

Click, Learn, Campaign!: Educational Games in the Classroom

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Time Frame 80-95 minutes

Essential Question(s)

How can we effectively integrate educational games into the classroom to enhance student learning and engagement?

Summary

This session will invite participants to consider how they can integrate educational games into the classroom to enhance student learning and engagement. They will have an opportunity to try out "Operation: ELECT," a game developed by K20 in which students develop computational thinking skills by role-playing as a campaign manager in political elections. They will also have a chance to examine "Decoding Democracy," a social studies 5E lesson that is meant to accompany the game.

Learning Goals

- Experience the "Operation: ELECT" online game
- Discuss challenges and resources for implementing K20 Games and supporting activities

Attachments

- Game Portal Guide—Click, Learn, Campaign.pdf
- Gist—Click, Learn, Campaign.docx
- Gist—Click, Learn, Campaign.pdf
- Operation ELECT Teacher Guide—Click, Learn, Campaign.pdf
- Operation ELECT Teacher Handout—Click, Learn, Campaign.pdf
- Scavenger Hunt Teacher Handout (abridged)—Click, Learn, Campaign.docx
- Scavenger Hunt Teacher Handout (abridged)—Click, Learn, Campaign.pdf
- Scavenger Hunt Teacher Handout—Click, Learn, Campaign.docx
- Scavenger Hunt Teacher Handout—Click, Learn, Campaign.pdf
- Session Slides—Click, Learn, Campaign.pptx

Materials

- Session Slides (attached)
- Scavenger Hunt Teacher Handout (attached; optional; one per participant)
- Scavenger Hunt Teacher Handout (abridged) (attached; optional; one per participant)
- Operation: ELECT Teacher's Guide (attached; optional; one per group)
- Operation: ELECT Teacher Handout (attached; optional; one per participant)
- Game Portal Guide (attached)
- Gist handout (attached; one per participant)
- Beach ball (one per session)
- Sticky notes (one set per table)
- Pens/pencils
- Computers with Internet access

10 minutes

Engage

Welcome participants. Display **slide 2** and introduce yourself and the session using the attached **Session Slides**.

Transition to **slide 3**, and take a moment to explain the Beach Ball Talk and Toss strategy which will be used for the "Remember When" activity. Explain that participants will toss a beach ball back and forth while answering prompts or questions that correspond with the color on the beach ball that is touched by a participant's hand. They are as follows:

- *Blue.* Favorite childhood educational game: *What did you learn from it (bonus: funny memory)?*
- *Orange.* Use of visuals: *Did visuals back then enhance learning, or was it all about gameplay?*
- *Yellow.* Storytelling & characters: *Do they make learning in games more valuable?*
- *White.* Most unforgettable educational game: *What made it click?*
- *Red.* Most Effective: *Did some childhood games work better for you than others? Why?*
- *Green.* Most inspirational: *Did any educational game spark a lifelong learning passion in a subject?* Share!

You will want to divide the participants into groups of five or six for this activity. Move to **slide 4,** so that the prompts will be visible to participants during the activity.

Display **slides 5 and 6** to share the session essential question and objectives with participants. This will provide a road map of where you will go together during the session and will let participants know what to expect.

30 minutes

Explore

Facilitator's Note: Scavenger Hunt

For the following scavenger hunt activity, you will have the option of using different handouts, depending on how much time you wish to devote to the activity. If you are interested in having participants take a more in-depth look at Operation: ELECT, you will want to use the **Operation: ELECT Teacher Guide** and the **Scavenger Hunt Teacher Handout**. If your group is pressed for time, feel free to use the **Operation: ELECT Teacher Handout** and **Scavenger Hunt Teacher Handout (abridged)** instead. In the section below, you will find more detailed instructions regarding how each set of documents may be used during the activity.

Display **slide 7.** Take a moment to review the modified version of the Scavenger Hunt Notes strategy with participants. Have participants follow the short links to the Operation: ELECT Teacher Guide or Operation: ELECT Teacher Handout. Participants should use the teacher's guide to complete the scavenger hunt.

For the extended scavenger hunt, divide participants into small groups (preferably four in total). Distribute one copy of the **Operation: ELECT Teacher Guide** to each group, along with the following pages of the **Scavenger Hunt Teacher Handout** to each individual:

- Group 1: "Purpose" and "What is Computational Thinking?"
- Group 2: "Objectives and Standards" and "Game Interface: Part 1"
- Group 3: "Game Interface: Part 2" and "Mission 1"
- Group 4: "General Tips"

Give participants about 15 minutes to comb through their sections of the guide and jot down their notes. Once the groups have finished, have the entire group reconvene, and call on a volunteer from each group to share their findings with the larger group.

