

# The "Design a Project" Project-Based Learning PD (shorter version)

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**Time Frame** 150-180 session(s)

## Essential Question(s)

- How is a project -based learning different from a traditional lesson?
- What are the critical elements of a project-based learning experience?
- How are project-based learning experiences designed?

## Summary

This professional development activity is designed to introduce participant educators to the components of project-based learning (PBL). The professional development immerses the participant in a mini-project based learning and then introduces the essential components. Participants are also given time to explore PBLs online. This presentation is geared primarily for middle school through high school educators but there are slides hidden and handouts for an elementary audience as well. It would be difficult to present to BOTH elementary and secondary teachers at the same time however because project-based learning will look distinctively different at these two levels.

## Learning Goals

- To immerse participants in a mini-PBL experience.
- To identify and explore the essential elements of project-based learning.
- To support participants in exploring PBL lessons online.

## Attachments

- 8 Essential Elements of Project Based Learning.docx
- Design A Project Presenter Slides.pptx
- Design a Project Teacher Checklist.docx
- Elementary Activity Card Sort Set 2.docx
- Instructional Strategy Blank Handout.docx
- KWHLAQ Blank handout.docx
- KWHLAQ Explanation Sheet.png
- PBL Online Resource Handout.docx
- PBL Project Calendar.pdf
- PBL Sequence Cards, Set 1.docx
- Secondary Activity Card Sort Set 2.docx
- Travel Destinations Icebreaker.docx

## Materials

- Participant access to internet and devices
- Presenter slides
- Labels printed for Vacation destinations
- Instructional Strategy Sheet Handout
- KWHLAQ Explanation Handout- print on color paper
- KWHLAQ Participant Handout
- Eight Essential Elements of Project-based Learning reading/handout
- Design a Project Checklist handout
- Project Calendar handout
- Chart tablet or access to white board space
- Sticky notes, scratch paper, or notepads
- pencils, pens and highlighters for participants
- 3 to 5 candy bars for prizes

# Engage

**Presenter Notes- Preparation For Presentation**

Prior to beginning this presentation, make copies of all handouts for participants. There are also two card sort sets ( PBL sequence card set 1 and elementary or secondary activity card set 2) to prepare for small groups of three or four. The two card sort sets should be run on a different color of card stock , cut up, and placed in baggies for later use. Ensure that internet connectivity at the site is available for both the presenter and participants. Participants will either need to bring their own devices (ie: Chromebooks or laptops) or have devices provided by the site host. If you play the travel destination icebreaker, you will need to print off the prepared stickers on Avery 5395 Name Badges. You can add travel destinations of your own or repeat the same locations if your participant group is larger than 24.

As participants walk into the room, have a sign in sheet for them to sign and display slide one of the presenter slide that shows the title of the professional development. To engage participants immediately and to get to know them, show slide two that is an icebreaker called "Where Am I". This icebreaker is a version of the K20 strategy, Kick Me. Participants will receive a label on their back from the presenter. Explain to the participants that these labels represent the top 25 vacation destinations as identified by U.S. News and World Report. The participant's goal is to guess what vacation destination label is on their back by asking only "yes or no" questions of other participants. The first one to guess correctly their vacation destination is declared a winner and receives a candy bar as a prize. *Note: Participants must not only remember what responses they have received previously to their questions but also constantly devise and revise new questions to narrow down a potential response. This process of elimination and revision is a higher-order thinking process.*

Pass out the instructional strategy sheet to all participants. Using the card on slide two (or three) as a prompt, explain that when participants see this strategy card, they are to write on their instructional strategy sheet how it was used in this presentation and how they also might use it as a strategy in their classroom. Allow a few minutes for participants to fill out the instructional strategy sheet every time an instructional strategy is introduced. Ask participants how they also might use this strategy with their students. Encourage them to later explore on their own time the strategy section on the website, K20 Center Learn.

**Presenter's Note- Alternate Icebreaker For Smaller Groups**

For a smaller group, of less than 20, it might be more helpful to use the icebreaker, Mingle, Mingle. which is hidden as slide three. This is a variation of the strategy. In this icebreaker, participants randomly pair up and are asked to discuss forced choice questions, about each other such as "Are you more a couch potato or an activity enthusiast? Allow five minutes for the first set of partners to discuss the first question. At this point, the presenter should ask a few random pairs to introduce their partners to the group and share which choice each partner discussed. After the first question and discussion, have participants change to a new partner and follow the same process as the first forced-choice question. Continue rotating to a new partner until all of the participants are introduced through the activity.

Display slide four. Welcome participants to the professional development. Explain the role of the K20 Center in providing this professional development. Also introduce the presenters and have them share a little of their education background and experiences.

Display slide five. Address today's learning objectives and explain that the presentation should take approximately three hours.

