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Creativity Interlude 1

Design Challenge Activities for Your Classroom

Here is the first of four chapters in this book that provide some ideas for creativity activities for your classes. I hope you find these useful. Don't be afraid to have your students suggest some of their own. Talk with your teaching peers to see if they have some ideas to try out, and perhaps create some of your own as well!

1. The Challenge of Common Items

Challenge your students to create useful applications of common household items such as:

- Soda straws
- Paper bags
- Empty soda or water bottles
- Screen door springs
- Empty milk cartons
- Plastic cups

No rules here! Applications can be decorative, functional, fun, novel, or simply useful. Let the creativity soar.

2. Robot Design

Nothing gets youthful creativity going like a robot design challenge. Young folks identify strongly with robots and the technology, so harness that natural enthusiasm. Have your students design robots that could:

- Fight fires.
- Clean up hazardous spills and materials.

- Help the handicapped.
- Provide assistance to the elderly.
- Operate public transportation.
- Serve as store clerks.

Ask for lots of diagrams, charts, and working drawings. Artist sketches too. Create a buzz about robots and find some time to let students study how robots are used today. Maybe the students could work in teams and give presentations about their designs, discussing special features and how they would market their robots.

3. Green Playground

Investigate the world of recycled materials that have been incorporated into building materials, decorative items, functional outdoor furniture, and so forth. Have your students create with these products – and new products that they design – a green playground area for your school. Students can seek input from lower grades about what amenities and features they would like to have. Again, lots of diagrams, artist sketches, and illustrations should be encouraged to promote creative thinking and portrayal of ideas and concepts.

4. Miniature Golf Course

How about a miniature golf course that students could use during lunch hours or for special fund-raising events? The challenge here would be to design a portable miniature golf course that could be assembled or taken down quickly and stored in the school. Students

Creativity Interlude 1

could talk to peers about what kinds of features would be incorporated, how the course would be designed, and what kinds of holes and hazards would be used. If shop teachers are on-site, they can also be consulted. Think student teams here, maybe with each team assigned to create one hole each, and a team that monitors and integrates all the hole designs.

5. Incorporate Solar Design into Your School

Have students study solar design technologies and search the Internet for what other schools around the country have done. Identify how solar design elements can be incorporated into your school. Students should speak with school administrators, maintenance staff, science teachers, shop teachers, and the media center folks to develop ideas and methods for incorporating solar design elements into the everyday workings of the school. Look for illustrations, drawings, sketches, and diagrams, and have the students orally present their ideas for classroom discussion.

6. Play “What If”

Stimulate your class to creatively speculate how they would react to situations that radically changed their world. Real paradigm shifts can occur when things change suddenly and unusual new ideas and designs are put into place. Here are some ways to challenge your students. What would your students propose if:

Grades were no longer given to students as the sole measure of their performance? What new ways should student competence be measured and reported?

- Gasoline-powered cars were banned from the roads? How would we travel locally and long distances?
- All nuclear plants were shut down? How would we make up for the 20% or so of our electricity that comes from them?
- Schools were to hold classes year-round? What would be the impacts of doing this, and how should we adjust?

Creativity Interlude 2

Design Challenge Activities for Your Classroom

1. Invent New Games

This is another one of those topics that causes ears to perk up and noses to twitch, scenting the air for more info. Have your kids tackle the topic of creating new kinds of games. All game subject matter is open for them to forage through such as:

- Board games
- Electronic games
- Card games
- Educational games
- Word games
- Math games

The more the merrier. If possible, let them develop their own mock-ups of the games. And have them practice their communication skills by writing clear and concise rules for the games as well. Encourage class members to play each other's games and provide feedback.

2. Create New Lesson Plans

Challenge your pupils to use what they have learned in a topic such as renewable energy technologies to create a series of lesson plans to teach this subject matter to students two grades lower than they, right in your school. By doing these lesson plans, they will see how you teach and prepare for classroom sessions. They will also learn the importance of

good communication skills and experience the challenge of integrating the lesson plan activities. Once students have prepared their plans, they should present them in class, fielding Q&A from their peers, ultimately improving their plans and presentation techniques.

3. Solve a Real School Problem

Suggest that students or student teams interview school teachers, administrators, and others to learn of real problems that could use a creative solution. These problems might be anywhere, even the cafeteria. This is an excellent way for students to make sure they know exactly what the problem is and can focus their creative attentions on it.

4. School Newsletter

Start an invention or creativity newsletter. This communication vehicle would have the potential to keep students reading about creativity and invention and motivate other readers to do so as well. Create a student organization, much the way a newspaper is modeled, to determine what kinds of news, articles, stories, and graphic materials should be included. Students can rotate through various positions as editors, reporters, copywriters, and so on. Challenge them to publish this newsletter electronically, with perhaps a posting on the school Web site as well. Perhaps you can send your newsletter to other schools in your district. Perhaps you can interview men and women in business, inventors, and other people recently mentioned in the popular press.