For the abridged scavenger hunt, either divide participants into smaller groups or consider having the entire group work individually. Pass out copies of the **Operation: ELECT Teacher Handout** and **Scavenger Hunt Teacher Handout (abridged)** to each participant. Give groups or individuals about ten minutes to read through the handout and jot down their answers. Once everyone has finished, ask for a few volunteers to share their answers with the larger group.

30 minutes

Explain

Facilitator's Note: Accessing the Game Portal

To enable participant access to the game, follow these steps:

1. If you don't have an account, visit https://k20center.ou.edu/getgames/ to sign up for a Game Portal account. Once processed, you will receive a guide for how to use the Game Portal.
2. Sign in to https://gameportal.k20center.ou.edu.
3. Set up your class, and invite your participants.
4. You can find additional instructions about how to use the game in the attached **Game Portal Guide**.

If it is not possible to supply each participant with access to the game, then having them play the game in pairs will also work.

Transition to **slide 8,** and instruct participants on how to create a K20 Games account. Once they have created accounts, participants should play through the first level of Operation: ELECT. After about 20 minutes, have participants share their experiences playing the game.

Here a few questions to help guide the post-game discussion:

- *What aspects of the game intrigued you the most during the first level?*
- *Did any challenges surprise you?*
- *How might these relate to real-world problem-solving?*

20 minutes

Extend

Transition to **slide 9,** and distribute the **Gist** handout to each participant**.** Divide participants into five groups (one for each E in the "Decoding Democracy" lesson). Have groups log into the lesson, and instruct them to examine their assigned E closely. As they do so, have them fill out the 5Ws and H on their handout. Once they have done so, have them work together to come up with a Gist statement that is no more than 28 words long.

After about 15 minutes, when all groups have had a chance to develop their Gist statements, have everyone reconvene, and call on a volunteer from each of the five groups to share their summaries of their assigned E with the entire group. As each volunteer shares, consider asking follow-up questions that prompt participants to consider how the lesson and game would be valuable for their classrooms, and how each could be utilized in their classrooms.

5 minutes

Evaluate

Display **slide 10**, using the This Will Be a Success If... strategy. Ask participants to reflect on how they will use the game in their classroom. Encourage them to consider feasibility, logistics, classroom management, assessment skills, financial aspects, etc. Participants should write their ideas on a sticky note. After a couple of minutes, participants should share their reflections with their table group. If time permits, each table can share a quick summary with the whole group. You may also encourage participants to place their sticky notes on the wall, so that they can read each other's ideas as they depart the session.

Research Rationale

Computational thinking (CT) is a cognitive process characterized by "solving problems, designing systems, and understanding human behavior by drawing on the concepts fundamental to computer science" (Wing, 2006). In other words, it involves thinking like a computer scientist to solve real-world problems. This makes CT applicable to many different fields. Jeannette Wing, researcher and computer science professor at Columbia University, envisions that CT will become a worldwide fundamental skill by the mid-21st century (2006). With our growing reliance on computers and other technologies, CT is gaining endorsement as an indispensable skill in modern-day society (Wing, 2006). The Computer Science Teachers Association and the International Society for Technology in Education collaborated with scholars and industry leaders to develop a definition of CT that provides a framework and common vocabulary for K-12 educators (CSTA, 2017):

- formulating problems in a way that allows students to use digital tools to solve them (i.e. decomposition)
- logically organizing and analyzing data (i.e. pattern recognition)
- representing data through abstractions such as models and simulations automating solutions through algorithmic thinking
- identifying, analyzing, and implementing possible solutions with the goal of achieving the most efficient and effective combination of steps and resources (i.e. evaluation)
- generalizing and transferring this problem-solving process to a wide variety of problems

Resources

- Computer Science Teachers Association (2017). CSTA K–12 computer science standards, revised 2017. https://csteachers.org/k12standards/
- K20 Center. (n.d.). Beach ball talk and toss. Strategies. https://learn.k20center.ou.edu/strategy/3049
- K20 Center. (n.d.). Decoding democracy. 5E Lessons. https://learn.k20center.ou.edu/lesson/3486
- K20 Center. (n.d.). Gist. Strategies. https://learn.k20center.ou.edu/strategy/3289
- K20 Center. (n.d.). Scavenger hunt notes. Strategies. https://learn.k20center.ou.edu/strategy/3113
- K20 Center. (n.d.). This will be a success if... Strategies. https://learn.k20center.ou.edu/strategy/122
- Wing, J. M. (2006, March). Computational thinking. View point. Communications of the ACM, 49(3), 33-35. https://www.cs.cmu.edu/~15110-s13/Wing06-ct.pdf