Display slide six. The caveat for today is that designing a project-based learning experience can be challenging. Research suggests that its advantageous for students to immerse themselves in a project even if the project design is not perfect or has all the essential elements.

# Explore

To begin, explain to participants that they will be immersed in a mini-project of their own. Read aloud slide seven that shows a real world scenario. Display slide eight and pass out the KWHLAQ Handout that explains each step of that process. *Note: You may wish to make only enough copies of the explanation KWHLAQ handout for each table or for pairs. This is just for explanation purposes.*

Pass out the blank KWHLAQ for all participants. Display slide nine. Ask participants to FIRST take time and reflect upon what they may already know and what they WANT to know about project based learning. They are to jot down their responses in the K and W columns (5 to 10 minutes). Next, ask participants to pair up or be in a group of three (if your group is large). Ask pairs or small groups to share with each other what they wrote down in the K and W columns about project-based learning. Allow about 15 minutes for this discussion.

Have partners or groups share out what they wrote down. As groups share out, jot down on a white board or chart tablet some of the information that they share for the K and the W. You can also have chart tablet hanging up or white board space with a K on it and another with a W on it. Have pairs or groups go to the appropriate chart tablet or white space and write down one or two statements for the K and the W columns respectively

Explain the Think, Pair Share strategy and allow time for participants to write down on their instructional strategy sheet some notes about how it was used just now and how they might use it in their class. Participants can move out of groups and back to their original seats, if desired.

Move on to slide ten which asks the question, "How will we find out more about project-based learning?" This is the H of the KWHLAQ chart. Ask for any volunteers to answer this question and solicit answers first. As you click through the slide, three ways to find out more about project-based learning are displayed. All three of those ways are addressed in this presentation-- the presenters have done project-based learning, participants will have access to internet research by looking at online lesson projects today, and hopefully, a better understanding from this presentation.

Show the video on slide twelve. *Note: There are two videos in the presenter slides. Slide eleven is a video primarily for elementary teachers. Slide twelve is a video for secondary teachers. The links to both videos can be found in the resource section.*

Show slide thirteen. After the video, discuss with the participants what they noticed about PBL while watching the video and what they wondered about after viewing. After a discussion of the video, allow time for participants to jot down on the instructional strategy handout how to use I Notice, I Wonder as a strategy in their own classroom.

After viewing and discussing the video, this is a good time for a short break.

# Explain

Move on to slide fourteen and explain that we will look at the essential elements of project-based learning. Introduce the Eight Essential Elements of Project-Based Learning article to all participants and also the strategy of Why-lighting. Participants are to read the article and highlight important phrases or sentences. They are to jot in the margins why they highlighted the sentence or phrase-- why it seemed significant. Have some participant volunteers share out with the group what they highlighted and why it was significant to them.

**Presenter Notes- Card Sort Preparation**

It is important that the two card sorts, labeled set one and set two, are prepared prior to the presentation. This next activity uses two sets of card sorts per group. It is suggested these two sets are run on different colors of card stock and cut out. Be sure you know which set is given first to groups and which card sort is given to groups second. All participants, elementary and secondary, use a first set of planning cards. There is an elementary activity card sort and a secondary activity card sort for the second part of this exercise that can be used depending on the grade levels the participants teach.

Move participants back to pairs or small groups of three. Pass out the first set of cards of the card sort. Display slide fifteen. Tell participants that as in lesson planning, there are steps that we start with first, then second, then third, etc. The first set of cards are steps or a sequence to project planning for the teacher. Participants will have to use discussion, inference from the previous information about project-based learning, and logic as they decide the sequencing for designing a project-based learning. Allow time for groups to sort the card into steps. Once groups have a sequence, provide discussion and feedback from groups. The sequence chosen by each group may vary slightly-- just have groups explain their reasoning for the sequence they chose. Display a possible sequence on slide sixteen.

At this point, pass out to all participants the "Designing a PBL Checklist" handout which is a sequence checklist for the teacher in project planning. Again, the sequence can vary slightly based upon teacher preferences.

Keep participants in groups. Show slide seventeen. Next pass out the second set of card sorts which is a completed secondary (or elementary) project-based learning experience. Keeping the first set of cards in their sequence, the second set of cards are the PBL activities. Groups are to match the activities with the sequence, then read through the activity cards so that they have an understanding of how a PBL would flow.

Display slide eighteen that asks participants to fill out the blank K-W-H-L -A-Q further. Ask participants to think about what they have learned so far, to discuss this with an elbow partner, and also discuss what further questions they might have. Have partners share out some of the discussion. Place any questions that the participants may have on a white board or chart tablet to address later in the presentation.

