of a lesson that can be completed in one or two classes with only two teachers collaborating. Clue Week is an example of something much more elaborate. In this event, teachers across multiple discipline areas teach content for the students to help them solve a murder mystery."

Display **slide 10** and play the video: "CLUE NEWS: Case Brief." Explain that this video is shown to the students at the start of the event and each day they are given updates in this format in one of their courses.

Embedded video
https://youtube.com/watch?v=U5N-AvRz150

Display **slide 11**. Explain that each of the students participating will be provided the death report on the right of the slide. Say the following, "While students are all provided the same information, they have to use information gathered from classes to solve the case. This example shows that students must use the formula for Exponential Decay to calculate the time of death for the victim."

Display **slide 12**. Tell participants that the narratives that shape the mystery are directly aligned with the stories taught in ELA classes during this event.

Display **slide 13**. Give a brief overview of the lesson "Make Some Waves," discussing its learning objectives, standards, and overall concept. When participants achieve a shared understanding, display **slide 14**. Have participants scan the QR code and play with the Music Lab Oscillator for a few minutes.

Display **slide 15**. If time allows, you can play the video to showcase what students will be doing in the activity seen in the next few slides: "Cardboard Synthesizer Tutorial."

Embedded video
https://youtube.com/watch?v=L2g38xtag9Q

If time is short, briefly explain the interface and move to **slide 16**. Preface the video on the upcoming slide by mentioning that they will see a 1-minute edit of the lesson "Make Some Waves." Display **slide 17** and play the video: "Make Some Waves Demo."

Embedded video
https://youtube.com/watch?v=RydxVtBWwwM

Explain to participants that they will now have a chance to look over the lesson for themselves. Display **slide 18** and have them scan the QR code, which will take them to the linked lesson, "Make Some Waves." Allow a brief period of time (5-10 minutes) for participants to skim the lesson and answer the questions on the slide.

Explain

Display **slide 19** and share the definition of multidisciplinary learning with participants:

"A "whole" or "comprehensive" method is a method that covers an idea, topic, or text by integrating multiple knowledge domains. It is a very powerful method of teaching that crosses the boundaries of a discipline or curriculum in order to enhance the score and depth of learning."

Move to **slide 20** and share a couple of benefits of multidisciplinary learning with participants:

- Higher student engagement
- Focus on Student-Centered Learning
- Better retention of instruction

Take a moment to share the following from one of the lead authors of "Make Some Waves," James Doyle:

> One of the most profound moments of this lesson development was a brief conversation with Heather. Heather was watching videos and learning how synths worked and made a comment about the purpose of filters. I explained that filters removed parts of the wave, changing the sound, and Heather asked, "How?"
>
> 1. I realized at that moment I actually had no idea about a question that a student could very likely ask.
> 2. I would have never considered that question as a music teacher because I was thinking of the end product, the sound, and not the mechanics behind it.
>
> The different disciplines operate from different perspectives which could be a barrier with poor communication, but with good communication the different perspectives enrich the content.

Presenter's Note: Discussing Barriers

Take a moment to be open and honest here about barriers you've experienced when designing and developing multidisciplinary lessons while working with a partner. Then, jump into how you and those you worked with overcame those barriers. Keep in mind that this would have to be done on the fly, so you'd need to be prepared to respond to a variety or responses.

Take a few minutes to have an open and guided conversation with participants. Consider asking a few of the following questions:

- Has anyone ever done this before? What went well?
- How did you approach the work and collaboration piece?
- How could you adjust your mindset to get it done?
- What are some steps you could take to make this happen in your school?

Display **slide 21** and share the instructional strategy Commit and Toss with participants. Instruct them to answer the question: *What has prevented you from developing a multidisciplinary lesson?*

Extend

Move to **slide 22** and share the different perspectives that impacted the “Make Some Waves” lesson.

Move to **slide 23** and ask participants to group up with people at “like grade levels” or compatible content areas.

Presenter's Note: Grouping

For this time to work well, consider adding parameters based on your audience members. A really well thought-out and developed lesson will depend on those who are planning it together.

Think Outside the Box!

If your school does not have an electives department, have no fear! There are many opportunities for you to still plan and deliver a multidisciplinary lesson with another collaborator or co-teacher!

- Social Studies with English Language Arts
  - Reading and researching events in history
  - Researching and Writing about events in history
  - Discussion and debate on the pros and cons of certain events that took place
- Science with English Language Arts
  - Reading and analyzing scientific discoveries
  - Researching and writing about scientific discoveries
  - Writing a report and presenting on a science experiment
- Math and Science
  - Analyzing scientific data
  - Understanding the scientific data and its relationship to the world
  - Understanding how to interpret and explain the graphs, numbers, charts, etc. in a way that makes sense to those who don’t understand the math
- Social Studies and Math
  - Understanding when and where an event occurred and explaining how it fits in the grand scheme of things
  - Reading and understanding timelines
  - Analyzing the carbon dating of artifacts and determining where in history it came from based on the span of time it has been in the ground
- Science and Social studies
  - History of Science

In their small groups, have participants work together to develop an initial idea of a multidisciplinary lesson. Provide a brief overview of the attached **Brainstorming Document Template**. Encourage participants to focus their time on what the lesson would entail, leaving the logistic details for the end, if they have time.

Teacher's Note: True Multidisciplinary Instruction

Take a moment to pause before having participants begin brainstorming to share with them that it's not enough for them to read the chapter in science for it to "count" as science/ELA cross curricular. You'd really need to narrow down the standard in science and ELA you're working on. Ask yourself, "How can you work together to meet the goals together?"

Display **slide 24**. Ask for a few volunteers to share their ideas with the whole group. Be sure they mention which content areas are involved and what content the lesson would cover.

Evaluate

Move to **slide 25**. As we wrap up the session, ask the participants to reflect on where they are at with regard to multidisciplinary lessons. On sticky notes, have them answer the two following prompts:

- What am I thinking about creating and using multidisciplinary lessons?
- How am I feeling about creating and using multidisciplinary lessons?

Ask participants to leave their sticky notes in the designated location.

Resources

- Chrome Music Lab. (n.d.). Retrieved September 29, 2022, from https://musiclab.chromeexperiments.com/Oscillators/
- K20 Center. (2022). Cardboard Synthesizer Tutorial [Video]. YouTube. Retrieved September 29, 2022, from https://www.youtube.com/watch?v=L2g38xtag9Q
- K20 Center. (n.d.). Collective brain dump. Strategies. https://learn.k20center.ou.edu/strategy/111
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- K20 Center. (n.d.) How am I feeling? What am I thinking? Strategies. https://learn.k20center.ou.edu/strategy/187
- K20 Center. (2022). Make some waves: Exploring wave interference with synthesizers. Learn Lesson. https://learn.k20center.ou.edu/lesson/2407?rev=19353
- Veterans of Foreign Wars of the United States. (n.d.). *Patriot's Pen*. VFW | Veterans of Foreign Wars. Retrieved January 20, 2023, from https://vfwauxiliary.org/scholarships-voice-of-democracy-and-patriots-pen/.
- YouTube. (2022). *Clue News : Case Brief*. *YouTube*. Retrieved November 28, 2022, from https://www.youtube.com/watch?v=U5N-AvRz150.