Gamification in Education

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Gamification Resources

Simulations:

- PhET Interactive Simulations: https://phet.colorado.edu/
  - STEM Simulations for Math, Physics, Biology, Chemistry, Earth Science
- Concord Consortium: https://learn.concord.org/
  - STEM Simulations for Math, Engineering, Earth and Space Science, Physics, Chemistry, Life Science
- ChatGPT: https://chat.openai.com
  - Role-playing Simulations and Creative Writing Prompts
  - Give ChatGPT a prompt and assign roles, then run through a role-playing exercise or request broad or specific creative writing prompts

Quiz Games:

- Quizlet: https://quizlet.com/
  - Create a set of flashcards or search through a premade gallery for students to take quizzes and play a matching game
- Kahoot!: https://kahoot.com/
  - Create your own game or search from premade community gallery for students to compete in class
- Socrative: https://www.socrative.com/
  - Create short quizzes and exit tickets with instant feedback for students, Space Race offers an opportunity for an in-class quiz bowl

Versatile Assessments:

- Mentimeter: https://www.mentimeter.com/
  - Host anonymous Q&A, pin an image, rank categories, and more!
  - Some limitations on number of participants per activity/per month
- PollEverywhere: https://www.polleverywhere.com/home
  - Run through an icebreaker, create a word cloud, provide presentation feedback, and more!
  - Some limitations on number of participants per activity/per month

Phone Apps:

- DuoLingo: https://www.duolingo.com/
  - Create a group with educational milestones and encourage students to join and learn languages as a class

- iNaturalist: https://www.inaturalist.org/
    - Great for field trips or projects, create and join a project in the app and schedule a BioBlitz for students to record as many plants, animals, insects, or fish they can find
- Dilemma Game: https://tinyurl.com/DilemmaGameApp
    - Discuss the ethics and morals behind difficult scientific and professional dilemmas. Receive anonymous responses in a classroom-style format and talk with students about realistic scenarios

Low Tech in the Classroom:

- Escape room
    - Create stations with multiple choice questions that students write down their answers and use those answers in a puzzle to get 5 numbers. After a student has all stations' codes correct, give them a final puzzle to solve to get the code for a combination lock. Inside the locked box can be small prizes to choose from (candy, 3% extra credit, etc)
- Role playing
    - Put students in groups or pairs with acting prompts to take on different perspectives and immerse themselves in simulated scenarios. For example, students can act out historical events, simulate scientific experiments, or engage in problem-solving scenarios relevant to real-life situations
- Minute-to-Win-It Challenges or Classroom Olympics
    - Set up quick, timed challenges related to academic content or skills, such as stacking cups to represent a pyramid based on historical events or solving math problems within a minute
    - Make a series of these challenges for a classroom olympics, allowing students to earn points towards a gold, silver, or bronze medal/trophy/prize
- White board Jeopardy
    - JeopardyLabs: https://jeopardylabs.com/
    - Project a jeopardy game or write one down on the board, split students into teams to answer questions that span across the curriculum to earn points
- Bingo
    - Bingo Baker: https://bingobaker.com/
    - Instead of numbers, create Bingo cards with math problems or equations. Students solve the problems to mark off the corresponding spaces on their cards

How to Gamify a Lesson: Guided Questions

Assessment

1. Is the purpose of your lesson to teach a new topic or to review?
2. What tasks can the students do to complete the learning objective?
3. What point value will you give each task?
4. How will you score the points (subjective scoring, objective scoring, voting)?

Logistics

1. Will it be done individually or as a team?
2. What technology will it involve (if any)?
3. How much time will you give them to accomplish each task (aka how much pressure)?
4. How will you determine the winner (if there is one)?
    a. Will there be a prize if there is a victor?

Structure

1. Will it be a competition, or a role-play/simulation?
2. Will you allow the students to have multiple ways of completing the task (creativity)?
3. What are the possible roles/characters involved?
4. How much structure do you want to provide?
5. What can you bring (props, costumes) to add immersion to your setting?

Worksheet: Designing Your Gamified Lesson

Use the guided questions below to design a gamified lesson that aligns with your learning objectives. Take your time to brainstorm and fill in the details for each section.

1. **Assessment**
    a. Purpose of the Lesson
        i. Is your lesson focused on teaching a new topic or reviewing an existing one? (Circle one): New | Review
        ii. Briefly describe the learning objective:
        _____
    b. Tasks for Students
        i. What tasks will students complete to achieve the learning objective? (e.g., Solve a puzzle, answer quiz questions, complete a group project.)
        ii. Task 1: _____
        iii. Task 2: _____
        iv. Task 3: _____
    c. Assigning Points
        i. What point value will you give each task?
        ii. Task 1 = _____ points
        iii. Task 2 = _____ points
        iv. Task 3 = _____ points
    d. Scoring Points
        i. How will you score the points? (Circle one)
            1. Objective scoring (e.g., correct answers)
            2. Subjective scoring (e.g., creativity, teamwork)
            3. Voting by peers or instructors

2. **Logistics**
    a. Grouping
        i. Will this be done individually or in teams?
        (Circle one): Individual | Teams
    b. Technology Use
        i. What technology, if any, will you incorporate? (e.g., Kahoot, projectors, tablets)
        ii. Technology needed: _____
    c. Time Limit
        i. How much time will students have for each task?
        ii. Task 1: _____ minutes
        iii. Task 2: _____ minutes
        iv. Task 3: _____ minutes
    d. Determining the Winner
        i. How will you determine the winner (if applicable)? (e.g., most points, fastest completion)
    e. Prizes
        i. Will you offer a prize to the victor? (Circle one): Yes | No
        ii. If yes, what is the prize? _____

3. **Structure**
    a. Game Format
        i. Will it be a (Circle one): Competition | Role-play/Simulation
    b. Creativity Options
        i. Will you allow multiple ways for students to complete tasks?
        (Circle one): Yes | No
    c. Roles or Characters
        i. What roles or characters could students take on? (e.g., scientists, detectives, historical figures)
        ii. Role 1: _____

iii. Role 2: _____

iv. Role 3: _____

d. Level of Structure

i. How much structure will you provide? (Circle one):

1. High (clear instructions and boundaries)
2. Medium (some freedom within guidelines)
3. Low (open-ended exploration)

e. Adding Immersion

i. What can you bring to make the lesson more immersive? (e.g., props, costumes, sound effects)

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