# Extend

Show slide nineteen. Pass out the handout of websites where PBL lessons can be found and have participants find a PBL lesson that could be adapted for their subject or grade level. They should be prepared to share their "find" and how it matches the elements of a quality-based learning experience Allow time for this internet research. The time will vary depending on the number of participants. If your group is large, you may wish to partner or group participants who teach similar subject matter or grade level. and ask them to share one that all group members investigated. Allow at least 30 to 40 minutes for this search.

Have participants report back to the group (slide twenty) their "find" and why they think it meets the criteria for a high quality project based learning experience. You may wish to refer participants back to the reading of the essential elements as a reminder of the components of a high quality project-based learning experience.

# Evaluate

Monitoring and assessing progress is a frequent concern of educators who want to implement a project-based learning experience. Show slide twenty-one and hand out the project calendar. Discuss as a group that interim checkpoints are essential for keeping students on track toward a project presentation. For example, students may need to turn in a rough draft or outline of their project, turn in progress reports of work completed and by whom or have other types of interim feedback that is monitored by the teacher. These interim reports can be assessed by the teacher or can form the basis of a discussion with the students about expectations or challenges. The teacher can post a project calendar or give students a project calendar that explains these interim deadlines.

Display slide twenty-two. Ask participants to evaluate their own "progress" in this presentation by completing a 3-2-1 evaluation on notebook paper. Explain that participants need to list three ideas that appeal to them about project-based learning, two concerns that they still have, and one instructional strategy presented in this presentation that they are most likely to use with their class.

Ask participants to share out any concerns or address the questions earlier posed by participants so that lingering questions or barriers to implementing a PBL are addressed.

Slides twenty-three and twenty-four wrap up the presentation. If participants want further ideas for instructional strategies, slide twenty-three lists the K20 Center's website where they are found. Slide twenty-four gives participants opportunities to evaluate this presentation and lists the presenters if participants wish to email the presenters with further questions.

# Follow-up Activities

The scope of this professional development is to introduce participants to the cycle of project-based learning, resources to find online PBL and handouts and organizers to design their own PBL. Follow up activities would include working with specific content groups or teachers to create a content-specific PBL.

# Research Rationale

Project-based learning (PBL) is a learning design that organizes student learning around projects (Thomas, 2000). Projects are complex tasks,based on authentic challenging questions or problems, that involve students in design, problem-solving,decision making, or investigative activities. Project-based learning gives students the opportunity to work over extended periods of time; and culminate in products orpresentations for audiences beyond the classroom. Project-based learning is not new (Holm, 2011). Essential elements to creating project-based learning experiences have emerged over time . These essential elements are important to consider when teachers are designing a project-based learning experience for students (Everette, 2015). According to Everette, teachers should include driving questions and an entry event that engages or activates the students' interest. PBL Works, a leader in project learning design,, identifies components that make project-based learning different from having students just complete projects (Larmer, J. & Mergendoller, J. 2015). These elements include identifying significant content or key knowledge to engage students with a challenging problem, providing opportunity for sustained inquiry, allowing for student voice, choice, reflection, and revision, and creating a public product or presentation ( Larmer, J. & Mergendoller, 2015). In a review of the literature surrounding project-based learning, researchers reported that students who had participated in high quality project-based learning had higher levels of engagement with content, greater depth of understanding of concepts, student development of problem-solving skills and transfer of skills to new situations (Holm, 2011; Thomas, 2000.)

## Resources


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- Holm, M. (2011) Project-based instruction: a review of the literature on effectiveness in kindergarten through twelfth grade classrooms. Rivier Academic Journal. 2011,Vol. 7(2). Retrieved from: http://www.bie.org/object/document/project_based_learning_a_review_of_the_literature_on_effectiveness
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- Tolisano, S. (2015). An update to the upgraded KWL for the 21st century. Blog. Retrieved from: http://langwitches.org/blog/2015/06/12/an-update-to-the-upgraded-kwl-for-the-21st-century/
- Twenty-five best places to visit in the USA. (2018). Travel section. US News and World Report online. Retrieved from: https://travel.usnews.com/rankings/best-usa-vacations/
- K20 Center (n.d.). Strategies. 3-2-1. Retrieved from: https://learn.k20center.ou.edu/strategy/d9908066f654727934df7bf4f5059a7b
- K20 Center (n.d.). Strategies. Card Sort. Retrieved from: https://learn.k20center.ou.edu/strategy/d9908066f654727934df7bf4f506976b
- K20 Center (n.d.) Strategies. I notice, I wonder. Retrieved from: https://learn.k20center.ou.edu/strategy/d9908066f654727934df7bf4f507d1a7
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- K20 Center (n.d.) Strategies. Mingle, Retrieved from: https://learn.k20center.ou.edu/strategy/35a5bccee1c44ebf071d3692000093bf
- K20 Center (n.d.) Strategies. Why-lighting. Retrieved from: https://learn.k20center.ou.edu/strategy/d9908066f654727934df7bf4f505e7d5